

FACTORS INFLUENCING TAX COMPLIANCE
BEHAVIOR: A STUDY OF BANGLADESH

BY

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ABSTRACT

As a Least Developed Country (LDC), Bangladesh's economy highly depends on tax revenue to formulate the national budget and conduct development projects. However, the country has consistently exhibited poor tax revenue collection and recorded one of the lowest tax compliance levels among the South Asian nations. In prior studies, Tax Compliance Behavior (TCB) has been discussed from the economic, social, and behavioral aspects. However, in the context of LDC, some important and relevant factors are yet to be addressed. Based on the theoretical foundations of social exchange theory, social influence theory, cognitive theory, and deterrence theory, this study aims to examine the factors influencing TCB of individual taxpayers in Bangladesh. Specifically, the study investigates the effects of key dimensions of the Quality of Government (QoG) including impartiality, provision of public services and control of corruption, Quality of Online Tax Services (QoTS), dimensions of the Tax System Structure (TSS) that are the probability of being detected, the severity of penalty and tax rate, and demographic factors on TCB. Furthermore, tax knowledge is incorporated into the model to assess its moderating role in the relationships between these determinants and TCB. To achieve the objectives of the study, a survey was carried out. Using snowball sampling, the questionnaire was distributed to the taxpayers in Dhaka and Chattogram, the country's capital and business capital cities, respectively. With a response rate of 22%, the collected data has been coded and keyed into the SPSS software, and multiple regression analysis along with independent sample t-test and one way ANOVA have been utilized to analyze the data. The results indicate that control of corruption (CoC) and severity of penalty (SP) that representing dimensions of the QoG and TSS are significantly and positively associated with TCB. The findings also reveal a significant relationship between demographic factors and TCB, suggesting that tax compliance levels vary across different demographic groups. Furthermore, the analysis shows that tax knowledge significantly moderates the relationship between CoC and TCB, but in a negative direction, implying that higher tax knowledge weakens the positive influence of CoC on TCB. Conversely, tax knowledge exerts a significant positive moderating effect on the relationship between SP and TCB, although it slightly reduces the strength of the direct effect of SP on TCB. This study enriches the understanding of TCB by offering new empirical insights from the context of an LCD, specifically Bangladesh. The findings signify practical policy implications for LDCs, specifically, to improve revenue generation by introducing anti-corruption efforts, enforcing effective penalties, and promoting targeted tax education, which can strengthen compliance.

خلاصة البحث

يعتمد اقتصاد بنغلاديش بشكل كبير على عائدات الضرائب لصياغة الميزانية الوطنية وتنفيذ المشاريع التنموية باعتبارها دولة من أقل البلدان نمواً. ومع ذلك، فقد أظهرت البلاد باستمرار ضعف تحصيل الإيرادات الضريبية وسجلت أحد أدنى مستويات الالتزام الضريبي بين دول جنوب آسيا. من الناحية النظرية، تمت مناقشة سلوك الامتثال الضريبي (TCB) من الجوانب الاقتصادية والاجتماعية والسلوكية في الأدبيات السابقة؛ ومع ذلك، وبالنظر إلى سياق أقل البلدان نمواً، لا يزال يتعين دراسة بعض العوامل الهامة وذات الصلة. استناداً إلى الأسس النظرية لنظرية التبادل الاجتماعي، ونظرية التأثير الاجتماعي، ونظرية المعرفة، ونظرية الردع، تهدف هذه الدراسة إلى دراسة العوامل المؤثرة على سلوك الامتثال الضريبي (TCB) لدى دافعي الضرائب الأفراد في بنغلاديش. على وجه التحديد، تبحث الدراسة في آثار الأبعاد الرئيسية لجودة الحكومة (QoG) بما في ذلك الحياد، وتوفير الخدمات العامة والسيطرة على الفساد، وجودة الخدمات الضريبية عبر الإنترنت (QoTS)، وأبعاد هيكل النظام الضريبي (TSS) التي تشمل احتمال الكشف، وشدة العقوبة ومعدل الضريبة، والعوامل الديموغرافية على TCB. وعلاوة على ذلك، تم دمج المعرفة الضريبية في النموذج لتقييم دورها المعتدل في العلاقات بين هذه المحددات و TCB. لتحقيق أهداف الدراسة، أُجريت دراسة استقصائية. وباستخدام أسلوب العينة المتقطعة، وُزِع الاستبيان على دافعي الضرائب في دكا وتشيتاغونغ، عاصمة البلاد وعاصمة الأعمال على التوالي. وبمعدل استجابة بلغ 22%، رُمِزَت البيانات المجمعة وأُدخِلت في برنامج SPSS، واستُخدم تحليل الانحدار المتعدد، إلى جانب اختبار (t) للعينات المستقلة، وتحليل التباين الأحادي الاتجاه (ANOVA) لتحليل البيانات. تشير النتائج إلى أن مكافحة الفساد (CoC) وشدة العقوبة (SP) - اللذان يمثلان بُعدي جودة الحكم الرشيد (QoG) وقطاع الخدمات الاجتماعية (TSS) على التوالي - يرتبطان ارتباطاً وثيقاً وإيجابياً بإدارة الامتثال الضريبي التعاوني. كما تكشف النتائج عن علاقة وثيقة بين العوامل الديموغرافية وإدارة الامتثال الضريبي التعاوني، مما يشير إلى اختلاف مستويات الامتثال الضريبي باختلاف الفئات الديموغرافية. علاوة على

ذلك، يُظهر التحليل أن المعرفة الضريبية تُخفف بشكل ملحوظ العلاقة بين CoC و TCB، ولكن بشكل سلبي، مما يعني أن ارتفاع المعرفة الضريبية يُضعف التأثير الإيجابي لـ CoC على TCB. في المقابل، تُمارس المعرفة الضريبية تأثيرًا إيجابيًا مُخفّفًا بشكل ملحوظ على العلاقة بين SP و TCB، على الرغم من أنها تُضعف بشكل طفيف قوة التأثير المباشر لـ SP على TCB. تُثري هذه الدراسة فهم ممارسات الامتثال الضريبي التعاوني من خلال تقديم رؤية تجريبية جديدة من سياق إحدى الدول الأقل نموًا، وتحديدًا بنغلاديش. وتُشير النتائج إلى آثار سياسية عملية على الدول الأقل نموًا التي تسعى إلى تحسين توليد الإيرادات، وتحديدًا من خلال بذل جهود لمكافحة الفساد، وتطبيق عقوبات فعّالة، وتعزيز التثقيف الضريبي المستهدف، مما يُعزز الامتثال الضريبي.



APPROVAL PAGE

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

A M M Masrur Hossain

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This thesis is dedicated to my beloved mother Hosne Ara Begum.



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TABLE OF CONTENTS

Abstract	ii
Abstract in Arabic	iii
Approval Page.....	v
Declaration	vi
Copyright Page.....	vii
Dedication	viii
Acknowledgements.....	ix
Table of Contents.....	x
List of Tables	xv
List of Figures	xviii
List of Acronyms	xix
CHAPTER ONE: INTRODUCTION	1
1.1 Background of the Study	1
1.2 Problem Statement.....	6
1.3 Research Objectives.....	9
1.4 Research Questions.....	9
1.5 Motivation of the Study	10
1.6 Significance of the Study.....	11
1.6.1 Theoretical Contribution	11
1.7 Practical Contribution.....	12
1.8 Scope of the Study	13
1.9 Outline of the Thesis.....	13
CHAPTER TWO: TAX SYSTEM OF BANGLADESH	15
2.1 Introduction.....	15
2.2 Introduction to Bangladesh.....	15
2.3 Tax Structure and Administration in Bangladesh.....	17
2.4 Types of Taxes in Bangladesh.....	20
2.5 Income Taxes in Bangladesh.....	20
2.5.1 Personal Income Tax.....	21
2.5.2 Imposition of Penalty	23
2.6 Tax Revenue Earnings in Bangladesh	25
2.7 Tax-GDP Ratio of Bangladesh	26
2.8 Summary.....	27
CHAPTER THREE: LITERATURE REVIEW.....	29
3.1 Introduction.....	29
3.2 The Concept of Tax Compliance, Tax Non-Compliance and TCB.....	29
3.3 Factors Influencing Tax Compliance Behavior	33
3.3.1 Tax Compliance Studies in Bangladesh.....	36
3.3.2 The Quality of Government	37
3.3.2.1 Components of QoG.....	38
3.3.2.2 The Quality of Government and TCB	40
3.3.3 The Quality of Online Tax Services	42
3.3.4 Tax System Structure	44

3.3.4.1 Probability of Being Detected	44
3.3.4.2 Severity of Penalty.....	45
3.3.4.3 Tax Rate.....	45
3.3.5 Demographic Factors	46
3.3.5.1 Gender	46
3.3.5.2 Age.....	47
3.3.5.3 Level of Education.....	48
3.3.5.4 Occupation.....	49
3.3.6 Tax Knowledge as a Moderator of the Determinants of TCB	50
3.4 Prominent Conceptual Framework of TCB	51
3.4.1 Financial Self-interest Model.....	52
3.4.2 Social and Psychological Model.....	52
3.4.3 Fischer's Model.....	54
3.5 Gaps in the Literatures.....	60
3.6 Summary.....	62

CHAPTER FOUR: THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT 63

4.1 Introduction.....	63
4.2 Theoretical Assumption of TCB and Research Framework of the Study.....	63
4.2.1 Theory From Economic Aspects.....	63
4.2.1.1 Deterrence Theory	63
4.2.2 Social and Psychological Theory	65
4.2.2.1 Social Exchange Theory.....	65
4.2.2.2 Social Influence Theory.....	66
4.2.2.3 Cognitive Theory.....	67
4.3 Hypotheses Development	73
4.3.1 The QoG and TCB	73
4.3.2 The QoTS and TCB	75
4.3.3 The TSS and TCB	77
4.3.4 Demographic Factors and TCB.....	79
4.4 Summary.....	80

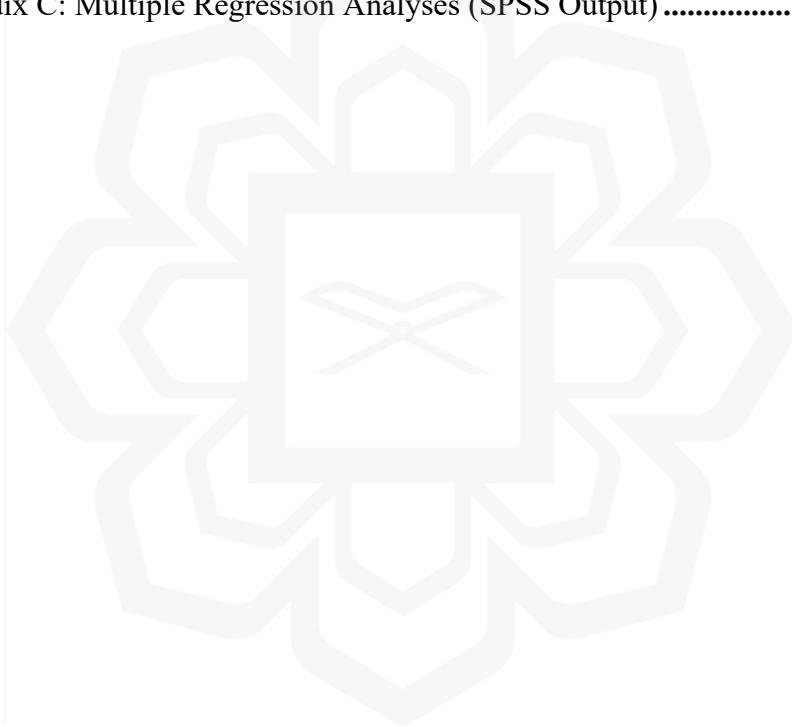
CHAPTER FIVE: RESEARCH METHODOLOGY..... 81

5.1 Introduction.....	81
5.2 Research Design	81
5.3 Research Approaches.....	82
5.4 Quantitative Research.....	83
5.5 Taxpayers' Opinion Survey.....	83
5.6 Operational Definition and Measurement of Constructs and Variables.....	84
5.6.1 Tax Compliance Behavior	84
5.6.2 The Quality of Government	86
5.6.3 The Quality of Online Tax Services	90
5.6.4 Tax System Structure	92
5.6.5 Demographic Factors	95
5.6.6 Tax Knowledge	96
5.7 Development of Research Instruments.....	98
5.7.1 Pre-Test	100

5.7.2 Pilot Study.....	100
5.8 Respondents and Sample of the Study	102
5.8.1 Sampling Population.....	102
5.8.2 Geographical Area of the Study.....	102
5.8.3 Sampling Technique	103
5.8.4 Sample Size.....	104
5.9 Data Collection	105
5.10 Data Analysis Procedures	105
5.10.1 Data Inspection and Transformation.....	106
5.10.2 Descriptive Statistics.....	107
5.10.3 Statistical Treatments to Examine the Effect of Demographic Factors on TCB.....	107
5.10.3.1 Cross- Tabulation Analysis	108
5.10.3.2 Independent Sample t-Test and One Way ANOVA.....	108
5.10.4 Statistical Treatments to Investigate the Direct and Moderating Effect.....	108
5.10.4.1 Goodness of Measure	109
5.10.4.2 Correlation Analysis.....	111
5.10.4.3 Multiple Regression Analysis.....	112
5.11 Summary.....	113
CHAPTER SIX: RESEARCH FINDINGS AND DISCUSSIONS.....	114
6.1 Introduction.....	114
6.2 Data Inspection and Transformation	114
6.2.1 Missing Data and Outliers.....	114
6.3 Response Rate.....	116
6.4 Non-Response Bias.....	117
6.5 Reliability of Research Instrument.....	122
6.6 Demographic Characteristics of the Respondents	122
6.7 Descriptive Statistics	124
6.7.1 Tax Compliance Behavior	124
6.7.2 Quality of the Government	126
6.7.3 Quality of Online Tax Services.....	132
6.7.4 Tax System Structure	133
6.7.5 Tax Knowledge.....	136
6.8 Correlation Matrix	137
6.9 Factor Analysis	141
6.9.1 Control of Corruption.....	142
6.9.2 The Quality of Online Tax Services	143
6.9.3 Severity of Penalty	144
6.9.4 Tax Rate	146
6.9.5 Tax Knowledge.....	147
6.9.6 Tax Compliance Behavior	148
6.10 Multiple Regressions	150
6.10.1 Assumptions of Multiple Regressions	150
6.10.1.1 Sample Size	151
6.10.1.2 Multivariate Normality	151
6.10.1.3 Linearity.....	152
6.10.1.4 Homoscedasticity.....	153
6.10.1.5 Multicollinearity	153

6.10.2 Regression Models	155
6.10.3 Results of the Multiple Regression Analysis	157
6.11 Cross Tabulation: Demographic Factors and Tax Compliance Behavior	162
6.11.1 Gender and TCB	162
6.11.2 Age and TCB	163
6.11.3 Level of Education and TCB	164
6.11.4 Level of Income and TCB.....	165
6.11.5 Occupation and TCB.....	166
6.12 Independent Sample T-Test and One-Way Anova.....	167
6.12.1 Gender and TCB	167
6.12.2 Age and TCB	168
6.12.3 Level of Education and TCB	169
6.12.4 Level of Income and TCB.....	171
6.12.5 Occupation and TCB.....	173
6.13 Testing the Hypotheses of the Study	175
6.13.1 Hypotheses Testing on the Main Effect.....	175
6.13.2 Hypotheses Testing on the Moderating Effect.....	180
6.14 Discussion of the Empirical Findings.....	182
6.14.1 Research Question 1a: Do the Dimensions of QoG, Namely, Impartiality, Provision of Public Services and Control of Corruption Affect TCB in Bangladesh?	182
6.14.2 Research Question 1b: Does QoTS Affect TCB in Bangladesh?	183
6.14.3 Research Question 1c: Do the Dimensions of TSS, Namely, Probability of Being Detected, Severity of Penalty and Tax Rate Affect TCB in Bangladesh?	184
6.14.4 Research Question 2: Do Demographic Factors Influence TCB in Bangladesh?.....	186
6.14.4.1 Effect of Gender of the Taxpayers on TCB.....	186
6.14.4.2 Effect of Age of the Taxpayers on TCB.....	187
6.14.4.3 Effect of Taxpayers' Level of Education on TCB.....	188
6.14.4.4 Effect of Taxpayers' Level of Income on TCB.....	188
6.14.4.5 Effect of Taxpayers' Occupation on TCB.....	189
6.14.5 Research Question 3: Does Tax Knowledge Moderate the Relationship between TCB and its Determinants, Namely, QoG, QoTS and TSS?	190
6.14.5.1 The Moderating Effect of Tax Knowledge Between CoC and TCB	190
6.14.5.2 The Moderating Effect of Tax Knowledge Between QoTS and TCB	191
6.14.5.3 The Moderating Effect of Tax Knowledge Between SP and TCB	192
6.14.5.4 The Moderating Effect of Tax Knowledge Between TR and TCB	192
6.15 Summary.....	193

CHAPTER SEVEN: CONCLUSION	195
7.1 Introduction.....	195
7.2 Main Findings of the Study	195
7.3 Contributions of the Study.....	202
7.3.1 Policy Implications	202
7.3.2 Theoretical Implications	203
7.4 Limitations of the Study	206
7.5 Suggestions for Future Research	207
7.6 Conclusion.....	208
 REFERENCES.....	 209
 APPENDICES	 253
Appendix A: Cover Letter and the Questionnaire	253
Appendix B: Krejcie and Morgan’s Determining Sample Size for A Given Population.....	276
Appendix C: Multiple Regression Analyses (SPSS Output)	277



LIST OF TABLES

Table 1.1 Public Debt, Per Capita Debt and Debt Percentage to GDP in Bangladesh from 2017-2021	3
Table 1.2 Tax-GDP Ratios in South Asian Countries in 2022	5
Table 2.1 Personal Income Tax Rate in Bangladesh	22
Table 2.2 Tax-Free Income Threshold for Different Categories of Taxpayers	22
Table 2.3 List of Offences and Penalties	24
Table 2.4 Category Wise Revenue Collection (In Billion BDT)	25
Table 2.5 Revenue as Per Share of GDP (in %) from FY 2013-2022	27
Table 3.1 Summary of Literatures Related to the Tax Compliance Model	57
Table 4.1 List of Underpinning Theories of the Study	68
Table 5.1 Dimension and Measurement Items of the TCB	86
Table 5.2 Dimension and Measurement Items of the QoG	88
Table 5.3 Dimension and Measurement Items of QoTS	91
Table 5.4 Dimension and Measurement Items of the TSS	93
Table 5.5 Source of Dimensions for Demographic Variables	96
Table 5.6 Dimension and Measurement Items for the Tax knowledge	97
Table 5.7 Structure of the Questionnaire	99
Table 5.8 Reliability Test of Pilot Study	101
Table 5.9 Rule of Thumb of Cronbach's Alpha	110
Table 6.1 Summary of the Missing Data	115
Table 6.2 Distribution of Questionnaire	117
Table 6.3 Test for Non-Response Bias	119
Table 6.4 Cross Tabulation: Demographic Factors and Response Bias	120
Table 6.5 Reliability Test of the Study	122
Table 6.6 Demographic Information of the Respondents	123

Table 6.7 Descriptive Statistics for Tax Compliance Behavior	125
Table 6.8 Descriptive Statistics for the Quality of Government	127
Table 6.9 Descriptive Statistics for the Quality of Online Tax Services	133
Table 6.10 Descriptive Statistics for Tax System Structure	134
Table 6.11 Descriptive Statistics for Tax Knowledge	136
Table 6.12 Inter-Correlation Matrix	138
Table 6.13 Factor Analysis for the CoC	142
Table 6.14 Factor Analysis for the QoTS	144
Table 6.15 Factor Analysis for the SP	145
Table 6.16 Factor Analysis for the TR	146
Table 6.17 Factor Analysis for Tax Knowledge	148
Table 6.18 Factor Analysis for the TCB	149
Table 6.19 Testing of Normality	152
Table 6.20 Assessing Multicollinearity for the Main Effect	154
Table 6.21 Assessing Multicollinearity for the Moderating Effect of Tax Knowledge	155
Table 6.22 Summary of Regression Model 1	157
Table 6.23 Regression Summary of Predicting Variables of Model 1	158
Table 6.24 Summary of Regression Model 2	159
Table 6.25 Regression Summary of Predicting Variables of Model 2	159
Table 6.26 Summary of Regression Model 3	160
Table 6.27 Regression Summary of Predicting Variables of Model 3	161
Table 6.28 Cross Tabulation: Gender and TCB	162
Table 6.29 Cross Tabulation: Age and TCB	163
Table 6.30 Cross Tabulation: Education Level and TCB	164
Table 6.31 Cross Tabulation: Income and TCB	165
Table 6.32 Cross Tabulation: Occupation and TCB	166
Table 6.33 Differences in TCB between Male and Female	167

Table 6.34 One Way ANOVA Results regarding Age and TCB	168
Table 6.35 One Way ANOVA Results Regarding Level of Education and TCB	170
Table 6.36 One Way ANOVA Results Regarding Level of Income and TCB	172
Table 6.37 One Way ANOVA Results Regarding Occupation and TCB	174
Table 6.38 Results of the Hypotheses Testing on the Main Effect	179
Table 6.39 Results of the Hypotheses Testing on the Moderating Effect	181
Table 7.1 Main Findings of the Study	198



LIST OF FIGURES

Figure 1.1 Estimation of Resources for FY 2023-2024	4
Figure 2.1 Maps of Bangladesh	16
Figure 2.2 Per Capita GNI from FY 1972-2022	17
Figure 2.3 Structure of Public Finance in Bangladesh	19
Figure 2.4 Types of Taxes in Bangladesh	20
Figure 2.5 Revenue Collection by Category (FY 2021-2022)	26
Figure 3.1 Branches of Tax Obligation	30
Figure 3.2 Determinants of Taxpayer's Compliance Decision	34
Figure 3.3 Financial Self-interest Model of Tax Compliance	52
Figure 3.4 Social Psychological Model of Tax Evasion Behavior	54
Figure 3.5 Fischer's Model of Tax Compliance	55
Figure 4.1 Research Framework of the Study	72
Figure 5.1 Research Design Strategy	82
Figure 7.1 Empirically Supported Tax Compliance Model for Bangladesh	205

LIST OF ACRONYMS

ATO	Australian Taxation Office
BDT	Bangladeshi Taka
BSS	Bangladesh Bureau of Statistics
CFA	Confirmatory Factor Analysis
CoC	Control of Corruption
CPD	Centre for Policy Dialogue
EFA	Exploratory Factor Analysis
ESCAP	Economic and Social Commission for Asia and the Pacific
FY	Financial Year
GDP	Gross Domestic Product
GNI	Gross National Income
IMF	International Monetary Fund
IRD	Internal Resource Division
ITO	Income Tax Ordinance
KMO	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
LDC	Least Developed Country
MOF	Ministry of Finance
NBR	National Board of Revenue
NGO	Non-Government Organizations
OECD	The Organization for Economic Co-operation and Development
QoG	Quality of Government
QoTS	Quality of Online Tax Services
PBD	Probability of Being Detected
PPS	Provision of Public Services
RMG	Readymade Garments
SAS	Self-Assessment System
SP	Severity of Penalty
TCB	Tax Compliance Behavior
TIN	Tax Identification Number
TR	Tax Rate
TSS	Tax System Structure
UN-ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
USD	United States Dollar
VAT	Value Added Tax
WGI	World Governance Indicators
7FYP	Seventh Five Year Plan

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The financial resources, which a government conducts its different activities with, come from tax and non-tax revenues (Slemrod, 2019). Tax is one of the major sources of revenue to facilitate the development of a country (Alm, 2019). While its role and importance cannot be underestimated in the modern economy, tax is a legal and mandatory contribution from every eligible citizen and corporate firm to its state treasury. It assists governmental activities by raising the necessary funds, ensures redistribution of resources, discourages the consumption of unhealthy goods, gives strength to the economy by mitigating inflation, as well as increases scopes for employment (Kasper & Alm, 2022; Islam, 2016).

Every government is committed to spend the collected tax for its nation's wellbeing. The provision of public services and facilities could be regarded as a means of returning the collected tax back to the taxpayers. This dependency on tax revenue for a nation's wellbeing is evident in the developed and the developing nations alike (Campbell, 2023; Ahmed, 2013). Hence, the collection of optimum tax becomes crucial for ensuring economic growth and sustainable development (Alm, 2019). Given this paramount importance of taxation, policymakers, researchers, non-government organizations (NGO) and other international financial institutions such as the World Bank and International Monetary Fund (IMF) approach the issue of taxation with close attention.

Despite the vitality of taxation for a nation's wellbeing, the collection of tax revenue largely depends on the willingness of taxpayers to comply with the existing tax laws of a country (Alm, 2019; James & Alley, 2002). It is not seen as an easy task for the tax authorities to collect the optimum amount of tax as some residents tend to dislike paying tax (Slemrod, 2019). While taxpayers not acting in accordance with the provisions of tax laws in place is considered as an act of non-compliance (Kirchler, 2007), tax non-compliance is recognized to be the most common and critical problem the tax authorities face (Campbell, 2023; Al-Rashdan, 2020).

Tax non-compliance is considered a global issue and exists in every economy despite its development status (OECD, 2018; Chau & Leung, 2009). In developed countries like the United States of America (USA), the United Kingdom (UK), the existence of tax non-compliance has been documented (Advani, 2022). In FY 2022-2023, the gap between targeted and actual collection of tax revenue in UK was recorded at 4.8% (£39.8 billion) (HMRC, 2024), whereas in USA, this gap recorded at 15.1% (\$688 billion) in FY 2020-2021 (IRS, 2023). In addition, Williams (2020) pointed out tax non-compliance as a common practice in European economies. Williams and Schneider (2016) revealed the figure of tax non-compliance is similar to the 15.8% of the total GDP of European nations.

However, this issue appears to be more acute in developing countries as well as the least developed countries (LDC)¹ as compared to the developed ones (Umar & Masud, 2020; Rosid, Evans & Tran-Nam, 2018; Kira, 2017; Terkper, 2003). The developing countries and LDCs usually collect 10-20% tax revenue compared to their GDP, which is around 50% lower than the collection of the developed nations (Besley & Persson, 2014).

Like other LDCs, the tax administration in Bangladesh has also been facing the problem of noncompliance since its establishment (Mannan, Farhana & Chowdhury, 2023; Ahmed, 2013). Despite having enormous human and natural resources as well as economic potentials, the country has continued to record one of the lowest tax compliance levels within the South-East Asian nations (OECD, 2018). In consequence, the country needs to depend on foreign loans and grants to meet her budget deficit. In 2021, the amounts of public and per capita debts of the country were recorded to be USD 148,250 million and USD 875 respectively; where the public debt represented 35.61% of the country's total GDP (Ministry of Finance, 2023; Country economy, 2023). Table 1.1 reflects an increasing trend in public and per capita debts of the country over a five-year period (2017-2021).

¹ According to the United Nations (UN), the countries, which exhibits significant structural limitations on the way to achieve sustainable development, and have poor level of economic, social, environmental and human potentials can be categorized as LDCs. Currently, 45 countries are enlisted in this category, and in every three years the status of the LDCs are reviewed by the Committee for Development (CDP) (UN, 2024).

Table 1.1 Public Debt, Per Capita Debt and Debt Percentage to GDP in Bangladesh
from 2017-2021

Year	Public Debt (in USD)	Debt Per Capita (in USD)	Debt (% of GDP)
2017	83,150 million	521	28.31%
2018	94,977 million	589	29.55%
2019	112,225 million	688	31.95%
2020	129,031 million	783	34.51%
2021	148,250 million	875	35.61%

Source: (Ministry of Finance, 2023)

Bangladesh Jatiya Sangsad (the National Assembly of Bangladesh) approved a national budget of Bangladeshi Taka (BDT) 7.62 trillion (USD 71 billion) for the Financial Year (FY) 2023-2024, where tax revenue was estimated to be approximately 56% (Ministry of Finance, 2023). Moreover, to cover the budget deficit, domestic and foreign loans were estimated to be around 34% in the same FY (Ministry of Finance, 2023). Excessive dependency on loans creates huge pressure on the economy of the country, especially, decreasing foreign exchange reserves and increasing devaluation of Bangladeshi Taka (BDT) (Khatun, 2022). Figure 1.1 shows the estimation of resources for FY 2023-2024.

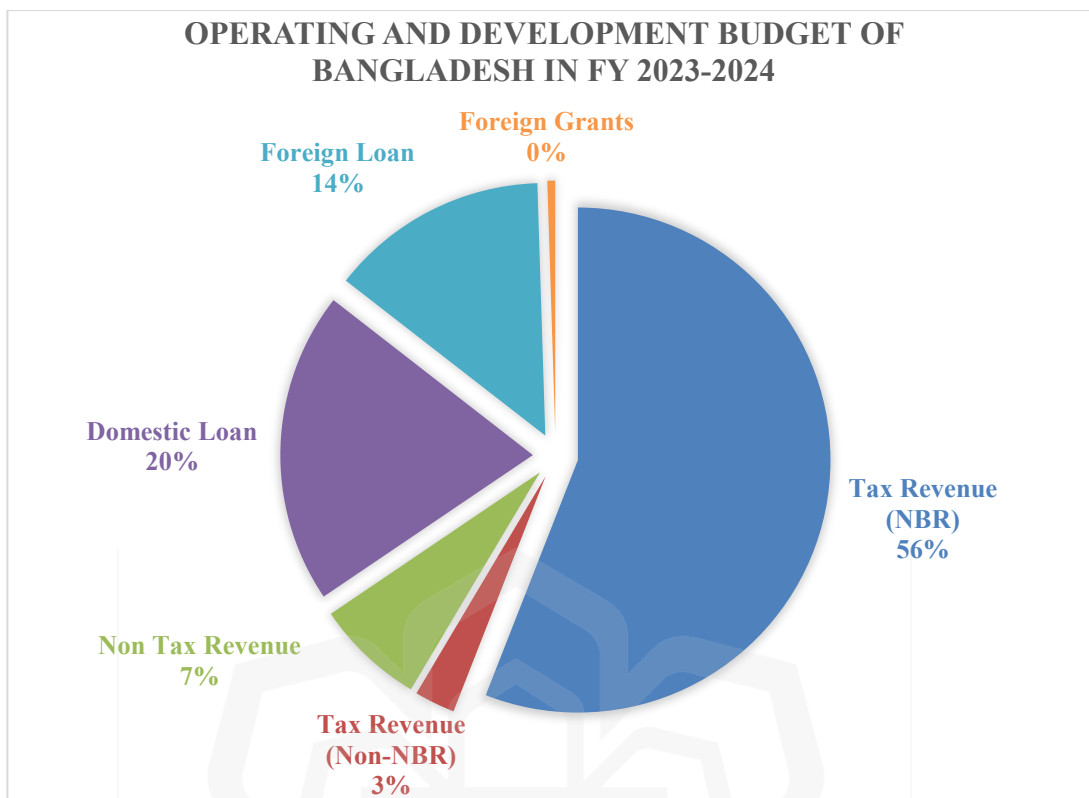


Figure 1.1 Estimation of Resources for FY 2023-2024

Source: (Ministry of Finance, 2023)

In addition, the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) had reported that Bangladesh ranked the lowest in the measure of tax-to-GDP ratio among the South Asian nations (ESCAP, 2018). In FY 2022, Bangladesh had only 7.7% tax-to-GDP ratio, compared to some 20-25% benchmark tax-to-GDP ratio among many other developing nations (Mavis, 2022). However, it is argued that considering potentials, the tax-to-GDP ratio in Bangladesh should be 18-20%, but unfortunately, due to poor tax collection, it stands at around 7.7% (Mavis, 2022; Khan, Kamal & Talukdar, 2019; Mazid, 2019). The tax-to-GDP ratio is a ratio of a nation's tax revenue relative to its GDP, which is used to measure a country's revenue earning capacity as per GDP, where an increase in tax revenue is expected along with the country's growth in GDP (OECD, 2018). Table 1.2 presents a comparison of tax-to-GDP ratios among South Asian countries.

Table 1.2 Tax-GDP Ratios in South Asian Countries in 2022

Country	Tax-GDP Ratio (in %)
Nepal	23.1%
Maldives	20.5%
India	19.69%
Pakistan	14.88%
Sri Lanka	12.74%
Bhutan	10.7%
Bangladesh	7.7%

Source: (Mavis, 2022)

Weak economic structure, budget deficit and excessive dependency on loans, low tax-GDP ratio and poor tax collections are evident in Bangladesh economy (CPD, 2023; Mavis, 2022; Ministry of Finance, 2023; Mazid, 2019). However, the country envisions becoming a developed nation by the year 2041, without significant progress in revenue earnings through the improvement of tax compliance behavior, it would not be possible to reach this landmark.

Tax non-compliance is a complex issue involving many underlying factors. Prior tax studies highlighted different governmental services and examined the relationship between the quality of these services and TCB (Nkundabanyanga et al., 2017; Roshid et al., 2018; Jahnke, 2017; Williams & Krasniqi, 2017). However, the perception of the taxpayers regarding the quality of the government (QoG) and its impact on their compliance behavior is yet to be known (OECD, 2018; Abdullahi, 2017; Alabede, 2012).

Moreover, achieving the target of optimum tax collection primarily depends on the successful provision of quality of online tax services (QoTS) and effective designing of the tax system structure (namely, detection probability, severity of penalty and tax rate). In addition, prior studies incorporated demographic factors as the determinants of

TCB and opined the need to understand the impact of demographic factors on TCB in order to formulate proper policies (López-Luzuriaga & Scartascini, 2023; Prasetyo et al., 2020; Yimam & Asmare, 2020). However, in the context of LDCs, especially in Bangladesh, due to scant empirical studies, very little can be known about the impact of QoTS, tax system structure and demographic factors on the compliance behavior of the taxpayers (IRDB, 2023; Mannan et al., 2023; Khan et al., 2019).

Moreover, tax knowledge facilitates taxpayers to understand the tax laws properly (Susanto, Adrienne & Pirezada, 2019). Thus, the present study includes tax knowledge as a moderator in the proposed tax compliance model and examines whether it moderates the relationship between the determinants and the TCB. Furthermore, researchers argued that TCB involves many disciplines of knowledge, and theories from diverse aspects are required to describe the relationship between TCB and its determinants (Bătrâncea et al., 2012; Bello & Danjuma, 2014). Hence, the present study incorporates theories from social (social exchange theory and social influence theory), economic (deterrence theory), psychological (cognitive theory) aspects to support the relationship between TCB and its determinants.

1.2 PROBLEM STATEMENT

Bangladesh is an emerging economy that largely depends on its tax revenue. However, tax revenue was estimated to cover only 56% of the annual budget for the FY 2023-2024 (Ministry of Finance, 2024). This does not represent an ideal condition for an LDC economy like Bangladesh, as the government must rely on loans from internal and foreign sources to cover the deficit (IRBD, 2023).²

The collection of tax revenue³ by National Board of Revenue (NBR), the tax authority in Bangladesh, does neither stand at a satisfactory level. For instance, in the FY 2021-22, the target revenue was planned to be BDT 3770 billion, whereas in reality, the collected sum was recorded to be BDT 2982.82 billion, falling around 21% short of the expected sum (Ministry of Finance, 2023). In terms of income tax revenue, which

² LDC listed countries like Bhutan had covered almost 85% of its national budget funding from revenue earnings and rest 15% they recovered from loans (National Budget, Royal Govt. of Bhutan, 2023).

³ Tax revenue is the sum of earnings from different sources of direct tax (income tax, land and development tax, non-judicial stamp tax) and indirect tax (Value-added tax, excise duty, customs tax, supplementary tax).

is the main source of direct tax, the actual collection had lagged behind the target sum by 20.57% (target and actual collection were BDT 1210.17 billion and 961.22 billion, respectively in FY 2021-22) (Ministry of Finance, 2023). Furthermore, poor revenue collection is also reflected in the tax-GDP ratio of the country. In FY 2022, it was recorded at only 7.7%, which was the lowest among the South-East Asian nations (Mavis, 2022; Mazid, 2019).

Moreover, the revenue collection and annual growth with respect to income tax reveal a grimmer reality. In FY 2019-2020, the recorded income tax collection was BDT 705.01 billion, which represented only 2.6% of GDP (Ministry of Finance, 2019). Although in the country's Seventh Five Year Plan (7FYP) the government had set a target to raise it to 5.4% by the year 2020, the statistic testifies otherwise (Khan et al., 2019).

Bangladesh has a total population of 173 million (Worldmeters, 2023). According to the Bangladesh Bureau of Statistics (BBS), 73.69 million people are employed, which marks 42.59% of the total population (Bangladesh Bureau of Statistics, 2023). However, in FY 2021-22, the total count of tax identification number (TIN) holders including individual and business entities was 7.4 million. Out of this sum, 2.8 million were individual income taxpayers, which represents only 3.79% of the total employed population (CPD 2023; Mavis, 2022). In a separate projection, the NBR chief opined that eligible taxpayers in the country would be not less than 40 million (The Daily Star, 2019a). This enormous difference between the count of TIN holders and the estimated count of employed population clearly indicates that a huge count of working population is not at all included in the country's tax system, which reveals a very narrow tax base of the country (ESCAP, 2018). Apart from this, out of the 7.4 million TIN holders (individual and business entities combined), only 2.3 million had submitted their tax return for the FY 2021-2022 (Ministry of Finance, 2023; Mavis, 2022), revealing a compliance rate of 31.08%. Such low tax compliance has become a significant challenge for the economy of Bangladesh, causing enormous revenue loss to its government (CPD, 2023).

Poor tax compliance and shortfalls in tax revenue collection is an ongoing reality in Bangladesh (Rashid & Ahmad, 2020). Besides impeding the country's economic growth and overall development, it results in the government incurring foreign loans at high interest rates just to cover budget deficits. A former finance minister of

Bangladesh, Mr. A. A. Muhit had acknowledged that the country's high dependency on foreign loans is primarily due to its low tax revenue collection (Ministry of Finance, 2018). In 2021, the amounts of public and per capita debts of the country were recorded to be USD 148,250 million and USD 875 respectively; where the public debt represented 35.61% of the country's total GDP (Ministry of Finance, 2023; Country economy, 2023).

Moreover, the state of quality of governments (QoG) in Bangladesh does not stand at a satisfactory level. Poor quality of public services and partial and discriminatory treatment of the government officials are enhancing anger among the citizens (The daily Star, 2021). Widespread corruption and lack of accountability of both government and public officials are common (Asadullah & Chakravorty, 2019). Bangladesh's government annually loses 2% GDP because of widespread corruption and inefficiency in public administration (Hossain, 2020).

In addition, people's perception towards the QoTS in Bangladesh is not favorable yet (IRBD, 2018). Rana and Masukujjaan (2017) opined that, in Bangladesh, the tax authority is consistently promoting several online services to facilitate taxpayers by offering smooth and hassle-free operation; however, the outcome is yet to be achieved. In response, NBR has incorporated many amendments to their tax system structures and has imposed a strict enforcement strategy for these amendments, while the benefit is yet to be seen. Siddiquee and Saleheen (2021) opined that the audit system and enforcement of penalty is still weak, which failing to address the non-compliant taxpayers in Bangladesh. Furthermore, prior studies concerned with the effect of demographic factors on TCB revealed ununiformed results (López-Luzuriaga & Scartascini 2023; Prasetyo et al., 2020; Yimam & Asmare 2020; Shiferaw & Tesfaye 2020; Hofmann et al., 2017; Alabede, 2014; Gupta, 2009).

In that respect, researchers suggested that utilizing moderating variables in studying tax compliance behavior might produce more precise results (Paleka, Karanović & Štambuk, 2023; Agbetunde, Raimi & Akinrinola, 2022; Sinnasamy, Bidin & Ismail, 2015; Alabede, Ariffin & Idris, 2011; Murphy, 2007). Prior studies confirmed the significant direct relationship between tax knowledge and TCB (Al-Taffi et al., 2020; Saad, 2014; Palil, 2010), however, the moderating capacity of tax knowledge on the relationship between TCB and its determinants are yet to be examined.

Theoretically, tax compliance behavior with respect to the developing countries and LDCs are studied based on a basic tax compliance model, comprised of many different factors that determine the tax compliance behavior of a given population. Many extensions have also been brought to this model in order to incorporate new factors. However, the perception of the taxpayers regarding the overall quality of government and its impact on their compliance behavior as well as the moderating role of tax knowledge among the taxpayers are yet to be studied. Especially for the LDCs that exhibit poor quality of governance, the relevance of these factors in understanding their tax compliance behavior cannot be underestimated. Nevertheless, although the quality of online tax services (QoTS), the effects of tax system structure and demographic characteristics of the taxpayers have before been tested for their influence on TCB, due to the lack of empirical research on these in the context of Bangladesh, the inclusion of these factors in this research may produce better understanding for improving tax compliance in Bangladesh.

1.3 RESEARCH OBJECTIVES

This research aims to gain an empirical evidence-based understanding of compliance behavior of individual taxpayers in Bangladesh. Under this broad aim, the research has the following objectives.

1. To examine the factors affecting TCB in Bangladesh.
2. To investigate the influence of demographic factors on TCB in Bangladesh.
3. To assess the moderating effects of Tax knowledge on the relationship between TCB and the factors affecting TCB in Bangladesh.

1.4 RESEARCH QUESTIONS

The following research questions have been identified to guide the research.

1. a. Do the dimensions of QoG, namely, impartiality, provision of public services and control of corruption affect TCB in Bangladesh?
b. Does QoTS affect TCB in Bangladesh?

- c. Do the dimensions of TSS, namely, probability of being detected, severity of penalty and tax rate affect TCB in Bangladesh?
2. Do demographic factors influence TCB in Bangladesh?
3. Does tax knowledge moderate the relationship between TCB and its determinants, namely, QoG, QoTS and TSS?

1.5 MOTIVATION OF THE STUDY

Bangladesh, as an LDC, has reached the landmark of 37th world's largest economy, with a GDP of USD 409 billion (ahmed,2021). The country has huge potential to achieve economic prosperity, and it has been forecasted that the size of the economy can be doubled from its current size by 2030 (Ahmed, 2021). However, poor revenue collection is one of the major challenges that the country is facing to achieve its economic goals, and due to this, the country needs to rely largely on foreign loans and grants to meet the budget deficit and carry on the development projects (CPD, 2023). Therefore, addressing the issue of poor revenue collection can be considered as an important initiative to ensure the country's economic development.

In addition, poor quality of governmental services along with widespread corruptions is evident in Bangladesh, which leads dissatisfaction among the citizens towards the government (Lord & Baset, 2024). Moreover, the NBR has its own limitations to provide quality services (Islam, Islam & Saha, 2022) and implement strict enforcement strategies to collect optimum levels of tax (Siddiquee & Saleheen, 2021). In addition, due to scant empirical studies on the issue, very little can be known regarding the TCB of Bangladeshi taxpayers, which leads an adverse impact on the policy makings as the decisive body might not have access to enough empirically supported findings from the ground. Hence, it could be a timely initiative to investigate the determinants of TCB in Bangladesh in order to highlight the issues that need to be addressed to boost country's tax revenue earnings.

1.6 SIGNIFICANCE OF THE STUDY

This study makes several contributions from both theoretical and practical perspectives. Highlighting the context of the LDCs with specific reference to Bangladesh, the significances of the study are mentioned in the following discussions.

1.6.1 Theoretical Contribution

This study contributes to the existing narratives of the TCB by incorporating its determining factors from social, psychological and economic perspective with specific focus to the LDCs. The unique contribution of the study is to incorporate QoG as a new determinant of TCB in the LDC context. Prior studies discussed the relationship between different actions and services provided by the government with TCB, however, a comprehensive discussion on the QoG and the impact of its dimensions on TCB was relevant to be examined in the LDC context.

Moreover, considering the peculiarity and context of Bangladesh, an LDC, this study includes QoTS, tax system structure and demographic factors in the proposed tax compliance model, which add new discussion in the tax compliance literature in LDCs. In addition, tax knowledge of individual taxpayers has been incorporated as such a moderating variable in this research in order to study the moderating role it plays in shaping the relationship between tax compliance behavior and its determinants. This also enhances the existing narratives on tax compliance.

Furthermore, this study employs theory from social (social exchange theory⁴, social influence theory), psychological (cognitive theory) and economic (deterrence theory) aspect to explain the relationship between TCB and its determinants and propose a tax compliance model for the individual taxpayers of Bangladesh. This attempt is a response to the call of prior studies to include theories from diverse aspects to interpret the TCB (Alm, 1991; Jackson & Milliron, 1986). Thus, this study also contributes to the existing literature by incorporating theories from different disciplines to illustrate the TCB.

⁴ Theoretical discussions are presented in chapter four.

1.7 PRACTICAL CONTRIBUTION

The present study provides evidence-based insights regarding the TCB of Bangladeshi taxpayers, which may help the government of LDCs and their tax authorities to formulate appropriate policies to boost the revenue collection.

For the tax authorities, this study contributes new knowledge on the behavior of individual taxpayers, where empirical studies are scant. This study examines the quality of the online tax services and the effectiveness of the tax system structure. These attempts may help the tax regimes to assess their service quality and effectiveness of the deterrent tools from the viewpoint of taxpayers. Subsequently, the findings may help the tax authority to revisit their online services and upgrade the quality according to the taxpayer's demand. In addition, the results of this study may assist tax authority to detect the loopholes of the tax system structure and bring necessary changes to make it effective.

Furthermore, the study examines the effect of demographic factors toward TCB, which may help tax authorities to understand the level of compliance among the taxpayers with different demographic attributes. Accordingly, the findings may help the concerned authority to categorize taxpayers based on their demographic characteristics and formulate specific strategies to address the issue of each group.

For the governments of LDCs like Bangladesh, the research produces evidence-based insights on their main revenue-earning sectors by presenting empirical findings on the determinants of TCB, which can help them formulating appropriate policies and effective budgeting to strengthen their tax revenue sources. The relationship between individual taxpayers' perception on the quality of government and the way such perception affects tax compliance may also provide vital insights and/ or tools for the governments of LDCs to address the issue of poor tax compliance. The findings demonstrate a comprehensive picture of the QoG that may assist the government to develop action plans to ensure taxpayers' civic rights and needs. More importantly, for the government of Bangladesh, this research reveals the underlying factors that are causing low revenue collection as well as suggests policy implications to ameliorate these, as optimum revenue collection could provide the most vital economic instrument for the development of the country.

1.8 SCOPE OF THE STUDY

This study primarily focuses on personal income tax. In Bangladesh, personal income tax is levied on every eligible individual, but the scenario of its collection presents a very grim reality. The country has a very narrow tax base, where only 3.79% of the employed population are included in the tax system (have TIN) (CPD 2023; Mavis, 2022). Accordingly, the collection of revenue from personal income tax remains very low (Khan et al., 2019).

Moreover, most of the prior studies in the context of Bangladesh focused on VAT (Siddiquee & Saleheen, 2021; Faridy & Sarker, 2011; Faridy et al., 2014; Begum & Khanam, 2021) and very little can be known regarding the factors influencing the poor collection of income tax due to the limited empirical study. Unlike other kinds of taxes governed by NBR, personal income tax has more uniformity in terms of its nature, rules and regulations. Hence, due to its scale and poor collection scenario, personal income tax presents the most suitable form for studying tax compliance behavior in Bangladesh.

1.9 OUTLINE OF THE THESIS

The thesis consists of seven chapters. The background of the study, along with the problem statement, is presented in chapter one. The research questions and the research objectives of the study are also addressed in this chapter. Then, in the next chapter, an overview of Bangladesh, the country's tax administration, different tax types and relevant tax laws are discussed.

Chapter three reviews the literature related to the issue of tax compliance and different factors of TCB. This chapter also reviews the prominent theoretical and conceptual frameworks of TCB and presents the research gaps. The ensuing chapter discusses the underpinning theories and illustrates the research framework of the study. Furthermore, it also covers the arguments and discussions about developing the hypotheses of the study. Chapter five discusses the operational definition and the measurement strategies of the variables of this study. This chapter also covers detailed discussions related to the development of research instruments, data collection, and analysis procedures of the study. In addition, chapter six presents the research's results and discussions of the empirical findings. This chapter also attempts to analyze the

answers to the study's research questions. Finally, an overview of the research results, along with the research's significance, limitations and recommendations for the future, are presented in the conclusion chapter.



CHAPTER TWO

TAX SYSTEM OF BANGLADESH

2.1 INTRODUCTION

This chapter provides an overview of tax system in Bangladesh with a particular focus on personal income tax. Initially it illustrates a brief introduction of the country followed by a short description regarding the tax structure and administration of NBR. Then, it highlights the income tax system of the country, specifically, different types of taxable incomes, tax rates, and imposition of penalty. Finally, the chapter discusses the tax-GDP ratio of the country to highlight the poor contribution of tax to the national GDP.

2.2 INTRODUCTION TO BANGLADESH

Bangladesh is a South Asian country that became independent from being a part of Pakistan in 1971 through a nine-month long liberation war (Ahmed, 2013). The country is ranked the eighth most populated country in the world, totaling 173 million. Situated on a land area of 147570 square kilometers, it is considered one of the most densely populated countries in the world (Worldmeters, 2023; Talukder, 2017). The country consists of eight divisions, further subdivided into sixty-four districts; and follows the Westminster system of governance where unitary parliamentary democracy has been in practice since 1991 (Rashid, 2019). The Prime Minister leads the government with 300 elected members from parliamentary constituencies. Figure 2.1 provides a map of the country along with its eight divisions.

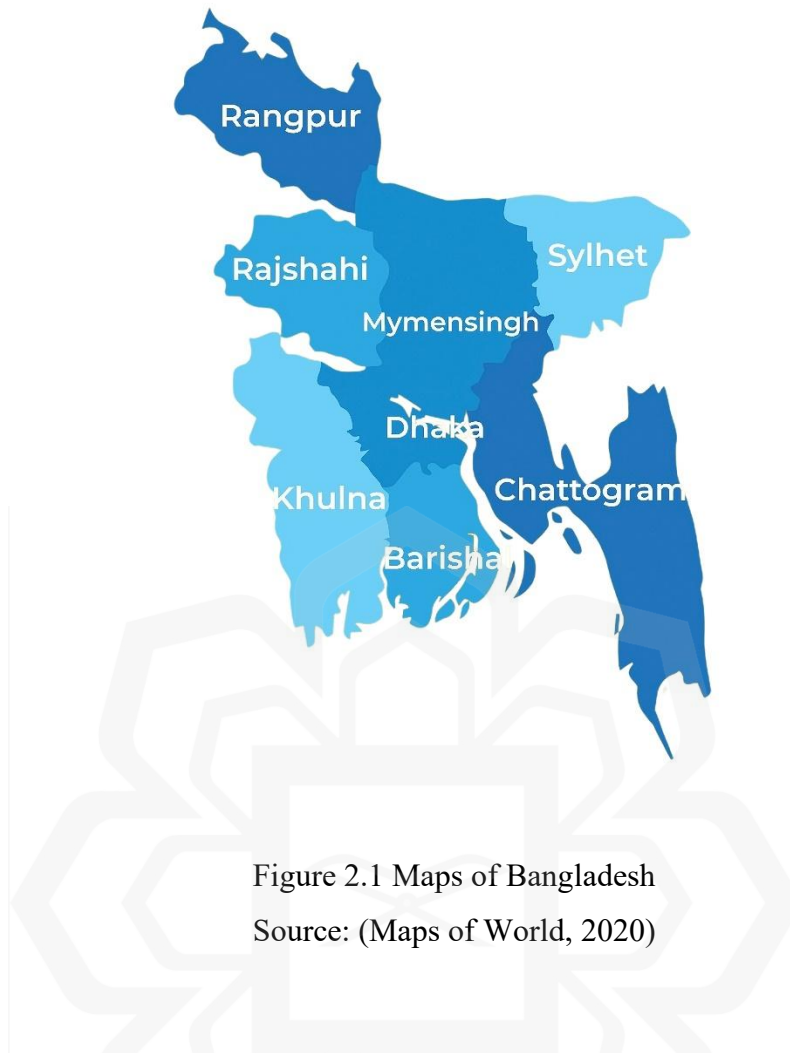


Figure 2.1 Maps of Bangladesh
Source: (Maps of World, 2020)

The official language of the country is called Bengali, based on the lingual ethnicity of 98% of its population. The country is ranked the fourth-largest Muslim-majority country in the world, as 89.5% people are followers of Islam. The country is regarded as an LDC with a GDP of USD 446.35 billion as per recorded in 2023 (Ministry of Finance, 2023). While the main economic sector of the country had long been agriculture, since the 1990s this trend has changed as service and readymade garments (RMG) sectors have continued to top the rank (Ahamed, 2013). The service sector leads the economic activity with a portion of 56.3% of GDP, followed by RMG and agriculture (28.1% and 15.5% of GDP, respectively) (Rahman, Habibullah & Masum, 2017).

According to the BBS data, per capita gross national income (GNI) has been observing an increasing trend in the past few decades (The Daily Star, 2019b). In FY

2022, per capita GNI for the country was recorded at USD 2820 (Macrotrends, 2023). The per capita GNI from the birth of the country to date is presented in Figure 2.2

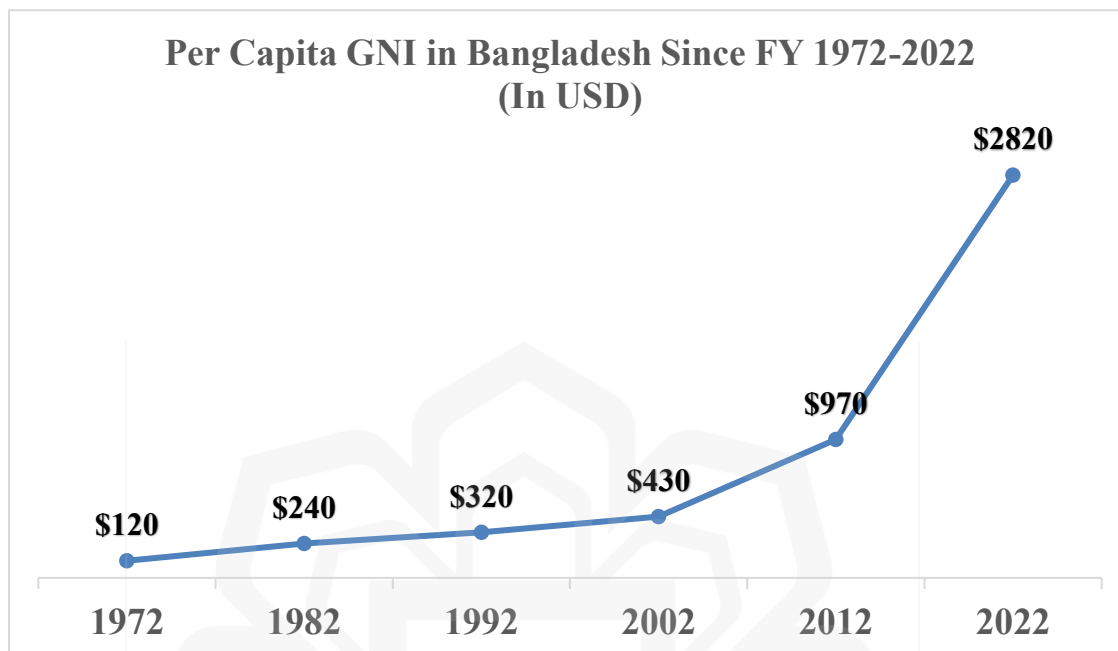


Figure 2.2 Per Capita GNI from FY 1972-2022
Source: (Macrotrends, 2023)

2.3 TAX STRUCTURE AND ADMINISTRATION IN BANGLADESH

The National Board of Revenue (NBR) administers tax system in Bangladesh, which is directly controlled by Internal Resource Division (IRD), Ministry of Finance (MOF) (National Board of Revenue, 2020b). NBR is the responsible authority for formulating as well as implementing the country's tax policies, laws, rules and regulations (National Board of Revenue, 2020b). It also proposes recommendations to MOF and the parliament to formulate the country's tax structure (National Board of Revenue, 2020b).

After obtaining independence on 16 December 1971, Bangabandhu Sheikh Mujibur Rahman, the founder of the nation, established NBR under the President Order No. 76 of 1972 (National Board of Revenue, 2020b). NBR has three main wings to conduct its operations, namely, income tax, board administration, and custom and Value Added Tax (VAT) (National Board of Revenue, 2020c).

The income tax wing of NBR consists of a sub-wing, called Taxes Zones, while all Taxes Zones have their own legal and geographical areas. According to the organogram of NBR, several Taxes Circle offices operate under the direction of each Taxes Zones (National Board of Revenue, 2020c). Figure 2.3 presents the structure of tax regime in Bangladesh.



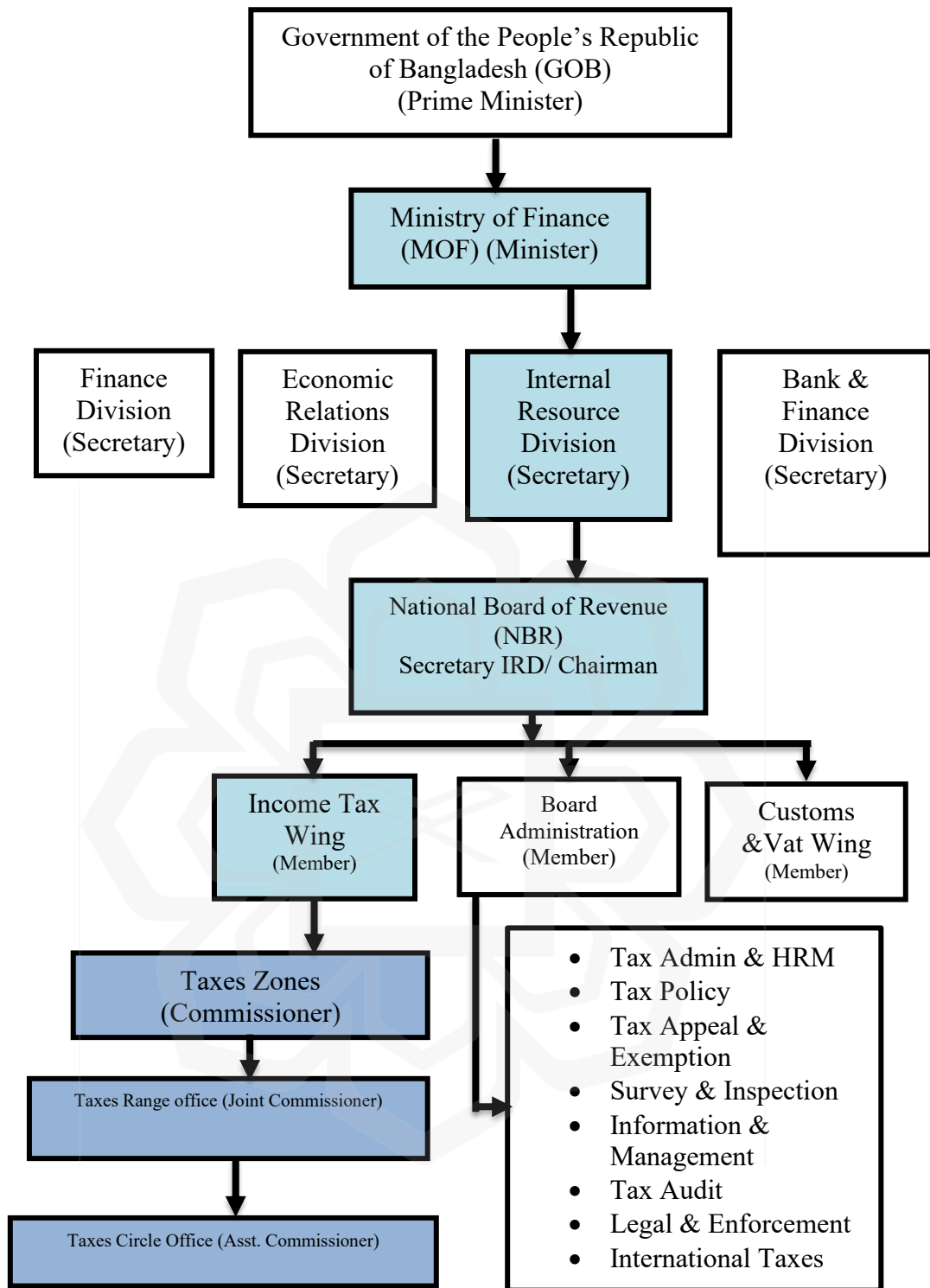


Figure 2.3 Structure of Public Finance in Bangladesh

Source: (National Board of Revenue, 2020a)

2.4 TYPES OF TAXES IN BANGLADESH

Taxes are categorized into two groups in Bangladesh: direct tax and indirect tax. Direct taxes mainly refer to income taxes, which are also divided into personal income tax and corporate tax. Other than income tax, direct tax also consists of land and development tax, gift tax, non-judicial stamp, and immovable property tax (National Board of Revenue, 2023). On the other hand, indirect taxes include customs duty, excise duty, VAT and supplementary tax. NBR is the authorized body to collect most of these taxes except for land and development tax, non-judicial stamp tax, and registration and immovable property tax (National Board of Revenue, 2023). The types of taxes are illustrated in Figure 2.4.

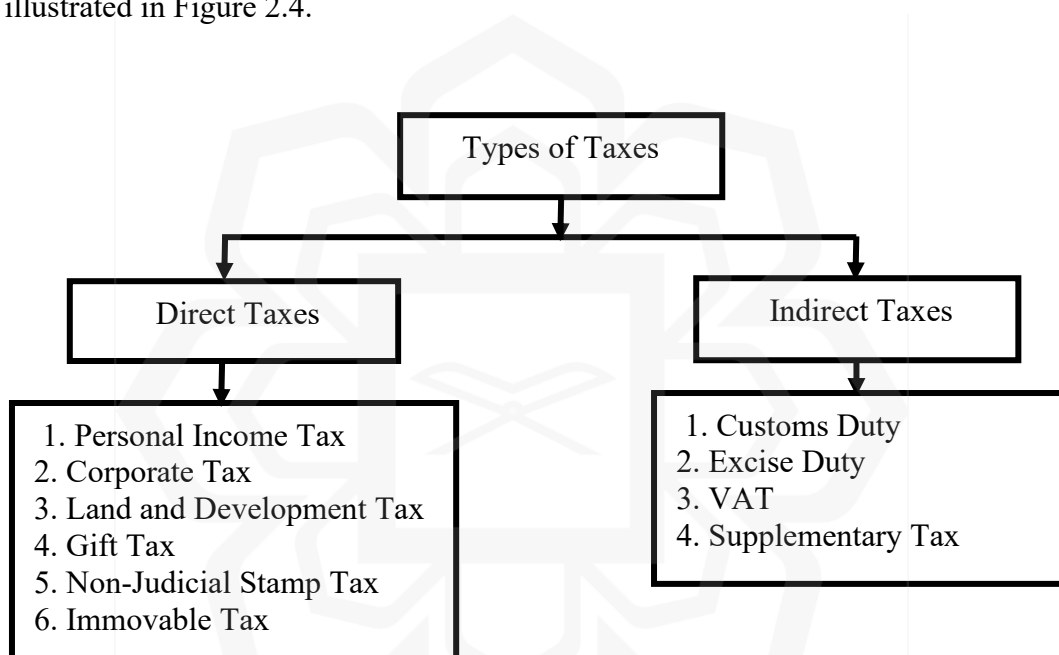


Figure 2.4 Types of Taxes in Bangladesh

Source: (National Board of Revenue, 2023)

2.5 INCOME TAXES IN BANGLADESH

Income tax is one of the primary sources of revenue collected by NBR. Bangladesh income tax law has a long-standing, traditional history of more than two hundred years. Although the country obtained independence in 1971, the territory was under the British regime for around two hundred years, and subsequently under the rule of Pakistan for two decades. In 1984, Bangladesh adopted Income Tax Law 1922, which had been in practice in both British and former Pakistan regimes (Chowdhary, 2006).

Income tax in Bangladesh is administered under the legislation called ‘The Income Tax Ordinance (ITO) 1984 (XXXVI OF 1984), and The Income Tax Rules 1984. According to ITO 1984, Bangladesh follows a progressive tax system. The basis of imposing tax on income is based on the ability to pay, where the core principle remains “the more a taxpayer earns, the more he should pay” (National Board of Revenue, 2020a). Income taxes are also categorized into personal income tax and corporate income tax.

2.5.1 Personal Income Tax

Personal income tax refers to the tax levied on any individual who has a taxable income and is not being a company (National Board of Revenue, 2020a). Individual incomes are classified and calculated under several headings to calculate the total income and charge the sum of payable tax. According to article 20 of Income Tax Ordinance (1984a), the types of taxable income are as follows:

- Salaries.
- Interest on securities.
- Income from house property.
- Agricultural income.
- Income from business or profession.
- Capital gain.
- Income from other sources.

Moreover, Bangladesh income tax follows progressive tax rates, which allows charging income tax in accordance with the level of income. According to the amendment of Income Tax Ordinance (2015), tax rate for individuals other than female taxpayers, senior taxpayers of 65 years of age and above, physically challenged taxpayers, and gazetted war-wounded freedom fighters are listed in table 2.1.

Table 2.1 Personal Income Tax Rate in Bangladesh

Income Level (BDT)	Tax Rate
On first up to 300,000	Nil
On the next 100,000 of taxable income	5%
On the next 300,000 of taxable income	10%
On the next 400,000 of taxable income	15%
On the next 500,000 of taxable income	20%
On the balance of total taxable income	25%

Source: (Income Tax at a Glance, Government of Bangladesh, National Board of Revenue, 2023)

However, the limit of tax-free income threshold is different for the female taxpayers, senior taxpayers of the age of 65 years and above, physically challenged taxpayers, and gazetted war-wounded freedom fighters. The minimum tax-free income for the above-mentioned groups is presented in table 2.2.

Table 2.2 Tax-Free Income Threshold for Different Categories of Taxpayers

Category of Taxpayers	Minimum Tax-free Income (In BDT)
Female	350,000
Senior citizens of the age of 65 years and above	350,000
Physically challenged taxpayers	450,000
Gazetted war-wounded freedom fighters	475,000

Source: (Income Tax at a Glance, Government of Bangladesh, National Board of Revenue, 2023)

Individual taxpayers of the above-mentioned criteria are legally obliged to submit their income tax return to NBR. Other than these criteria, the following are the other individual types who are also required to submit their tax return (National Board of Revenue, 2020c):

- Individuals living in any city corporation/ divisional or district head quarter, and owns a motor car,
- Individuals who run a business or have a trade license and a bank account,
- All professionals including doctors, lawyers, income tax practitioners, chartered accountants, cost and management accountants, engineers, architects and Surveyors who are registered under the concerned authorities,
- Members of any Chamber of Commerce and Industries or Trade Association.
- Individuals who intended to participate in any national or local election.

NBR also determines the minimum tax level for individuals living in different geographical areas within the country. Individual taxpayers living in Dhaka and Chattogram City Corporation areas are required to pay a minimum of BDT 5,000 income tax, and people living in other city corporations need to pay BDT 4,000 (National Board of Revenue (2020c). However, the minimum limit is BDT 3,000 for any individual taxpayers living in any other areas of the country (National Board of Revenue, 2020c).

2.5.2 Imposition of Penalty

Tax non-compliance is a severe problem in Bangladesh, and NBR consistently tries to minimize the occurrence of this offence. Tax non-compliance can be made by many means. Section 123-128 of Income Tax Ordinance (1984b) addresses the following acts of non-compliance, considered as crimes:

- Failure to maintain an income account in the prescribed manner
- Failure to file tax return
- Using fake TIN

- Failure to respond to any notice from concerned authority
- Failure to make the tax payable payment
- The concealment of income

ITO maintains provisions to curb the crime of tax non-compliance by imposing penalties (Income Tax Ordinance, 1984b), while Khan et al., (2019) argued that the amounts of penalties are low and the process of imposing them is complicated as well as taking a long time. A list of such offences and penalties in Bangladesh income tax system is presented in table 2.3.

Table 2.3 List of Offences and Penalties

Offence	Penalty
Failure to maintain income account in the lawful manner (Section 123, ITO, 1984)	50% of the taxable income or BDT 5,000, whichever is higher.
Failure to submit tax return (Section 124, ITO, 1984)	10% of the previous year assessed income of BDT 1,000, whichever is higher.
Using fake TIN (Section 125, ITO, 1984)	Not exceeding BDT 20,000
Failure to response to any notice from concerned authority (Section 126, ITO, 1984)	Not exceeding the payable amount of taxable income.
Failure to make tax payable payment (Section 127, ITO, 1984)	25% of the amount of tax payable
Concealment of income (Section 128, ITO, 1984)	15% tax on the concealed income

Source: (Income Tax at a Glance, Government of Bangladesh, National Board of Revenue, 2020c)

2.6 TAX REVENUE EARNINGS IN BANGLADESH

The collection of revenue in Bangladesh is mainly derived from direct and indirect tax, and NBR collects a major part of it. In FY 2021-2022, the country earned 67% of its total revenue from indirect taxes, indicating the country's heavy reliance on indirect taxes, while direct taxes not contributing as much to the economy (Ministry of Finance, 2023). Income tax, being the primary source of direct taxes, had in that same period contributed approximately 32.81% of the revenue collected by NBR (Ministry of Finance, 2023). Sector wise revenue collection for the period of FY 2017-2022 is shown in table 2.4.

Table 2.4 Category Wise Revenue Collection (In Billion BDT)

Items of Revenue Collections	FY17-18	FY18-19	FY19-20	FY20-21	FY21-22
Income tax	777.36	951.67	1028.94	959.50	961.22
Other taxes and duties	15.43	14.02	15.47	10.50	11.03
(A) Total of direct tax	792.79	965.69	1044.41	970	972.25
Value Added Tax (VAT)	827.13	1047.97	1098.46	1152.17	1169.94
Import duty	265.38	452.19	471.35	371.54	343.68
Export duty	0.40	0.46	0.49	0.54	0.01
Excise duty	16.64	19.76	53.45	32.77	31.07
Supplementary duty	347.66	313.93	316.84	482.98	411.87
(B) Total of indirect tax	1457.21	1834.22	1940.59	2040.00	1956.57
Grand total (A+B)	2250.00	2799.91	2985.00	3010.00	2928.82
Share of direct tax (%)	35	34	35	32	33
Share of indirect tax (%)	65	66	65	68	67

Source: (Bangladesh Economic Review, 2023); Ministry of Finance, 2023);
Government of Bangladesh)

Table 2.4 demonstrates a marginal increasing trend in terms of the share of indirect taxes (in %) to the revenue collection, which supports the argument that the contribution of direct taxes has not been increasing rather declining over this period. In the case of income tax collection, a slow increase trend could be observed in that period. However, Khan et al. (2019) argued that the gradual increase of income tax collection is the result of an increasing trend of per capita income over the last decade (shown in Figure 2.2). Furthermore, Faridy, Copp, Freudenberg and Sarker (2014) opined that despite slow increment in income tax collection over the years, the gap between targeted and actual collection of income tax undoubtedly indicates the presence of an enormous tax non-compliance. Ministry of Finance (2023) also recognized the poor performance of income tax collection compared to other sources of revenues. Figure 2.5 illustrates revenue collection by category for FY 2021-2022.

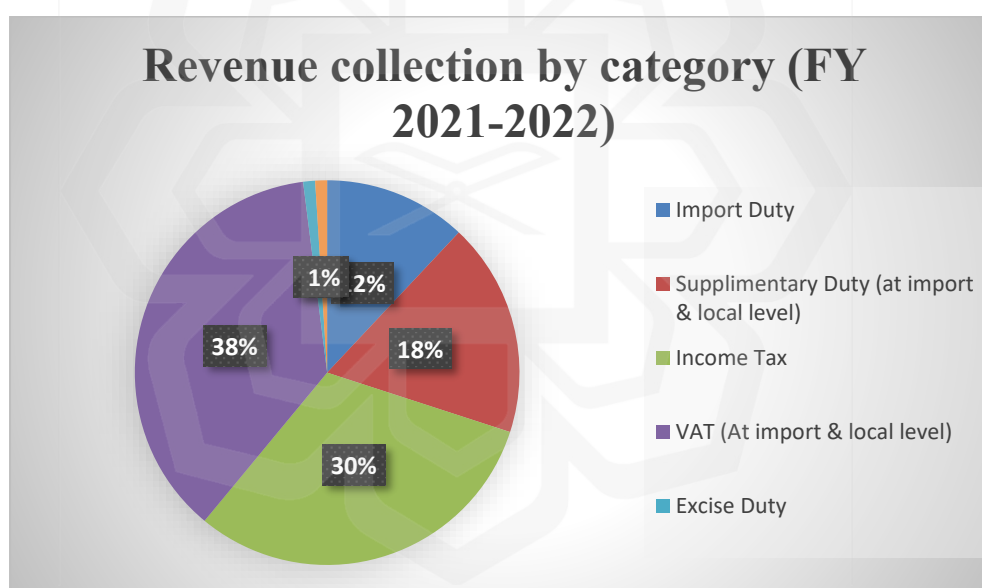


Figure 2.5 Revenue Collection by Category (FY 2021-2022)

Source: (Bangladesh Economic Review, 2023); Ministry of Finance, 2023); Government of Bangladesh)

2.7 TAX-GDP RATIO OF BANGLADESH

Bangladesh has a low tax-GDP ratio, which falls far behind the expected standard (ESCAP, 2018). While revenue mobilization has been the top priority of NBR, the outcome has not been at any satisfactory level in the past decade. The economy of

Bangladesh has experienced a marginal growth in the tax-GDP ratio during FY 2013-14 to FY 2016-17, which, unfortunately had dropped in the subsequent financial years (Ministry of Finance, 2023; Khan et al., 2019). Table 2.5 shows the revenue per share of GDP (in %) from FY 2013 to 2022.

Table 2.5 Revenue as Per Share of GDP (in %) from FY 2013-2022

Source	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22
a. Total revenue	10.7	10.4	9.6	10.0	10.2	9.6	9.5	9.5	9.4	9.3
a.1 Tax revenue	9.0	8.6	8.5	8.8	9.0	8.6	8.2	8.0	8.1	8.0
a.1.1 NBR tax	8.6	8.3	8.2	8.4	8.7	8.3	8.1	7.9	7.8	7.7
a.1.1.1 Income tax	2.9	2.8	2.7	2.6	2.7	2.6	2.6	2.5	2.6	2.4
a.1.2 Non-NBR tax	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3
a.2 Non-tax revenue	1.7	1.8	1.1	1.2	1.2	1.0	1.3	1.5	1.3	1.3

Source: (National Board of Revenue, 2023); ‘Income Tax at a Glance’, Income Tax, Government of Bangladesh)

In table 2.5, NBR tax and income tax exhibit increasing trends until FY 2016-2017, which continued to decrease afterwards (Khan et al., 2019). Rashid and Ahmad (2020) expressed concern that declining trends of tax-GDP ratio are indicative of the presence of a high level of tax non-compliance, which results in the governments having to rely more on foreign and internal loans to meet the budget deficits.

2.8 SUMMARY

This chapter provided an overview of the tax administration and the tax system in Bangladesh, with particular emphasis on personal income tax. In addition, the contributions of personal income tax to the GDP of the country are also discussed in the chapter. Although personal income tax holds enormous potential to contribute to the

country's revenue earnings, significant development in terms of income tax revenue mobilization has yet to be seen. The following chapter discusses the relevant literature of the study and reviews the prominent conceptual framework of TCB in order to identify the research gaps.



CHAPTER THREE

LITERATURE REVIEW

3.1 INTRODUCTION

This chapter reviews the relevant literature on tax compliance. Initially, it covers the concept of tax compliance and TCB. Then it focuses on different factors that influence TCB with particular reference to the QoG, QoTS, tax system structure and demographic factors. The inclusion of the moderating variable is explained in the ensuing subsection followed by the discussion of prominent conceptual framework related to TCB. Lastly, the chapter concludes by highlighting the gaps in literature.

3.2 THE CONCEPT OF TAX COMPLIANCE, TAX NON-COMPLIANCE AND TCB

Compliance generally describes a stage in which something is obliged according to its rules and regulations. In tax studies, the word ‘compliance’ is used very widely and commonly. In academia, a wide range of interpretations exist about tax compliance. James and Alley (2002) defined tax compliance as "*...the willingness of individual and other taxable entities to act in accordance within the spirit as well as the letter of tax law and administration without the application of enforcement activity.*" Here, James and Alley (2002) separately mentioned the spirit of the law and the letter of the law, which means that the taxpayer needs to fulfil both obligations to comply. Alabede et al. (2011) depicted the branches of tax obligation, which covers a comprehensive understanding of tax, and it is presented in Figure 3.1

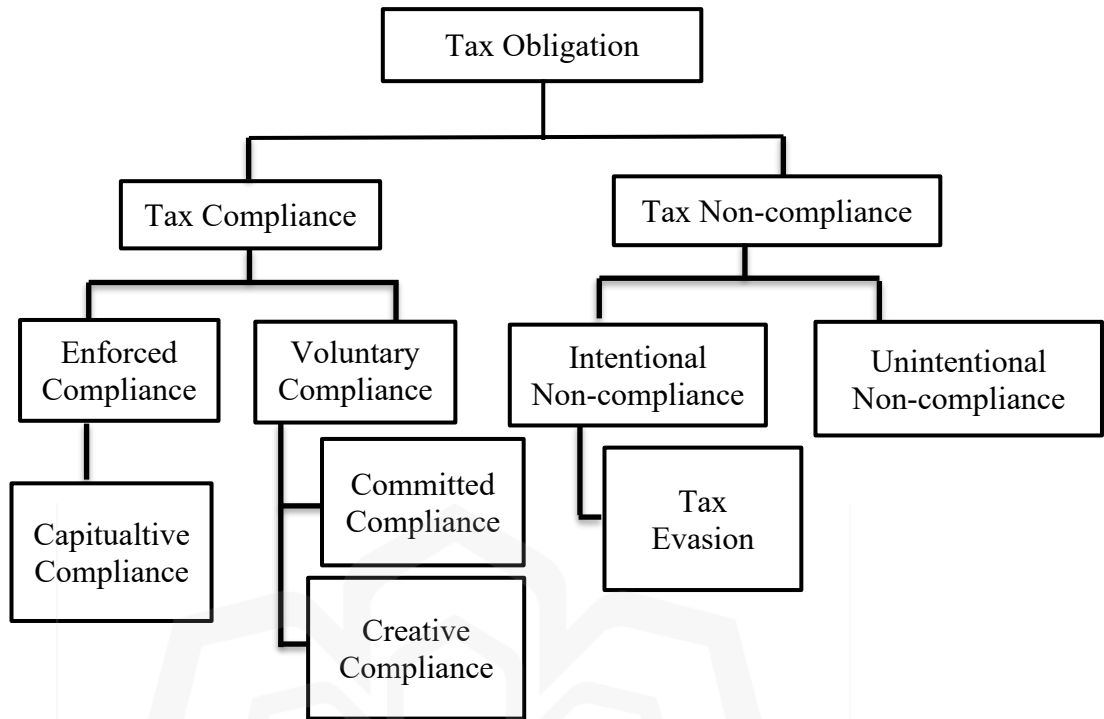


Figure 3.1 Branches of Tax Obligation

Source: (Alabede, J. O., Ariffin, Z. B. Z., & Idris, K. M. (2011). “*Determinants of tax compliance behavior: A proposed model for Nigeria*”. International Research Journal of Finance and Economics, 78(1), P.121-136)

Initially, the obligation of tax was categorized into tax compliance and tax non-compliance. Prior studies identified tax compliance from different perspectives. Kirchler (2007) and Alabede et al. (2011) categorized tax compliance as enforced and voluntary compliance. Voluntary compliance refers to taxpayers' trust and confidence in tax authorities, maintaining a good relationship with them, and complying with tax law without any enforcement. The optimum target of the tax authority is to ensure voluntary compliance among taxpayers (Shiferaw & Tesfaye, 2020). However, in most tax settings, a lack of trust and cooperation exists between tax authorities and taxpayers, and a hostile environment prevails. In those cases, the tax authority must be forced to collect tax from the payers, which is called enforced compliance. Enforce can be made by threats and fear of audit and penalty (Kirchler, 2007).

McBarnett (2001) pointed out three stages of tax compliance: capitulative compliance, committed compliance, and creative compliance. Capitulative compliance is when taxpayers are unaware and show negligence in discharging the tax obligation, and tax authorities need to employ enforcement mechanisms to collect tax. Alabede et al. (2011) included it under enforced compliance. Committed compliance is a stage where taxpayers firmly commit to oblige tax laws and submit the return without pressure from the authorities (Gangl & Torgler, 2020). Moreover, creative compliance can be defined as when taxpayers follow the letter of the law, not the spirit of the law, meaning they apply every possible way to minimize tax liabilities by redefining income and excludable expenditure (McBarnett, 2001). According to Alabede et al. (2011), committed and creative compliance can be considered as parts of voluntary compliance.

Organization for Economic Cooperation and Development (OECD) classified tax compliance into administrative and technical compliance (OECD, 2018). Administrative compliance refers to following the tax rules, filing procedures, and payment, specifically reporting compliance, procedural compliance, and regulatory compliance (OECD, 2018). On the other hand, technical compliance is related to meeting the technical requirements of tax law in calculating tax liability.

Moreover, e-Hassan, Naeem and Gulzar (2021) presented a comprehensive explanation regarding the meaning of compliance in accordance with the principle of tax law. According to them, it includes an actual declaration of the tax base, accurate calculation of the tax obligations, submission of the tax return on time, and payment before the due date. The present study considers this definition to define tax compliance as it is supported by the principles of tax law and covers all aspects and requirements of the taxpayers to fulfil their tax obligation.

However, tax non-compliance refers to the opposite meaning and practice of compliance. Although it is assumed from the definition of tax and action taken by the tax authority that taxpayers usually comply and pay tax, however, in practice, the scenario is different. Despite being developed, developing or LDC, every nation is still facing the issue of tax non-compliance (Augustine & Enyi, 2020). Williams (2020) asserted that the problem of tax non-compliance is inherent in the existing tax structure. James and Alley (2002) stated that non-compliance is the failure of taxpayers to fulfil the tax obligation, and it could be done both intentionally and unintentionally. A variety of opinions exist regarding the form of tax non-compliance. According to Sinnasamy

and Bidin (2017), tax non-compliance is considered when the taxpayer fails to submit the return and misrepresents the income and allowable expenditure while filing the return. Ogbeide and Ken-Otokiti (2021), and Rabiou and Mustafa (2020) cited an extensive definition of non-compliance from Soos (1991).¹³ In his view, non-compliance can occur in four forms: failure to submit the tax return, showing less taxable income, extra representation of expenses to get an exemption and inability to make the payment at due time.

Alabede et al. (2011) asserted that non-compliance with tax laws could be done deliberately and unwillingly. Intentional non-compliance is when the taxpayer knowingly violates the tax rules to gain personal interest, which is considered a crime. Another form of non-compliance is tax evasion. Alabede et al. (2011) categorized it under intentional non-compliance, which refers to non-disclosing the income or showing less taxable income to skip tax payments. Tax evasion is a global phenomenon, considered an illegal attempt where taxpayers deliberately ignore the tax obligation (Alstadsæter, Johannesen & Zucman, 2019). However, unintentional non-compliance happened due to ignorance of tax laws and making mistakes when filing (Alabede et al., 2011).

Furthermore, another form of non-compliance is tax avoidance, which is avoiding tax by using loopholes in tax rules and regulations. The main difference between tax evasion and tax avoidance is the legal issue. According to the law, evasion is prohibited and considered a crime, but avoidance is systemically permissible (Arogundade, 2005; Sandmo, 2005). However, the result of these two concepts is the same as leakage in tax revenue. Tax evasion violates the laws, and tax avoidance follows the letter of the law, not the spirit.

In addition, TCB defines as the actions of the taxpayers that they depict to fulfil their tax obligations, and it is hard to predict as numerous factors influence it. Generally, the tax authority or the government expects taxpayers to be well-behaved in complying with tax liabilities. However, in reality, the scenario is quite different. Some taxpayers are cooperative, but some are reluctant to fulfil their legal obligations. Brown and Mazur (2003) stated the components of measuring tax compliance behavior that were also supported by other studies (Ashby, Webley & Haslam 2009; Wenzel, 2004). According to Brown and Mazur (2003), three things need to be considered to define the TCB, which includes compliance with filing, reporting, and payment. Further clarification

was provided by Brown and Mazur (2003) that filing compliance stands for the willingness of taxpayers to submit the tax return on time, reporting compliance represents accurate disclosure of income and claim of expenses, and payment compliance indicates the payment of tax amount before the due time.

3.3 FACTORS INFLUENCING TAX COMPLIANCE BEHAVIOR

The issue of tax compliance has been addressed in the literature since long before, and researchers have given much importance to it. Tax is considered the primary source of income for most countries regardless of development, and revenue loss due to low tax compliance is a big challenge for every economy (Kehelwalatenna & Soyza, 2020).

Initially, economic approaches were examined as the determinants of tax compliance. Allingham and Sandmo (1972) were among the early researchers addressing economics-of-crime approaches in tax compliance studies. Based on the economic perspective of tax compliance, prior studies argued that tax system structures, namely, detection probability, higher penalty and tax rate have the potential to determine the compliance behavior of the taxpayers (Kehelwalatenna & Soyza, 2020; Sritharan & Salawati, 2019; Palil, Hamid & Hanafiah, 2013). Most of the studies concerned with the issue of tax compliance have investigated the effect of tax system structures on TCB and revealed empirical evidence to support the relationship between these two variables (Muhwa & Omboi, 2023; Kasper & Alm, 2022; Hayat et al., 2022; Shafaruddin et al., 2022; Oladipo et al., 2022).

However, researchers argued that tax system structures have implications for shaping human behavior towards tax compliance, but these are not the only determinants (Fischer et al., 1992; Alm, 1999). Moreover, they incorporated social and psychological factors to illustrate tax compliance behavior. Jackson and Milliron (1986) were among the early researchers who presented a comprehensive approach to understanding tax compliance behavior. Jackson and Milliron (1986) listed 14 determinants of tax compliance behavior, which include age, gender, level of education, income level, occupation, compliant peers, withhold income source, ethics, fairness, complexity, IRS contact, sanction, detection probability and penalty. Furthermore, they incorporated four theories from diverse disciplines, namely prospect theory, deterrence theory, agency theory and cognitive structure theory, to support the determinants.

In addition, the Cash Economy Task Force (1998) extensively reviewed the literature and identified several factors that acted as determinants of tax compliance behavior. Factors identified by the Cash Economy Task Force are depicted in Figure 3.2

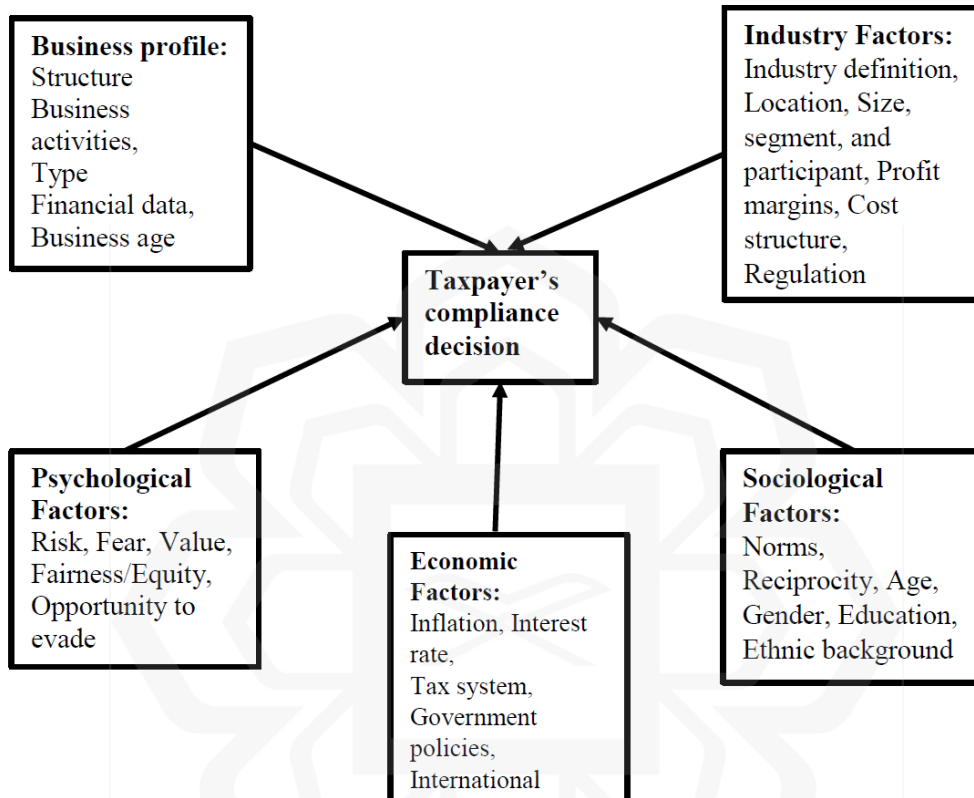


Figure 3.2 Determinants of Taxpayer’s Compliance Decision

Source: (Adapted from “*Improving tax compliance in the cash economy*” By Cash Economy Task Force, 1998, Canberra: Commonwealth of Australia, p.18)

However, later, Australian Taxation Office (ATO) incorporated another factor, namely, technology and data into the compliance model (ATO, 2023). In addition, Krichler (2007) presented the Slippery Slope model of tax compliance and argued how trust in tax authority relates with voluntary tax compliance and power of tax authority associates with enforced compliance. Krichler (2007) claimed that if taxpayers have trust in tax authorities, a friendly environment prevails, and voluntary tax compliance can be achieved. On the other hand, if taxpayers intend to non-comply, tax authorities can employ enforcement power (audit and fine).

In line with the approach of incorporating relevant factors other than tax system structures, prior studies pointed to the role of different governmental services and actions in shaping taxpayers' compliance behavior. Torgler (2003) gathered empirical data from the USA and several European countries and revealed that trust in public officials and the legal system is significantly associated to describe TCB. Considering the developing country context, Ibrahim, Musa and Abdul-Hannan (2015) empirically established that trust in government and confidence in parliament is positively associated with tax morale. In addition, Nkundabanyanga et al. (2017) also highlighted tax compliance in developing country settings and argued that governmental effectiveness to ensure adequate provision of public goods to get spontaneous taxpayers' support. Moreover, taking consideration of the perceptions of individual taxpayers in Malaysia, Sritharan and Salawati (2019) concluded that positive perception on government's spending towards the welfare of the taxpayers significantly correlated with TCB.

In addition, corruption in government settings gets vast coverage in tax compliance studies. Researchers argued that a high level of corruption in government develops frustration among taxpayers, resulting in high non-compliance (Roshid et al., 2019; Orock & Mbuagbo, 2012).

Apart from the determinants mentioned above, the tax authority's role in developing tax compliance decisions is also mentioned in prior literature. The power of tax authority and trust in tax authority are important factors in shaping taxpayers' compliance attitude (Gangl, Hofmann & Kirchler, 2015; Van Dijke & Verboon, 2010). Furthermore, complexity in tax system is found to be negatively associated with TCB (Taing & Chang, 2021), while simple and easy tax procedures increase voluntary TCB (eHasan et al., 2021). In addition, Alm (2019) argued that the quality services and customer-friendly behavior of tax authorities could enhance compliance rate.

Moreover, considering the impact of social elements and TCB, prior studies empirically concluded that TCB has been influenced significantly by the peers and referral groups (Al-Rahamneh & Bidin, 2022; Inasius, 2019). In addition, taxpayer's personal attributes and economic conditions were also addressed in earlier research, and Baeli (2021) argued that patriotic feelings and healthy financial conditions are positively associated with TCB.

Different factors that influence the compliance behavior of the taxpayers have been presented in the above discussions. The following part discusses an overview of tax compliance studies with particular reference to Bangladesh.

3.3.1 Tax Compliance Studies in Bangladesh

In Bangladesh, empirical studies that address the issue of tax compliance are scant. Most studies focused on Value Added Tax (VAT), the primary source of the country's indirect tax. Faridy et al. (2014) addressed the complexity and compliance cost in the VAT system and how these contribute to non-compliance. Khanam, Begum and Khanam (2021) reviewed the structures and regulations of VAT system and suggested reforming tax administration and grab corruption to boost the VAT revenue earnings. Researchers argued that the VAT system in Bangladesh is neither progressive nor transparent, and the poor and middle classes bear the more significant portion of the tax (Siddiquee & Saleheen, 2021; Faridy & Sarker, 2011).

Furthermore, apart from the VAT, some other issues are also highlighted in the prior tax studies in the context of Bangladesh. Sarker (2016) studied the tax administration of Bangladesh and commented that poor tax systems and a lack of long-term effective plans contribute to poor economic growth in the country. Moreover, Ahmed (2019) conducted a review study and identified several challenges of Bangladesh to mobilize the revenue collection, which includes, narrow tax base, collect tax from digital economy, avoiding tax payment by the multi-national companies using the loopholes of international tax laws and poor tax culture among the citizens. In a separate research initiative, Ahmed (2020) proposed tax amnesty scheme to foster voluntary tax compliance. Ete (2023) also adopted similar research strategies like Ahmed (2019) and pointed out some shortcomings of the tax administration of Bangladesh, and suggested that incorporating digital tools like, e-filing, e-payment will assist the authority to mobilize revenue collection.

However, a few studies addressed the issue of income tax. Hasan (2014) conducted a study on undergraduate students to disclose their perception regarding income tax and revealed that high wastage and corruption in government settings are making them frustrate to pay tax voluntarily. Tishar and Hasanuzzaman (2019) conducted a survey on individual taxpayers regarding their non-compliance behavior

and they concluded that having high tax morale reduced non-compliance acts. Mannan et al. (2023) conducted a survey on the taxpayers of Dhaka city and examined the effect of cost of compliance and government spending on TCB. They concluded that the cost of compliance and government spending are positively associated with TCB. Moreover, Hasan, Mohammad and Alam (2017) conducted a survey on the future potential taxpayers (university students) in Dhaka city to examine the moderating role of religion on the relationship between subjective norms and TCB, and found that religion significantly moderates the relationship between the variables.

Khan et al. (2019) did a household survey to examine the potential of income tax. They concluded that very little can be known about the overall stand of income tax collection in Bangladesh due to a lack of empirical studies, and they called for future researchers to give attention to the issue. In addition, researchers empirically tested the role of public and private companies in evading tax. Prior studies revealed some techniques adopted by the companies to pay less tax, which includes showing unnamed transaction, wrong use of admissible expenses, and inaccurate classification of business expenditure (Bhuiyan, 2012; Rahman & Yasmin, 2008).

Prior studies on TCB identified several factors from diverse aspects and contexts. However, Palil et al. (2013) argued that determinants of TCB of a country may not be similar with other countries as contextual scenarios have differed between countries. Thus, Alabede (2012) opined to explore for new determinants to address the dynamic nature of human society and the contextual realities of a particular country. Some relevant determinants of TCB for the context of LDCs, especially Bangladesh are discussed in the following sections.

3.3.2 The Quality of Government

The term 'QoG' has been used widely to assess the country's capacity to safeguard the citizen's rights and ensure provision of essential services with optimum quality. The QoG facilitates the achievement of a progressive tax system; similarly, with an effective tax system, the standard of the QoG can be attained (Everest-Phillip & Sandall, 2009). The terms "good governance" and "quality of government" are used widely in literature. Although both terms sound similar, prior studies distinguished these two (Rothstein & Teorell, 2008; Charron, Dijkstra & Lapuente, 2015).

The idea of good governance was officially initiated by the World Bank, providing worldwide governance indicators to measure any particular country's governance quality (Kaufmann et al., 2007). According to Vymětal (2007), governance consists of the traditions and the institutions of a country by which the authority conducts its activities to ensure the general welfare of the citizens. Furthermore, it covers the process of selecting, monitoring, and replacing the leadership of the concerned country. Vymětal (2007) also added that the success of governance depends on implementing sound policies to utilize a country's resources effectively.

The concept of good governance presented by the World Bank consists of some indicators: accountability, political stability, government effectiveness in providing public goods, control of corruption, good law and order situation, and sound regulatory policy (Kaufmann et al., 2007). Abu Bakar, Palil and Maelah (2023) considered two dimensions namely, political stability and rule of law to measure the quality of governance.

However, the Institute on Governance (IoG) revealed a report in 2003 and argued that the notion of governance is much broader than the government. Prior studies pointed to three types of governance: governmental, economic, and social (Institute on Governance, 2003; the United Nations, 2007). Governmental governance, or in other words, political governance, deals with authority in the public sector, organizes societal activities and manages the country's resources. Economic governance deals with the private sector to ensure its growth, and social governance handles civil society and NGOs.

The United Nations (2007) argued that governmental governance should represent more than the provision of the common good. The United Nations (2007) further suggested that it must have the capacity to assist individuals to achieve satisfaction and material prosperity. Rotberg (2005) stated that political governance is the management, supply, and distribution of political goods to the citizens of a country.

3.3.2.1 Components of QoG

Researchers attempt in different ways to identify the components of the QoG and their measurement strategy. The World Governance Indicators (WGI) presented by the

World Bank are widely used for this purpose. However, these indicators mainly focus on the overall governance rather than particularly on the government (Rothstein & Teorell, 2008; Charron et al., 2015). Norris (2012) opined that the QoG represents the state's capacity to conduct required activities to ensure the well-being of all citizens and administer public services in an impartial and uncorrupt manner. Charron et al. (2015) outlined three components of the QoG that are described in the following sections.

a. Impartiality

Rothstein and Teorell (2008) asserted impartiality as the central theoretical underpinning and primary underlying factor of the QoG. Charron et al. (2015) added that all citizens should be considered equal, and the state should treat all citizens fairly regardless of gender, age, ethnicity, or religion. The government is the responsible authority to run the whole country, and in a democratic system, citizens have the voting power to form the government. Accordingly, citizens are the primary stakeholders of the country, and the government should impartially ensure their wellbeing and marital prosperity (the United Nations, 2007).

The concept of impartiality can be violated if there is a presence of corruption and abuse of power to provide undue favor to a specific individual or group (Charron et al., 2015). Mauro (2004) added that lack of impartiality in overall government actions increases the citizens' dissatisfaction towards the government, and the government loses public support, which hinders economic development. In tax compliance research, empirical findings revealed that unequal treatment by the tax regime to the taxpayers increases non-compliance (Nkundabanyanga et al., 2017). Torgler (2012) opined that fair treatment by the government is positively associated with the development of tax morale among taxpayers.

b. Quality of Public Services

The government is the prime responsible authority to fulfil every citizen's basic needs through ensuring the provision of essential public services (Torgler, 2003). The effectiveness of the government is largely dependent on its capacity to provide public services to the people in an efficient way (La Porta et al., 1999). Norris (2012) asserted

much importance on the Quality of Public Services (QPS) as it is an essential criterion for determining the quality and efficiency of any government. Ibrahim et al. (2015) also concluded the similar findings in their empirical research that people's support and trust towards the government depends significantly on the perceived QPS.

In addition, the QPS is an important determinant of tax compliance behavior. Taxpayers consider public services from the government as a return for their financial contribution, and they are concerned about the quality of these services (Kim, 2008). Empirical findings revealed that taxpayers want to see the benefits of their financial contribution, and if they perceive the services that they are receiving from the government are less worthy than their contributions, taxpayers become less willing to comply (Lago-Peñas & Lago-Peñas, 2010; Torgler, 2012).

c. Control of Corruption

Corruption can be defined as misusing power to attain private gain (Aguilera & Vadera, 2008). Rohwer (2009) opined that corruption prevails in almost every country to varying degrees. Researchers argued that corruption is a complex social, political and economic fact that is difficult to prevent entirely. However, it is argued that a sincere attempt from the state regarding Control of Corruption (CoC) can be considered as an important component of the QoG (Charron et al., 2015; La Porta et al., 1999). Kaufmann et al. (2007) stated that the corrupting practice of government officials causes severe credibility crises and deteriorates the moral strength of government to its citizens.

The negative impact of corruption on economic development, social progress, and political stability has been documented in many studies (Samanni & Holmberg, 2010; Helliwell & Huang, 2008). Corruption also has negative consequences on tax compliance. Alm, Martinez-Vazquez and McClellan (2016) opined that corruption and tax non-compliance are interrelated; corruption causes tax non-compliance, and tax non-compliance increases corruption.

3.3.2.2 The Quality of Government and TCB

Prior research provided evidence that the opposite position of the QoG is nothing but a dysfunctional condition of a state which suffers economic and social problems

(Helliwell, Huang & Wang, 2020; Rothstein & Teorell, 2008; Kaufmann et al., 2007). The empirical literature has found that states that suffer from high corruption, weak rule of law, and high level of impartiality are associated with poor economic growth, poorer health, poorer environmental outcomes, greater income inequality, lower levels of happiness, and lower overall subjective well-being (Muringani, Dahl Fitjar & Rodríguez-Pose, 2019; Holmberg & Rothstein, 2012; Samanni & Holmberg, 2010; Veenhoven, 2010; Helliwell & Huang, 2008). Thus, achieving the QoG is of great interest to all nations.

However, what is the relation between the quality of government and tax compliance behavior? Providing the answer, the literature stated that as citizens support the government by providing finance in the form of tax, they must be concerned about the government's activities (Sebele-Mpofu, 2020; Masud, Alkali & Aliyu, 2021). Thus, government affairs make an impact on taxpayers' compliance decision either positively or negatively.

Lessen (2003) stated that the government and the taxpayers have a vertical contract relationship. The vertical contract concerns taxpayers getting equal or more or less public goods in exchange for their tax payment (Ilmiyani & Djamaluddin, 2020). According to the argument of vertical contract, complying with tax law depends on whether the political goods or public services provided by the government are sufficient compared to the tax payment (Ilmiyani & Djamaluddin, 2020; Areo, Gershon & Osabuohien, 2020). Levi (1988) argued that if taxpayers feel that receiving political goods in return for tax payment from the government is lower than the amount paid, they might lose their willingness to fulfil their tax obligations.

Different components of government and their impact on tax compliance have been discussed in prior research. Chan, Supriyadi and Torgler (2017) studied the effect of trust in public authorities and the legal system on tax compliance behavior. They concluded that trust in public officials and the legal system is significantly associated with tax morale. Similarly, Ibrahim et al. (2015) empirically established that trust in government and confidence in parliament are positively associated with tax morale.

Nkundabanyanga et al. (2017) surveyed taxpayers' perceptions regarding their compliance behavior in a developing country context. They revealed that government effectiveness, voice and accountability, and a transparent tax system significantly and

positively determine the TCB. Vythelingum et al. (2017) stated that if the government failed to provide effective service and a fair tax system, taxpayers may be reluctant to fulfil their tax obligation.

In addition, corruption in the government has been addressed several times in tax compliance studies and is considered one of the significant determinants of low compliance. Akinyomi and Okpala (2013) examined the factors that contribute to tax non-compliance in Nigeria. Using a survey questionnaire, they found that a higher level of corruption at the government level leads to high non-compliance. Roshid et al. (2018), Jahnke (2017) and Williams and Krasniqi (2017) also revealed similar findings that an increase in corruption level also causes non-compliance. Alm et al. (2016) reported that a higher level of corruption frustrates taxpayers with the government, and they become less willing to comply.

Different services and actions of the government and their impact on tax compliance behavior have been addressed in prior literature. However, a comprehensive study on the perception of taxpayers regarding the overall QoG and its impact on taxpayer compliance decisions is yet to be examined (OECD, 2018; Abdullahi, 2017; Alabede, 2012).

3.3.3 The Quality of Online Tax Services

Service quality has been considered very important to both the service provider and the service receiver. Asubonteng, McCleary, and Swan (1996) opined that service quality is crucial for service providers as the positive perception of the service to the service receiver may increase the likelihood of repurchase.

Like other public sector organizations, the issue of service quality is critical to tax offices as they provide different types of service to the taxpayers. Susuawu, Ofori-Boateng and Amoh (2020) defined tax service as a set of actions undertaken by the tax authority to ensure and assist taxpayers in fulfilling their tax obligations. OECD (2018) pointed out three types of service commonly provided by a revenue office: information, interaction, and transaction. Information posits for providing necessary information and updating tax laws to the taxpayer and the citizens. Interaction is dealing with taxpayers to solve their inquiries, auditing, and investigating. The transaction is considered the

most crucial segment in the tax system, as tax filing and payment have been done in this part. Prior studies concentrated a lot on how the quality of services provided by the tax regime affected TCB and concluded significant positive association between these two variables (Wibowo & Ali, 2022; Ma'sumah & Hamidi, 2022; Darmawan & Sari, 2023; Augustine et al., 2020; Mansyuri & Mauzu, 2022).

However, the nature of the tax services has been changing in accordance with the latest developments in modern technology (Ramadhani & Sitorus 2022). With the rapid advancement in technology, the tax system also transformed from manual to digitalization, and most of the countries adopted modern technology to provide smooth and hassle-free services to the taxpayers (Ardillah & Farhanah 2022; Machfuzhoh & Pratiwi 2021). Moreover, prior research provides evidence in favor of the transformation and digitalization of the tax system and argues that the manual tax system possesses many weaknesses, including time-consuming, broad access to bribes and corruption, and procedural complexity (Rohmah & Ashlihah, 2021; Jawas et al., 2017).

Hu et al. (2009) pointed out the key features of online services provided by the tax authorities, which include secure, easy access to all, user-friendly, capable of comprehending all relevant information in a single channel. In addition, Wasao (2014) defined the system as a single platform where taxpayers have free access to register and obtain e-TIN, file their tax return, pay the tax amount, and enjoy other services provided by the tax office through the Internet and online channels. Like other tax regimes, the NBR, the apex authority of tax in Bangladesh, adopted online tax system in the last decade, and focusing more on implementing complete digital tax system (Ministry of Finance, 2023).

Hu et al. (2009) outlined three components to measure the quality of online tax service provided by the tax office, namely, easy access to relevant tax information, complete tax filing, and payment of tax obligation through a secured and easily accessible online method. Prior studies incorporated the quality of online tax services in the tax compliance model and tried to determine their impact on TCB (Ardillah & Farhanah 2022; Machfuzhoh & Pratiwi 2021; Rohmah & Ashlihah, 2021; Jawas et al., 2017).

Le et al. (2020) and Shukla and Kumar (2019) concluded that simple procedures and easy access to online tax services are positively correlated with the compliance behavior of the taxpayers. Moreover, Nomlala and Oluka (2021) empirically supported that e-filing and cashless e-payment have positive and significant effect on TCB. In addition, prior studies also revealed positive notions of the taxpayers regarding the online tax system and concluded that favorable perception regarding the overall QoTS have significant positive effect on TCB (Ardillah & Farhanah 2022; Machfuzhoh & Pratiwi 2021; Rohmah & Ashlihah, 2021).

3.3.4 Tax System Structure

Based on deterrence theory⁵, the effect of tax system structure on TCB has been discussed by the previous researchers (Machfuzhoh & Pratiwi 2021; Widuri et al., 2019; Freire-Seren & Panadés, 2013; Alm et al., 1992; Jackson & Milliron, 1986; Allingham & Sandmo, 1972). Sinnasamy and Bidin (2017) asserted that the main reason for being involved in non-compliance acts is to enhance personal benefit. Becker (1968) claimed that the reason for being involved in a crime is not the same; the decision varies in the analysis of cost and benefit. The components of tax system structure are discussed below.

3.3.4.1 Probability of Being Detected

Tax authorities conduct audits and increase detection probability to ensure the collection of optimum taxes and demotivate non-compliant taxpayers. According to the deterrence theory, a higher Probability of Being Detected (PBD) can increase tax compliance. Contrary to this, a lower probability of detection can increase the likelihood of non-compliance acts. Jackson and Milliron (1986) supported this statement empirically that taxpayers were involved in non-compliant acts while they perceived that the probability of being detected was low. Palil, Malek and Jaguli (2016) examined the impact of PBD on tax evasion and revealed significant relationship between these two variables and suggested that higher PBD can effectively mitigate the act of tax evasion. Olaoye and Ekundayo (2019) empirically tested the effect of detection probability through tax audit

⁵ Discussion on Deterrence theory presents in chapter four.

on tax compliance behavior and recommended that an effective audit system is needed to increase tax compliance. Similar results were also found in other studies (Widuri et al., 2019; Bangun, Ginting & Iskandar, 2017).

In addition, in the Malaysian context, Mohdali, Isa and Yusoff (2014) revealed that the threat of tax audit acts positively to deter non-compliant taxpayers but negatively impacts on compliant taxpayers.

3.3.4.2 Severity of Penalty

Like tax audits, the tax authority also employs penalties for encountering non-compliant acts. Several studies have depicted the significant effect of high penalty rates on curbing non-compliance (Allingham & Sandmo, 1972; Alm et al., 1992; Kirchler, 2007). Allingham and Sandmo (1972) opined that tax evaders may not be involved in this crime, considering the risk of paying a high penalty. They added that tax evasion will decrease when the authority enhance the Severity of Penalty (SP). Tilahun, (2019) claimed that a penalty can only be considered an effective tool when the taxpayer considers the gain of evading tax is lower than the penalty rate. Oladipupo and Obazee (2016) empirically tested the relationship between tax compliance and SP and found a positive association. Other studies also revealed similar findings (Sinnasamy & Bidin, 2017; Remali et al., 2018). Hassan, Palil, Ramli and Maelah (2022) conducted a study in Malaysian context and revealed that threat of punishment (tax audit and penalty) has significant positive association with TCB.

However, some studies found a negative relationship between SP and tax compliance behavior. Bruce-Twum (2014) argued that an increased penalty cannot guarantee increased tax compliance. Oladipupo and Obazee (2016) conducted a study on the compliance behavior of Nigerian small and medium-scale enterprises and revealed that penalty is not positively associated with tax compliance.

3.3.4.3 Tax Rate

The Tax Rate (TR) is considered an important determinant of tax compliance behavior. The tax authority predetermines the TR, and a taxpayer must follow this rate to fulfil his tax obligation. Several studies incorporated TR as a determinant of tax compliance

and revealed a positive association (Remali et al., 2018; Guldana, 2013; Freire-Seren & Panades, 2013; Olabisi, 2010; Abiola & Asiweh, 2012). The studies concerned about TR have shown that taxpayers' perception of tax rates is directly associated with their compliance behavior.

Prior studies pointed out that if taxpayers perceived the TR as too high compared to their capacity, they tended to be non-compliant (Owusu, Bekoe & Mintah, 2023; Abiola & Asiweh, 2012). Freire-Seren and Panadés (2013) also supported this view and said that a high TR demotivates taxpayers to comply. Moreover, Torgler (2007) argued that optimal and fair TR increases tax compliance behavior. However, Alshira'h and Abdul-Jabbar (2020) found that the TR is insignificant in increasing the compliance rate in Jordan. Similarly, Richardson (2006) and Kim (2008) found no evidence that TR increases tax compliance.

3.3.5 Demographic Factors

Demographic Factors have been addressed in tax compliance research like other behavioral studies, and Devos (2005) opined that these variables contribute a lot to understanding the compliance behavior of the taxpayer. This section reviews the related studies which employed demographic variables to identify the relationship with tax compliance behavior. The most common and widely used demographic variables of tax compliance studies are gender, age, level of education and income level and occupation.

3.3.5.1 Gender

Prior researchers incorporated gender as a demographic variable in tax compliance studies and found mixed results. A good number of tax studies empirically supported that gender is an important determinant of TCB and it has significant impact on the compliance behavior of the taxpayers (Paleka et al., 2023; López-Luzuriaga & Scartascini, 2023; Yimam & Asmare, 2020; Febrian & Islami, 2020; D'attoma et al., 2020; Alasfour, Samy & Bampton, 2016). Prasetyo, Adi and Damayanti (2020) conducted a survey to identify the difference of tax compliance level between male and female and empirically claimed that women are sounder in moral behavior and more obedient to the rule of law than their counterparts, and these attributes lead them to

comply with tax laws more than men. Similar conclusion also replicated in some prior studies (López-Luzuriaga & Scartascini 2023; Yimam & Asmare 2020; Febrian & Islami, 2020). In addition, D'attoma, Volintiru and Malézieux (2020) conducted a cross-country study among five nations, namely, Italy, UK, USA, Sweden and Romania, to identify the difference in the level of TCB based on gender, and statistically showed that women depict higher TCB than their counterparts. In addition, Eckel and Grossman (2001) conducted an experimental study and revealed that women have strong feelings to engage with social contribution and act more benevolently than men. Croson and Gneezy (2009) argued that women are more risk-averse in making financial decisions than men, and because of this, they are more compliant.

However, some studies found no significant impact of gender differences on tax compliance attitudes. Richardson (2006) conducted a study on 45 countries and finally concluded that gender has no significant relation with tax compliance behavior. Shiferaw and Tesfaye (2020) and Augustine, Folajimi and Ayodele (2020) also depicted similar results that gender has no association to determine TCB. In contrast, the findings of Friedland, Maital and Rutenberg (1978) and Kirchler and Maciejovsky (2001) supported that women are more willing to evade tax and do not want to disclose their income to the tax authority.

3.3.5.2 Age

Age is considered an important component of demographic variables that have been used in many tax compliance studies. Most of the prior studies found a significant relationship between age and tax compliance (Vincent, Stevenson & Owolabi 2023; Paleka et al., 2023; Pinheiro, Diogo & Samagaio, 2021). Prior studies found that older people are more committed to compliance than young cohorts, and argued that the difference between older and younger generations is mainly due to variations in social and psychological context. Shiferaw and Tesfaye (2020) opined that attitude towards states and tax payment has gradually changed in line with the age increase, and they concluded that older people tend to be more compliant. Highlighting the social context, Hofmann, Voracek, Bock and Krichler (2017) stated that older people are more dependent on social goods like social security, provision of health care and essential services, and because of these, they are more cooperative with the state. Krichler (2007)

concluded that generally, older people have more income, more financial freedom, and more business experience compared to their counterparts, and all these considerations are responsible for making the difference in terms of complying with the tax law. However, Warneryd and Walerud (1982) and Wahlund (1992) found that older people are less compliant than the youth.

In addition, Hofmann et al. (2017) did a meta-analysis of survey studies on 111 countries and concluded that age is positively associated with tax compliance, but the level of impact is minimal. Torgler (2007) conducted an experimental study and found age is positively associated with tax compliance.

However, the findings regarding the association between age and tax compliance still need to be uniformed as some studies revealed no relationship between age and TCB. For instance, Augustine et al. (2020), Biru, 2020; Helhel and Ahmed (2014) found no significant relationship between age and tax compliance, arguing that the level of tax compliance cannot be determined by age. Similarly, Usman (2018) and Hai and See (2011) revealed no significant relationship between age and tax compliance, in contrast to the above statement.

3.3.5.3 Level of Education

The level of education and its impact on tax compliance behavior has been tested before in tax compliance studies, and the results need to be more consistent. Paleka et al. (2023) and Alasfour et al. (2016) empirically showed that taxpayers' educational background has significant effect on their compliance behavior, and it can be considered as a determinant of TCB. Chan, Troutman and O'Bryan (2000) supported the hypothesis that higher education is linked with higher levels of moral development and positive attitudes towards tax compliance. Similar findings are also replicated in other studies (Aregbesola, Owosekun & Salawu 2020; Subramaniam 2019; Gitaru (2017). In addition, considering the nature of the complex tax system, Krichler (2007) argued that having higher education is necessary to understand the tax law.

However, studies also found a negative association between higher education and tax compliance (Richardson, 2006). In line with this finding, empirical results revealed a significant negative relationship between educational qualification and tax

compliance. Hofmann et al. (2017) claimed that highly educated people have an excess of information about the loopholes of the tax law, and they can minimize their tax liabilities by utilizing these loopholes. Moreover, Anyaduba and Oboh (2019) and Augustine et al. (2020) concluded that taxpayers' educational qualifications have no significant impact on their TCB.

3.3.5.4 Level of Income

Similar to gender and age, prior studies also revealed inconsistent findings relating to the impact of taxpayers' income level on their TCB. Dissanayake and Premaratna (2020) and Al-Zaqeba et al. (2020) provided empirical evidence that taxpayers' level of income has significant impact on their TCB. In addition, some researchers argued that tax payment reduces the amount of income, and due to this, low earners tend to evade tax (Hofmann et al., 2017; Wearing & Heady, 1997). Dissanayake and Premaratna (2020) empirically concluded that high-income earners have a higher tendency to cooperate with the government by paying their tax liabilities.

However, Chung and Trivedi (2003) supported the hypothesis that high-income earners are less compliant than the lower-income group and explained the reason that they have to bear a large amount of tax liability compared to their counterparts. In addition, some researchers pointed out that the progressive tax system triggers the tendency of high-income groups to evade tax as this system imposes a high tax rate on them (Ahmed & Braithwaite, 2004).

In addition, empirical evidence also supports that income level does not affect compliance behavior (Alasfour et al., 2023; Usman, 2018; Chan et al., 2000). Park and Hyun (2003) conducted their study on the South Korean tax system and revealed similar findings.

3.3.5.5 Occupation

Occupational status is a crucial element to justify the source of earnings of an individual, and prior studies have addressed this issue to explain the behavior of taxpayers (Alm, 2019; Alasfour et al., 2016; Alabede, 2014). Occupation primarily is categorized into paid employment and self-employment. Furthermore, paid employment can be divided

into government and private sector employment. Alasfour et al. (2016) concluded that occupational status of the taxpayers has significant impact on their compliance behavior. Moreover, income from self-employment-related occupations is more vulnerable to non-reporting and non-compliance than paid employment (Alm, 2019). In addition, government employees are more compliant with the tax rules than private service holders, as they have little scope for non-compliance (Alabede, 2014). Contrary to the above findings, research revealed that occupation has no significant impact on TCB, and it does not determine the behavior of taxpayers (Brich et al., 2003).

3.3.6 Tax Knowledge as a Moderator of the Determinants of TCB

Considering the nature of tax compliance studies and the inconsistent findings of some of the determinants, empirical evidence supported that the basic theory of tax compliance cannot be sufficient to explain the issue of tax compliance in most countries (Slemrod, 2010; Torgler & Schaffner, 2007; Torgler, 2003; Feld & Frey, 2003). Krichler et al. (2010) argued that using moderating variables might bring more precise results. Edward and Lambert (2007) proposed using moderators in such studies where social situations and individual differences influence the strength of the relationship between independent and dependent variables.

Tax knowledge is important to tax compliance (Palil, 2010; Saad, 2014). It can be defined as the ability of the taxpayer to declare his or her taxable income correctly, claim the rebate and calculate the final tax liabilities according to the existing tax law (Al-Ttaffi et al., 2020; Loo, McKerchar & Hansford, 2009). Loo et al. (2009) added that, due to a lack of tax knowledge, taxpayers may be involved in under-reporting or over-reporting of tax obligations, which is considered as unintentional non-compliance or over-compliance.

Prior studies pointed out that a lack of tax knowledge causes a low compliance rate. Oladipupo and Obazee (2016) conducted a study on the SMEs in Nigeria. They revealed that a low level of tax knowledge increases tax non-compliance and suggested that the government should focus more on enhancing the tax knowledge of the taxpayers in order to increase the compliance level. Eriksen and Fallan (1996) studied university students to discover the importance of tax knowledge in interpreting compliance behavior. They concluded that tax knowledge has a positive association with tax

compliance and a negative relation with tax evasion. Ali, Fjeldstad and Sjørusen (2014) conducted a cross-country survey in Uganda, Tanzania and South Africa. They revealed that a lack of tax knowledge makes it difficult for taxpayers to submit their tax returns and fulfil their tax obligations. In addition, other behavioral studies confirmed the moderating role of knowledge in developing individual attitude and decision-making process (Schahn & Holzer, 1990; Berger, Ratchford & Haines Jr, 1994; Chuang et al., 2009). Hasan et al. (2022) concluded that the effort of Inland Revenue Board Malaysia to increase tax knowledge among the taxpayers has significant positive impact on the TCB, which support the findings of prior studies that taxpayers having tax knowledge tend to be more compliant as they are more aware of their duties (Palil, 2010; Yee, Moorthy & Soon, 2017).

Prior studies examined the direct impact of tax knowledge and revealed its positive association to increase the level of TCB. In addition, knowledge is considered as an important determinant of decision-making process (Bandura, 1991), and prior studies also supported the moderating role of knowledge in directing human behavior (Peredaryenko, 2019; Riaz & Khalili, 2014; Deelstra, Nooteboom, Kohlmann, Van den Berg, & Innanen, 2003). Some prior studies employed different moderating variables on the relationship between tax compliance and its determinants, for instance, socio-demographic factors (Paleka et al., 2023), religiosity (Agbetunde et al., 2022), tax-agent's role (Sinnasamy et al., 2015), personal norms (Murphy, 2007), risk preference and personal financial condition (Alabede et al., 2011), personal norms (Murphy, 2007), personal and social norms (Wenzel, 2004) and locus of control (McGill, 1988), however, the moderating effect of tax knowledge has yet to be tested. Thus, the present study plans to determine the moderating capacity of tax knowledge towards the relationship between TCB and its determinants.

3.4 PROMINENT CONCEPTUAL FRAMEWORK OF TCB

Researchers attempted to develop different conceptual frameworks to describe the compliance behavior of taxpayers. They also incorporated theories from different disciplines to describe the issue of tax compliance in the best possible manner. These models and conceptual frameworks include the financial self-interest model, Allingham

and Sandmo's A-S model, the social psychological model by Wiegel, Hessing and Elffers, and Fischer's model.

3.4.1 Financial Self-interest Model

Allingham and Sandmo (1972) presented the financial self-interest model also known as A-S model, which was considered as one of the traditional approaches of tax compliance, mainly underpinned by Becker's (1968) economics-of-crime approach. They argued that taxpayers think about monetary cost while making compliance decisions, and according to them, monetary cost comprises tax rate, audit probability and penalty rate. The primary assumption of this model is that taxpayers are mainly focused on their financial interest; if taxpayers assume that evading tax payment is worthy in terms of financial value, they are likely to opt for non-compliance (Alm et al., 2012). On the other hand, if taxpayers consider that tax audit is apparent and have to pay a considerable penalty due to the act of non-compliance, they decide to comply. Allingham and Sandmo (1972) further claimed that tax compliance decisions are economic decisions, and taxpayers consider financial benefits before making their choices. Figure 3.3 illustrates the financial self-interest model.

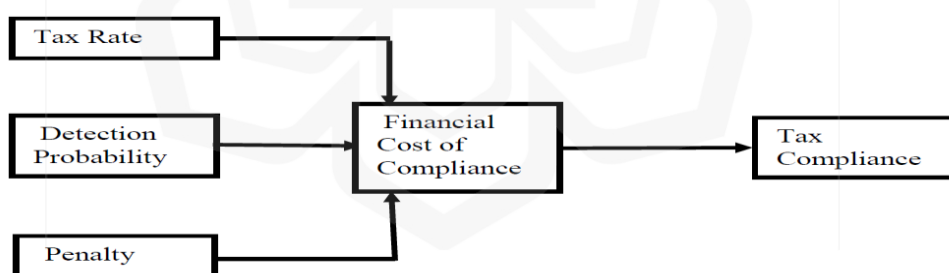


Figure 3.3 Financial Self-interest Model of Tax Compliance

Source: (Adapted from "Perceived detection probability and taxpayer compliance: A conceptual and empirical examination" by C. M. Fischer, 1993, Ann Arbor: UMI, p.23).

3.4.2 Social and Psychological Model

Weigel, Hessing and Elffers (1987) pointed to the shortcomings of the financial self-interest model and mentioned that this model concentrated only on the economic and

deterrence effect of tax compliance. They developed another model incorporating social and psychological factors in response to the financial self-interest model. They have divided the model into two main parts. Initially, they mentioned the situational condition, where the authors articulated some determinants that may have instigating effects and some factors that may have constraining effects on tax non-compliance decisions. The situational instigation consists of financial strain and social norms, and situational constraints include the opportunity of non-compliance and legal and social control on the act of non-compliance.

The second part of the model is a psychological condition, which also consists of two subparts: personal instigation and personal constraint. Personal instigation refers to personal strains and personal orientation. However, perceived scope to evade tax, perceived risk of punishment and intolerance of tax evasion are included in personal orientation. The authors mentioned that situational conditions have direct and mediating effects on tax compliance behavior, whereas psychological conditions directly affect tax evasion.

Researchers have welcomed this social and psychological model as it expanded the notion of tax compliance behavior but simultaneously criticised this model as it totally ignores the economic variables. Fischer (1993) concluded that considering only economic variables to determine the tax compliance attitude is a narrow approach, but at the same time, addressing tax compliance behavior by pointing only to social and psychological components is also an incomplete model. The model of Weigel et al. (1987) is presented in Figure 3.4

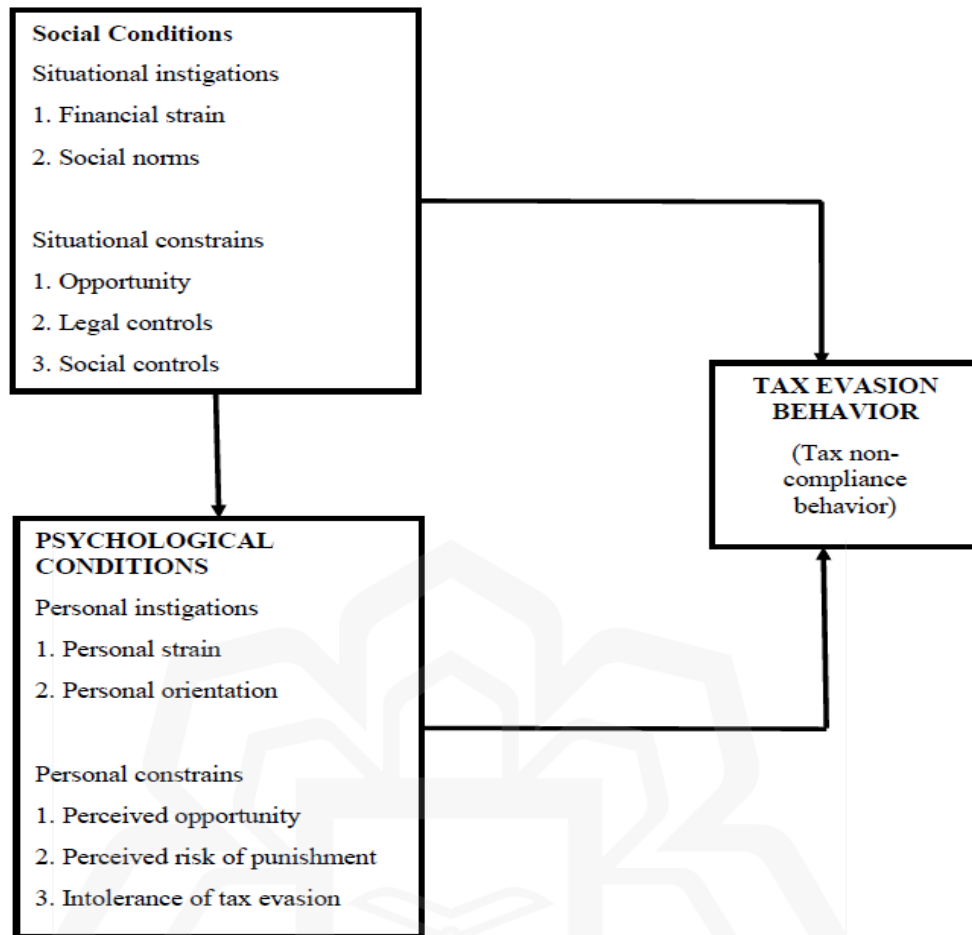


Figure 3.4 Social Psychological Model of Tax Evasion Behavior

Source: (Adopted from “Tax evasion research: A critical appraisal and theoretical model” by R. H. Weigel, D. J. Hessing and H. Elffers, 1987, Journal of Economic Psychology, P. 229).

3.4.3 Fischer’s Model

Fischer, Wartick and Mark (1992) presented a model of tax compliance behavior by reviewing the work of Jackson and Milliron (1986), where Jackson and Milliron outlined 14 determinants of tax compliance decisions. In their work, Fischer et al. (1992) reviewed these 14 determinants and categorized them into four groups. Moreover, their contribution has been considered a comprehensive model of tax compliance as they tried to incorporate economic, social and psychological factors to explain the tax compliance decision of taxpayers (Alabede, 2012).

Fischer et al. (1992) depicted tax system structure, non-compliance opportunity, and attitude and perception as independent variables. They showed a direct relationship to tax compliance, a dependent variable of their model. However, the authors argued that demographic variables do not affect directly tax compliance; instead, demographic variables act as an antecedent to the independent variables. Fischer's model of tax compliance is depicted in Figure 3.5

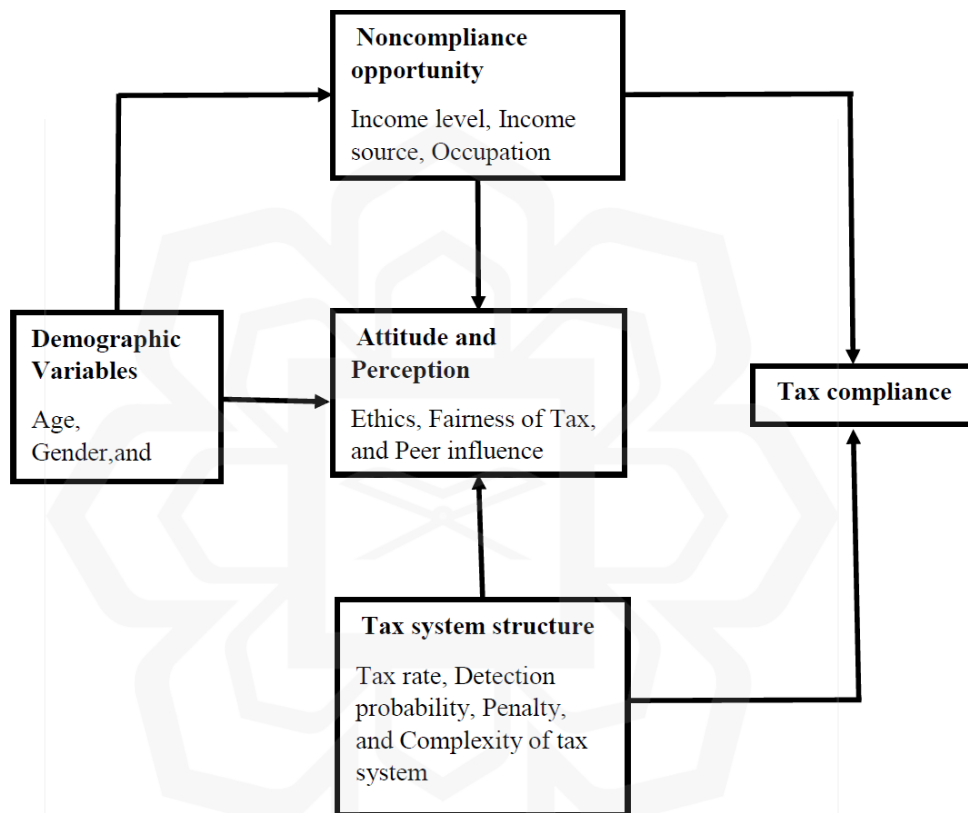


Figure 3.5 Fischer's Model of Tax Compliance

Source: (Adapted from "Perceived detection probability and taxpayer compliance: A conceptual and empirical examination" by C. M. Fischer, 1993, Ann Arbor: UMI, P.33).

However, later on, researchers reviewed the existing models of tax compliance and made extensions to cover contextual realities. For instance, Alshira'h and Abdul-Jabbar (2020) reviewed the deterrence theory and extended the economic approach to define tax compliance (audit, penalty and tax rate) by including patriotism as a moderator. They argued that economic approaches might not be enough to deter the

non-compliance act, and the study empirically concluded that higher levels of patriotism can increase the level of compliance.

Moreover, Prichard et al. (2019) presented a conceptual framework of tax compliance including three components. Besides enforcement, the traditional approach of tax compliance, the articulated facilitation and trust in the model to enhance the level of compliance. They clarified facilitation as the provision of quality services from the tax office to facilitate taxpayers to comply their tax obligations. Furthermore, they argued that building trust among the taxpayers towards the tax system and state is important to develop tax morale.

In addition, Mustafa (1996) adapted Fischer's tax compliance model in his study and expanded the model by adding tax knowledge. Mustafa (1996) argued that, besides the determinants mentioned in the model, tax knowledge and understanding of taxpayers regarding the tax laws directly relate to the tax compliance decision.

Tayib (1998) adapted this model to examine the determinants of assessment tax collection in Malaysia and expanded it by incorporating the quality of services provided by the local authority. He argued that although Fischer's model presented determinants from economic, social and psychological perspectives, but the effect of services provided by the local authority towards compliance behavior was not included in the model. Tayib (1998) empirically supported that the positive perception of the taxpayers towards the quality of services provided by the local authority can play a significant role in enhancing tax compliance behavior.

Furthermore, Chau and Leung (2009) reviewed Fischer's model in their study and claimed that culture was not included in the model as an environmental determinant, which might have significant effect on TCB. In their study, Chau and Leung (2009) supported the claim by empirical findings that social norms and ethical values, as the components of culture, are positively associated with tax compliance behavior. In addition, Lawan and Salisu (2017) modified Fischer's model and added a psychological factor namely, emotional intelligence and proposed that positive motivation to engage taxpayer's emotion towards the responsibility of paying tax might increase the level of TCB. A summary of the relevant literature on the tax compliance model is presented in table 3.1

Table 3.1 Summary of Literatures Related to the Tax Compliance Model

Researcher(s)	Title of Research	Model	Variable Used
Allingham and Sandmo (1972)	Income tax evasion: A theoretical analysis	A-S model	Tax rate, detection probability, penalty.
Weigel, Hessing and Elffer (1987)	Tax evasion research: A critical appraisal and theoretical model	Social and psychological model	<p>Social condition: Financial strain, social norms, opportunity, legal control, social control.</p> <p>Psychological condition: Personal strain, personal orientation, perceived opportunity, perceived risk of punishment, intolerance of tax evasion.</p>
Fischer, Wartick and Mark (1992)	Detection probability and tax compliance: A review of literature	Fischer's model	<p>Demographic factors: Age, gender, education.</p> <p>Non-compliance opportunity: Income level,</p>

Researcher(s)	Title of Research	Model	Variable Used
			<p>income source, occupation.</p> <p>Attitude and perception: Ethic, perceived fairness of tax system, peer influence.</p> <p>Tax system structure: Complexity of tax system, IRS contact, tax rate, detection probability, penalty.</p>
Mustafa (1996)	An evaluation of Malaysian tax administrative system and taxpayers' perception towards tax law, fairness and tax law complexity.	Expanded model	Demographic factors, non-compliance opportunity, attitude and perception, tax system structure, understanding and knowledge of tax law.
Tayib (1998)	The determinants of assessment tax collection:	Expanded model	Demographic factors, non-compliance opportunity,

Researcher(s)	Title of Research	Model	Variable Used
	The Malaysian local authority experience.		attitude and perception, tax system structure, quality of local government service, financial information disclosure.
Chau and Leung (2009)	A critical review of Fischer's tax model: A research synthesis.	Expanded model	Demographic factors, non-compliance opportunity, attitude and perception, tax system structure, culture.
Lawun and Saliso (2017)	A review of Fischer tax compliance model: A proposal for Nigeria.	Expanded model	Demographic factors, non-compliance opportunity, attitude and perception, tax system structure, emotional intelligence
Prichard et al. (2019)	Innovations in tax compliance: Conceptual framework.	Expanded framework	Enforcement, facilitation and trust.

Researcher(s)	Title of Research	Model	Variable Used
Alshira'h and Abdul-Jabbar (2020)	Moderating role of patriotism on sales tax compliance among Jordanian SMEs.	Expanded model	Audit, penalty, tax rate, patriotism (moderator)

However, prior researchers argued that the tax system and the nature of compliance are distinct from one country to another country (Palil et al., 2013; Alabede, 2012). In addition, the challenges and the opportunities to increase the level of tax compliance vary among country levels, and the rapidly changing nature of human society supports that the determinants of tax compliance behavior of the present time might not be entirely relevant in future (Torgler, 2007).

Considering these realities, researchers argued that one fixed model of tax compliance might not be suitable to address the whole issue of tax compliance (Alshira'h & Abdul-Jabbar, 2020; Lawan & Salisu, 2017). Thus, present study tries to consider the context of Bangladesh and incorporates the determinants of TCB that are relevant to it, rather than considering any prior tax compliance model to describe the TCB of Bangladeshi taxpayers.

3.5 GAPS IN THE LITERATURES

The issue of tax compliance has been discussed in prior studies since long before. Several factors have been identified empirically, and different theories⁶ from diverse disciplines have been employed to describe TCB. However, this research has pointed out some gaps in the literature and aimed to fill these.

Considering the psychological aspect of human behavior, prior studies have mentioned the government's role in shaping tax compliance behavior. Several components and actions of government, namely; trust in the government (Ibrahim et al., 2015; Torgler, 2003), transparency and accountability (Nkundabanyanga et al., 2017),

⁶ Relevant theories to justify the determinants of TCB are discussed in chapter four.

corruption in a government setting (Roshid et al., 2019; Alm et al., 2016; Orock & Mbuagbo, 2012), democracy (Elbahnasawy, 2020; Torgler, 2005), service quality (Nkundabanyanga et al., 2017), political goods (Lassen, 2003) have been addressed in prior literature and their relationship with tax compliance behavior has been examined. However, a comprehensive study on how the different dimensions of the quality of government affect TCB is yet to be examined (OECD, 2018; Abdullahi, 2017; Alabede, 2012).

Moreover, some important determinants of tax compliance behavior, namely, QoTS (Ardillah & Farhanah 2022; Machfuzhoh & Pratiwi 2021; Rohmah & Ashlihah, 2021; Jawas et al., 2017) and tax system structures (Alshira'h, Alsqour, Lutfi Alsyounf & Alshirah, 2020; De Neve et al., 2021; Dwenger et al., 2016; Kastlunger et al., 2009) discussed in prior studies but not enough research can be found regarding the effect of these variables on the compliance decision of Bangladeshi taxpayers due to the scant empirical studies in the context of Bangladesh (Mannan et al., 2023; Khan et al., 2019). Furthermore, prior studies concerned with the effect of demographic factors on TCB depicted diverse result (López-Luzuriaga & Scartascini 2023; Prasetyo et al., 2020; Yimam & Asmare 2020; Shiferaw & Tesfaye 2020; Hofmann et al., 2017; Alabede, 2014; Gupta, 2009). Hence, examining empirical evidence regarding the effects of demographic factors on TCB in an LDC context will be a timely initiative. Furthermore, due to lack of empirical research in Bangladeshi context, the impact of demographic characteristics of the taxpayers on their TCB is yet to be known (IRDB, 2023; Khan et al., 2019).

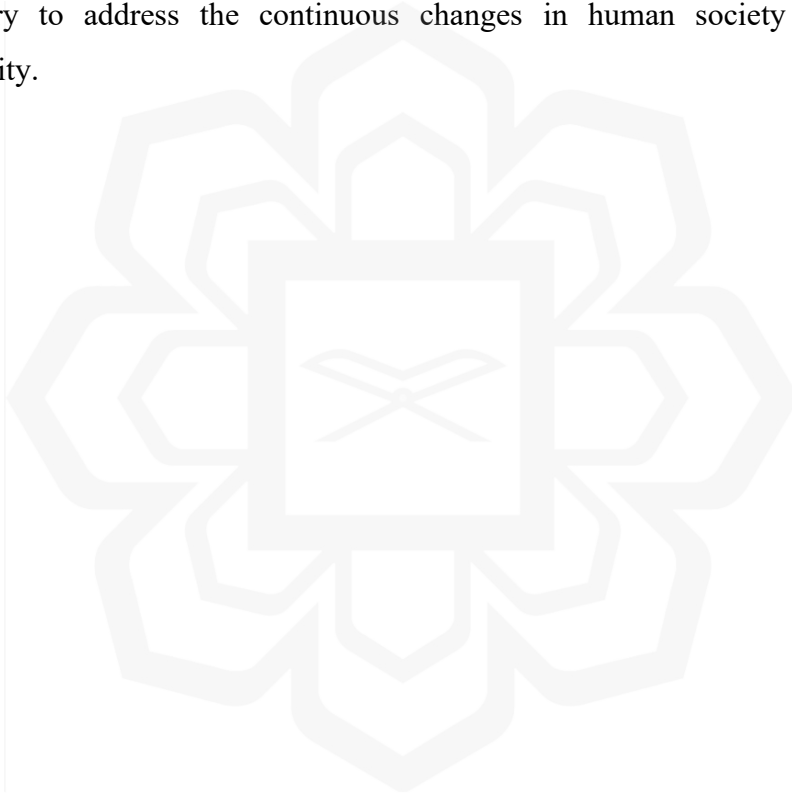
In addition, Krichler (2007) and Edward and Lambert (2007) suggested that using moderators in tax compliance research might bring more precise results. Prior studies employed moderating variables on the relationship between tax compliance and its determinants (McGill, 1988; Murphy, 2007; Wenzel, 2004; Alabede et al., 2011), however, the moderating effect of tax knowledge has yet to be tested.

Moreover, the moderating effect of tax knowledge towards the relationship between different dimensions of QoG and TCB might add a new narrative in the existing tax compliance literature. Furthermore, although the direct effect of the QoTS and tax system structures on TCB has been discussed in prior studies, the moderating role of tax knowledge on the relationship between TCB and these two variables has yet to be examined.

3.6 SUMMARY

This chapter reviewed literature relevant to the TCB and its determinants with a particular focus on QoG, QoTS, tax system structure and demographic factors. In addition, tax compliance literature in the context of Bangladesh is also reviewed in the chapter. The findings of reviewing the literature are that social and psychological factors in addition to the TSSs are involved in illustrating TCB. Moreover, limited empirical studies are found in the context of Bangladesh that discussed personal income tax.

In addition, prominent conceptual frameworks of TCB are also reviewed in this chapter and it is found that regular expansion and accommodation of new variables is necessary to address the continuous changes in human society and contextual peculiarity.



CHAPTER FOUR

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

4.1 INTRODUCTION

This chapter addresses the theoretical assumptions of tax compliance with particular reference to the underpinning and supporting theories of the study. Further, it illustrates the research framework and finally discusses the hypothesis development of the study.

4.2 THEORETICAL ASSUMPTION OF TCB AND RESEARCH FRAMEWORK OF THE STUDY

The issue of tax compliance has been covered by many disciplines including accounting, economics, sociology and psychology. Therefore, theories from many disciplines have been used in tax compliance studies. Scholars opined that different factors from diverse aspects influence the issue, and due to this, more than one single theory is needed to illustrate the phenomenon of tax compliance and non-compliance (Alm, 1991; Jackson & Milliron, 1986). Hence, theories from sociology, psychology, and anthropology also have relevance and are useful in interpreting the behavior of taxpayers. The underpinning and supporting theories that are relevant to explain the relationship between TCB and its determinants are discussed below.

4.2.1 Theory From Economic Aspects

Prior studies addressed the economic aspects of tax compliance from a rational point of view. The most prominent theory under economic aspect is deterrence theory, which is discussed below.

4.2.1.1 Deterrence Theory

In 1960s Becker's (1968) was among the first who introduced the economic deterrence model based on the deterrence theory (Devos, 2014). The model is also known as the

economics-of-crime approach (Kirchler, Kogler & Muehlbacher, 2014) where Becker (1968) assumes human as a rational being, and he or she attempts to decide after considering cost and benefit analysis. In addition, based on the economic deterrence model, a person always looks to maximize utilities by minimizing the potential risks. Becker (1968) added that an individual's decision of alternative utility depends on the outcome of what he/she can attain in return, and the most preferred choice is the option that seems more favorable to him. The model concluded that crime happens when the potential reward or benefit is higher than the potential risk of penalty.

In deterrence theory, it is assumed that an increase in detection probability and/or an increase in penalty, will reduce the crime rate. Mustafa (2007) stated that based on the deterrence theory, an individual may not be involved in committing a crime when he/she observes that the possibility of being traced is high and the punishment for this crime is severe.

Becker (1968) argued that a specific action's potential costs or rewards greatly influence human behavior. Based on the Backer's (1968) approach, Allingham and Sandmo (1972) presented a model to examine the deterrent effect on tax compliance behavior. They opined that individuals make tax compliance decisions rationally by considering the risk and uncertainty involved. According to the assumptions of economic deterrence model, it implies that tax evasion and non-compliance can be tackled by increasing penalties and/or ensuring the detection of evaders by effective audit (Embaye, 2007). Furthermore, the model supports the inclusion of audit probability, tax rate, and the amount of penalty in the tax compliance model as the determinants of tax compliance behavior (Oladele, Aribaba, Ahmodu, Yusuff & Alade, 2019).

Many prior studies have incorporated deterrence theory to explain tax compliance behavior (Ya'u, Saad & Mas' ud, 2020; Razak & Bidin, 2019; Alkhatib & Abdul-Jabbar, 2017; Dwenger, KLevene, Rasul, & Rincke, 2016; Manaf, 2004; Slemrod, Blumenthal & Christian, 2001). Empirical studies revealed diverse findings relating to the impact of deterrence to minimize tax non-compliance. Many studies revealed a positive association between deterrence variables and TCB and concluded that these variables have a significant impact in reducing non-compliance (Alkhatib & Abdul-Jabbar, 2017; Dwenger et al., 2016; Abadele et al., 2011; Murphy, 2007). However, Feld and Frey (2003) surveyed Swiss taxpayers and reported that audits and

penalties do not increase tax compliance. Similar findings were also revealed by Martinez-Vazquez and Rider (2005).

4.2.2 Social and Psychological Theory

Researchers pointed out that deterrence theory can only be used to explain the relationship between economic approaches and TCB, however, relevant theories from sociological and psychological aspects need to be incorporated to illustrate the relevancy of social and psychological factors towards determining TCB (Alm, 1999; Jackson & Milliron, 1986). Psychologists and sociologists have concentrated on several factors, which include demographic differences, moral and ethical values, social position and financial gain. The following sections will discuss social and psychological theories related to the study's objectives.

4.2.2.1 Social Exchange Theory

In social exchange theory, Homan (1974) described how the relationship between different parties of a society interacted. The primary assumption of the theory is that the development of the human relationship in our society depends on subjective cost-benefit analysis and the reciprocal exchange values between the parties involved. Homan (1974) offered some propositions of the theory, which includes stimuli proposition, value proposition and success proposition.

Stimuli proposition stands for the idea that if any action in the past is rewarded, the possibility of occurring similar action in the future will be increased (Homan, 1974). Interpreting the value proposition, Homans (1974) stated that the action of a person would be repeated if he feels that his action brings valuable outcomes. He further argued that results or the outcomes are the most important point of consideration for involving in an action. Defining the success proposition, Homans (1974) argued that if an individual perceived his certain action brings more reward or benefit, he will be more willing to repeat these actions.

e-Hassan et al. (2021) opined that the social exchange theory is useful to explain the formation of interpersonal relationships. In relation to the tax compliance issue, this theory stands for interpreting the relationship between the taxpayer and the government

in a way that this relationship will be formed based on the exchange value (Feld & Frey, 2019; Lee, Gokalp & Kim, 2021; Alabede, 2012). Torgler (2007) argued that a positive perception towards the overall quality of the government would positively be associated with the compliance behavior of the taxpayer. Furthermore, if taxpayers get valuable benefits from the government in return for their tax payment, they will be more willing to comply. In addition, Alabede (2012) stated that taxpayers would be more willing to comply if they noticed their tax payment to the government brings benefits in return.

In a nutshell, the social exchange theory (Homan, 1974) might be useful to support the relationship between the QoG and TCB. Prior studies also considered social exchange theory to justify the association between different public services and TCB (Lee et al., 2021; e-Hassan et al., 2021; Masud et al., 2021; Abdullahi, 2017; Alabede, 2012). In line with the previous research, this study employed social exchange theory to justify the relationship between QoG and TCB.

4.2.2.2 Social Influence Theory

Bandura (1977) described the influence of the environment on human behavior in social influence theory. Social influence theory argues that different elements of the environment influence human behavior, and humans respond to these elements in both ways: intentionally and unintentionally. The theory assumes that people learn from one another by observing, imitating, copying and modelling (Bandura, 1977). Crisp and Turner (2007) added that this theory discusses changing human behavior to respond to the surrounding elements.

In the context of tax compliance, the social influence theory is relevant to explain the influence of tax authority towards the compliance behavior of taxpayers (Yusoff & Mohd, 2017; Alebede, 2012). Taxpayers have to interact with the tax office to perform their tax obligations, and tax authorities can utilize the opportunity to influence the taxpayers by providing better services (Yusoff & Mohd, 2017; Musimenta et al., 2017). Prior research also considered social influence theory (Bandura, 1977) to explain the relationship between the quality of different services provided by the tax authority and TCB (Adeniran et al., 2021; Alkhatib, Abdul-Jabbar, Abuamria & Rahhal, 2019; Yusoff & Mohd, 2017). Similarly, this study incorporated social influence theory to explain the relationship between QoTS and TCB.

4.2.2.3 Cognitive Theory

Bandura (1991) developed the cognitive theory, claiming that the motivation and regulation of human behavior depend entirely on the continuous exercise of self-influence. According to Bandura (1991), this motivation and regulative process of human behavior operate under three main sub-functions. He asserted that these sub-functions include self-monitoring, judgment, and effective self-reaction. Bandura (1991) further described the sub-function of self-monitoring and claimed that if people give much attention to their activities, they can adequately influence their motivation and actions. Moreover, addressing the judgment sub-function, the author opined that people's way of judging an action depends on how they develop their standards regarding this action. The final sub-function is self-reaction, which is directly influenced by the judgment process.

In addition, Bandura (1991) articulated another component of cognitive theory, the "self-efficacy mechanism", which strongly influences self-directedness. He argued that self-efficacy shapes human thought, motivation and action. Bandura (1991) further stated that personal knowledge is an indicator of increased self-efficacy, and this argument is also supported by Peredaryenko (2019), who stated that having adequate knowledge helps an individual make appropriate decisions.

The cognitive theory is used in many behavioral studies as it helps to understand the context of people's behavior and actions (Sing, Kumar & Puri, 2017; Herbison, Vierimaa, Côté & Martin, 2019; Schenkel, Farmer & Maslyn, 2019). Relating to tax compliance research, Richardson and Sawyer (2001) argued that the cognitive theory is suitable to illustrate tax compliance behavior as it examines the relationship between attitude, intention and behavior.

Adriani (2016) and Othman, Yap, and Wee (2011) employed cognitive theory in their studies to support using demographic variables to examine individual behavior. Adriani (2016) examined the effect of demographic variables on tax compliance behavior. Othman et al. (2011) tested the effect of demographic variables on healthcare habits. Both studies used the theory to explain individual behavior in respective cases and urged that demographic differences influence individual behavior. In line with prior research, the current study also adopted the cognitive theory to support using demographic variables in the tax compliance model.

Furthermore, cognitive theory can also describe the relationship between tax knowledge and tax compliance behavior, as tax knowledge is associated with an individual's perception of control, self-efficacy, and attitude (Adriani, 2016). Bandura (1991) asserted that although other determinants are involved in directing human behavior, knowledge's role is crucial. Peredaryenko (2019) opined that knowledge is not the only factor in the decision-making process; it also influences other determinants. Considering the role of knowledge in the decision-making process, this research incorporated cognitive theory to explain the use of the moderator, tax knowledge. The underlying theories of this study are shown in table 4.1.

Table 4.1 List of Underpinning Theories of the Study

Theory	Assumptions	Uses	Empirical Evidence
Deterrence Theory	The probability of sanction and punishment deters illegal action. Potential cost and reward direct human behavior.	Tax system structure	Dubin et al., 1978; Manaf,2004; Murphy, 2007; Dwenger et al., 2016; Alkhatib & Abdul-Jabbar 2017; Razak & Bidin,2019
Social Exchange Theory	Social relationships such as the relation between government and citizens are formed based on subjective cost-benefit analysis.	The quality of government	Alm et al., 1992; Feld & Frey, 2019; Lee et al., 2019
Social Influence Theory	Elements of the surrounding environment influence and shape human behavior.	The quality of online tax services	Manaf, 2004; Alabede, 2012; Yusoff & Mohd,2017;

Cognitive Theory	Knowledge is linked with perception of control, self-efficacy and attitude of an individual.	Tax Knowledge	Bandura,1991; Adriani, 2016
	Demographic differences have an effect on the attitude of individual.	Demographic variables	

Present study plans to incorporate the above-mentioned theories to support the relationship between TCB and its determinants in the context of Bangladesh. The initial objective of the study is to examine the effect of QoG on TCB. In Bangladesh, the quality of government is a big issue as the country has suffered from a lack of good governance since its independence (Haq, 2017; Mollah & Hossain, 2014). In addition, the compliance rate in collecting personal income tax is very low in Bangladesh (Khan et al., 2019; IRDB, 2018). Hence, the poor compliance of individual taxpayers in Bangladesh may indicate that they are not satisfied with the quality of government. The theory of social exchange explains taxpayers' such behavior. The theory postulates that the relationship between different parties is based on mutual interest and should be a win-win situation for all. Bird and Zolt (2005) empirically revealed that the compliance rate is high in such countries where government administration can maintain a good quality of public services and retain the confidence of the taxpayers. In contrast, failure to provide satisfactory public services leads to citizens' poor confidence in the government (Bird & Zolt, 2005). Thus, the study incorporates social exchange theory to support the argument of examining the direct relationship between QoG and TCB.

In addition, the study also aims to examine the direct effect of QoTS on TCB. Khan et al. (2019) opined that Bangladeshi taxpayers do not have a positive perception towards the tax regime and do not receive the desired services from the tax office. This negative perception may motivate taxpayers to refrain from complying. Social influence

theory also supported this idea. According to the social influence theory, if the tax authority has an adequate and effective mechanism and system to serve taxpayers efficiently, the taxpayer may feel motivated to comply with the tax laws. To address the importance of tax service quality, Wallshutzky (1984) stated that a taxpayer's future compliance decision depends mainly on the present satisfaction with the services provided by the tax office.

Furthermore, the study aims to test the direct effect of tax system structure on TCB. Sritharan and Salawati (2019) argued that components of tax system structure, including detection probability, high penalty and fines make taxpayers bound to comply. Effective use of these factors is very relevant in developing countries where tax non-compliance is common (Alabede, 2012). Deterrence theory can be used to support this notion. According to the theory, an individual always decides by considering the cost and benefit analysis. If the benefit of noncompliance is lower than the penalty of this offence, taxpayers consider non-compliance a loss and decide to comply.

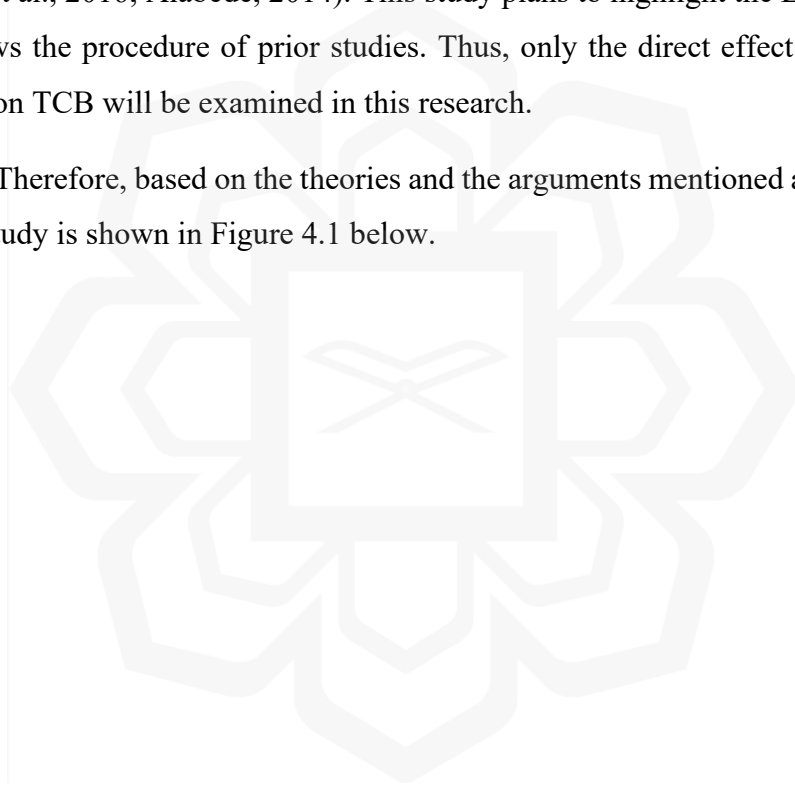
In addition, the impact of demographic variables on TCB is also aimed to be examined in this study. For theoretical justification, cognitive theory has been employed as it discusses that individual behavior differs in accordance with the characteristics of demographic factors (Adriani, 2016).

Furthermore, this research plans to incorporate tax knowledge as a moderating variable to the determinants of compliance behavior. Prior studies concerned with tax compliance found a positive and significant association between tax knowledge and tax compliance behavior (Liebe et al., 2011; Fauziati, Minovia, Muslim & Nasrah, 2020; Rodrigues-Justicia & Theilen, 2018). In the context of Bangladesh, prior studies examined the direct effect of tax knowledge on tax compliance behavior and revealed lack of tax knowledge causes the increase of non-compliance (Khan et al., 2019; Hasan, 2014). However, the moderating role of tax knowledge has yet to be examined. Some other behavioral studies employed knowledge as a moderator to shape human action and behavior and revealed that personal knowledge moderates the other determinants of human behavior (Schahn & Holzer, 1990; Berger et al., 1994; Chuang et al., 2009). Hence, examining the moderating role of tax knowledge towards shaping the compliance behavior of taxpayers might bring important insights to understand the determinants of TCB. The cognitive theory supports that having proper knowledge

helps increase self-efficacy, contributing to an individual making appropriate decisions (Bandura, 1991).

Hence, the current study incorporated tax knowledge as a moderator into the tax compliance model and planned to examine its impact on the relationship between QoG, QoTS, tax system structure and TCB. However, this study aims to examine only the direct effects of demographic factors on TCB. As a categorical variable, most of the prior studies in developed and developing country context examined their direct effects on the compliance behavior (López-Luzuriaga & Scartascini, 2023; Prasetyo et al., 2020; Yimam & Asmare, 2020; Shiferaw & Tesfaye, 2020; D'attoma et al., 2020; Zhang et al., 2016; Alabede, 2014). This study plans to highlight the LDC context, and it follows the procedure of prior studies. Thus, only the direct effect of demographic factors on TCB will be examined in this research.

Therefore, based on the theories and the arguments mentioned above, the model of the study is shown in Figure 4.1 below.



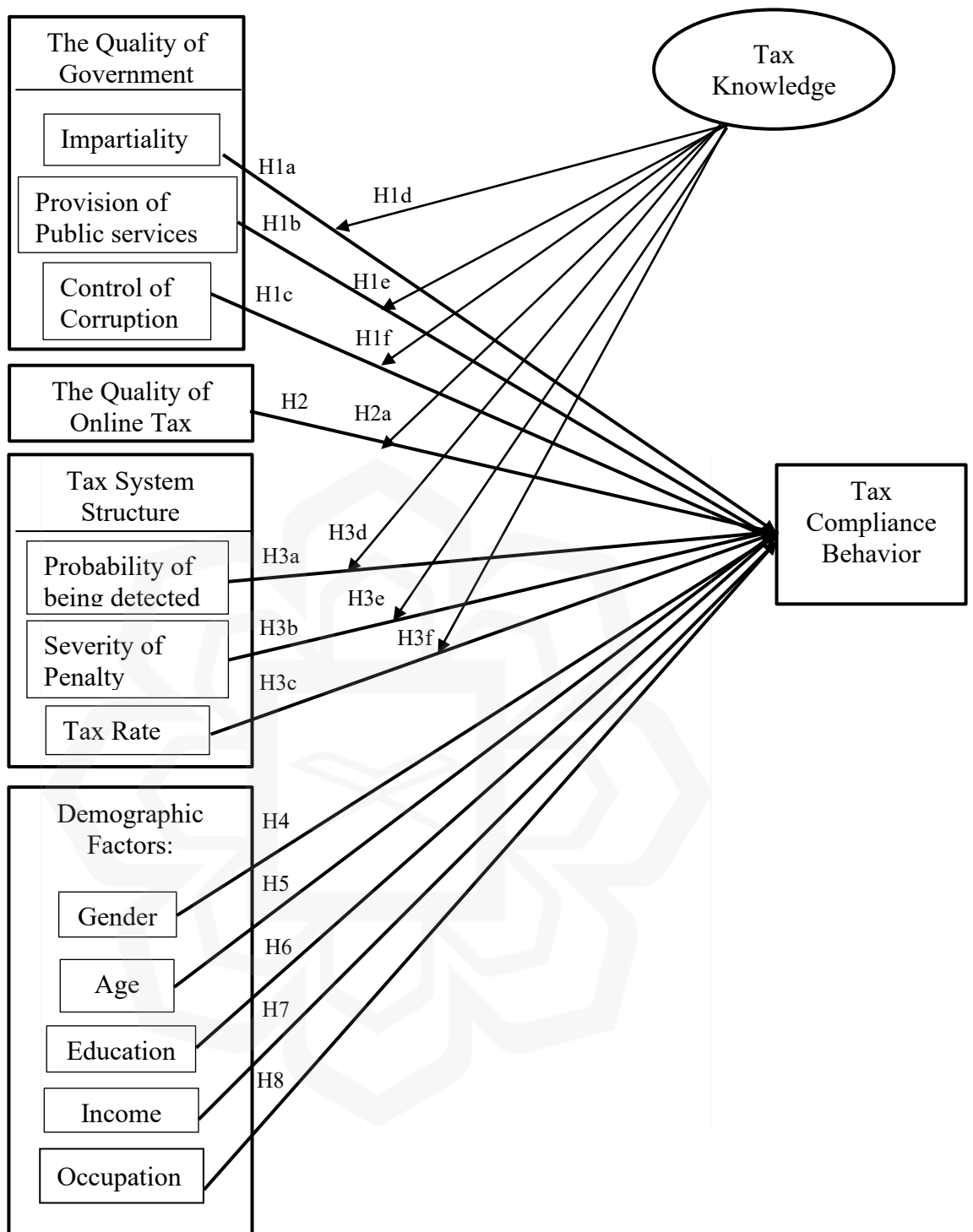


Figure 4.1 Research Framework of the Study

4.3 HYPOTHESES DEVELOPMENT

The hypotheses of this study are developed based on the study's research questions and the research model.

4.3.1 The QoG and TCB

Government is the only legal entity to collect and utilize the tax revenue. On the other hand, paying tax to the government treasury is the legal obligation and civic duty of the taxpayers. Taxpayers' compliance behavior largely depends on the services and treatments that they are getting from the government in return for their financial contribution. Taxpayers support the government through paying tax with an expectation that the state will provide essential public services and ensure their civic rights. Hence the presence of QoG is closely relevant to TCB. Charron et al. (2015) discussed the three fundamental characteristics of a QoG, namely, impartiality, provision of public services and control of corruption.

Impartial treatment to the fellow citizens is one of the core characteristics of QoG. Mauro (2004) added that government loses public support and get noncooperation from the citizens if they perceived the actions of the government to be impartial. Nkundabanyanga et al. (2017) revealed that unequal treatment by the tax authority to the taxpayers increases non-compliance. Furthermore, Fjeldstad (2004) related impartiality in tax compliance studies and concluded that if taxpayers perceive government policy only benefits a particular group, then general taxpayers consider this as a partial treatment and become less willing to pay tax. Torgler (2012) opined that fair treatment by the government is positively associated with the development of tax morale among taxpayers.

In addition, empirical findings in prior studies revealed a strong relationship between government effectiveness in PPS and TCB. Nkundabanyanga et al. (2017) concluded that government's capability in PPS motivates taxpayers positively to fulfil their tax obligations. Similar findings are also revealed in the study of Alm et al. (1992), Alm and Gomez (2008), and Fjeldstad and Semboja (2001), where they explored that PPS increases the level of tax compliance.

Moreover, the presence of corruption in government settings frustrates taxpayers, which causes an increase in non-compliance. Uslander (2007) stated that the level of corruption is much worse in LDCs and developing countries than in developed nations, and due to corruption, people's trust in government deteriorates significantly. Uslander (2007) further stated that people become frustrated with the government because of corruption and lose the will to comply with tax laws. Torgler (2003) opined that visible attempts to combat corruption might increase tax compliance. Picur and Riahi-Belkaoui (2006) revealed findings that are in line with Torgler (2003) that tax compliance is positively associated with the successful CoC. Muhrtala and Ogundeji (2013) concluded that taxpayers are motivated to get involved in acts of non-compliance if they perceive the government as corrupt.

Social exchange theory is relevant to explaining the relationship between QoG and TCB. The theory argues that human relationships devolve on the basis of subjective exchange value. The theory supports the argument that if taxpayers perceived that the government is providing quality services without any partiality and corruption, then their willingness to pay tax must be increased.

However, Bangladesh, an LDC, has been striving for good governance since its independence in 1971, and the quality of government still needs to be improved (Haq, 2017; Mollah & Hossain, 2014). The main pillars of government, including political parties, parliament, provision of public services, and bureaucracy, are not truly effective. Asadullah and Chakravorty (2019) added that widespread corruption and lack of accountability of government and public officials are also common in Bangladesh. In addition, poor collection of tax revenue is also evident in the context of Bangladesh. Thus, it can be assumed that poor quality of government might one of the prime causes of low tax revenue collection in Bangladesh.

Therefore, according to the assumption of social exchange theory and based on the above discussions, the following hypotheses are developed to attain the first research objective of the study:

H1a The quality of government in terms of being impartial to the citizens has a positive relationship with TCB.

H1b The quality of government in terms of provision of public services has a positive relationship with TCB.

H1c The quality of government in terms of control of corruption has a positive relationship with TCB.

However, the relationship between the dimensions of QoG and tax compliance behavior may vary on the moderating effect of tax knowledge because if the taxpayer is satisfied with the quality of government but lacks proper tax knowledge, the taxpayer may not feel confident to submit the tax return. Accordingly, the following hypothesis is developed to achieve the third objective of the study.

H1d Tax knowledge moderates the relationship between the quality of government in terms of being impartial to the citizens and TCB.

H1e Tax knowledge moderates the relationship between the quality of government in terms of provision of public services and TCB.

H1f Tax knowledge moderates the relationship between the quality of government in terms of control of corruption and TCB.

4.3.2 The QoTS and TCB

Researchers from the marketing discipline concentrated much on service quality and customer satisfaction. Asubonteng et al. (1996) opined that customer feedback is the prime basis to evaluate the service quality. In the context of tax service, if taxpayers perceived that they are getting quality services from the tax office, they will be more willing to fulfil their tax obligation (OECD, 2018). In line with this argument, Kirchler (2007) opined that if the taxpayers receive better cooperation and services from the tax office, they will be more motivated to comply in return.

Social influence theory is relevant to support the relationship between QoTS and TCB. The theory assumes that different elements of the environment influence human behavior. In addition, human behavior changes to respond to the surrounding environment. Hence, the theory supports the argument that tax authority may motivate taxpayers towards fulfilling their tax obligations by providing quality services. In addition, with a particular reference to the online tax services provided by the tax authority, Le et al. (2020) and Shukla and Kumar (2019) concluded that simple procedures and easy access to online tax services are positively correlated with the compliance behavior of the taxpayers. Moreover, Nomlala and Oluka (2021)

empirically revealed a positive association between e-filing and cashless e-payment and TCB. In addition, prior studies also identified positive notion of the taxpayers regarding the online tax system and concluded that favorable perception regarding the overall quality of online tax services have significant positive effect on TCB (Ardillah & Farhanah 2022; Machfuzhoh & Pratiwi 2021; Rohmah & Ashlihah, 2021).

In the context of Bangladesh, services provided by the tax office are not at a standard level; taxpayers have huge complaints and dissatisfaction with the revenue authority. According to the OECD (2018) report, one of the significant drawbacks of the Bangladesh tax system is poor tax service, which frustrates taxpayers. Furthermore, Rana and Masukujjaan (2017) added that, in Bangladesh, the tax authority is promoting online services to facilitate taxpayers by offering smooth and hassle-free operation; however, the outcome is yet to be achieved due to its poor quality. Therefore, it can be assumed that poor QoTS increases the problem of poor tax revenue collection in Bangladesh.

Thus, considering the assumption of social influence theory and the arguments mentioned above, the following hypothesis is developed to meet the first objective of this study:

H2 The quality of online service provided by the tax authority has a positive relationship with TCB.

However, the tax knowledge of the taxpayer may change the outcome of the relationship between QoTS and tax compliance. Alabede et al. (2011) opined that other factors might alter tax compliance decisions, although the taxpayer has a positive perception about the QoTS. Masari and Suartana (2019) concluded that poor tax knowledge increases uncertainty about the tax system's requirements and procedures, leading to a higher degree of non-compliance. Tax knowledge is also needed to better understand the services that the tax regime provides (Septyana & Suprasto, 2019). Based on the above submission, the following hypothesis is developed to achieve the third objective of the study.

H2a Tax knowledge moderates the relationship between the quality of online services provided by the tax authority and TCB.

4.3.3 The TSS and TCB

Tax system structure has been pointed out as a significant determinant of tax compliance behavior (Fischer et al., 1992). Effective and efficient tax system is one of the pre-conditions of a country's tax revenue mobilization, and tax system structures are among the prime features of an effective tax system. Obaid, Ibrahim and Gurama (2022) described three components of tax system structure, namely probability of being detected, severity of penalty and tax rate.

Tax authorities use tax audits to detect non-compliant taxpayers and to ensure optimum revenue collection. According to Alm, Deskin and McKee (2004), tax audits have a direct deterrence effect on taxpayers who are audited and an indirect deterrence effect on taxpayers who are not being audited. Palil et al. (2016) concluded that higher PBD has a significant positive impact on TCB. Moreover, the penalty imposed by the tax authority is generally linked with punishment or sanctions. Imposing sanctions or punishment aims to ensure legal obligation and pressure the non-compliers. From a theoretical perspective, Allingham and Sandmo (1972) revealed that penalties could be useful to increase tax compliance. According to Tilahun, (2019), tax penalties seem effective in two ways: firstly, they make threats and pressure on non-compliant taxpayers, and secondly, they assure the compliant taxpayers that the evaders will be detected and sanctioned. Chau and Leung (2009) concluded that the fear of sanction would prevent non-compliant taxpayers from engaging in crime. Feld and Frey (2006) empirically tested the effect of penalties and tax compliance and revealed that the provision of SP causes a lower tax non-compliance act. Moreover, the TR is also identified as an important determinant of tax compliance behavior. Researchers argued that an increase in TR causes a decline in tax compliance, and taxpayers tend not to comply in that situation (Jackson & Milliron, 1986; Abiola & Asiwah, 2012; Remali et al., 2018). However, if taxpayers perceive the TR is optimal and fair, their response to tax compliance will increase (Torgler, 2007).

The assumptions of deterrence theory are useful to support the relationship between tax system structures and TCB. The theory supports the argument that crime takes place in a situation where the outcome of being involved in a crime is higher than the potential risk of being detected or paying a penalty. According to the assumption of deterrence theory, it can be said that taxpayers might not be engaged in non-compliance

(a crime) when they perceived the probability of being detected is high and/ or punishment is severe.

In the context of Bangladesh, the audit system and enforcement mechanisms of NBR do not work properly (Siddiquee & Saleheen, 2021). Khan et al. (2019) identified the weakness of the NBR's audit system and commented that detecting non-compliant acts by auditing is ineffective due to corruption. Therefore, it can be argued that ineffective implementation of tax system structure leads to the problem of poor tax compliance.

Hence, the following hypothesis is developed based on the deterrence theory and the above argument to achieve the first objective of the study.

H3a Tax system structure in terms of probability of being detected has a positive relationship with TCB.

H3b Tax system structure in terms of severity of penalty has a positive relationship with TCB.

H3c Tax system structure in terms of tax rate has a positive relationship with TCB.

However, the direct relationship between the perception of tax system structure and tax compliance behavior may be changed in the presence of tax knowledge as a moderator. Rodrigues-Justicia and Theilen (2017) opined that tax knowledge develops the cognitive level of the taxpayer, which leads to a sense of compliance with tax law. Hence, it can be argued that lack of tax knowledge of the taxpayers may be unable them to comprehend the tax system structure as a pressure to comply with the tax law. Therefore, the following hypothesis is formed based on the above arguments to obtain third objective of the study.

H3d Tax knowledge moderates the relationship between the tax system structure in terms of probability of being detected and TCB.

H3e Tax knowledge moderates the relationship between the tax system structure in terms of severity of penalty and TCB.

H3f Tax knowledge moderates the relationship between the tax system structure in terms of tax rate and TCB.

4.3.4 Demographic Factors and TCB

Demographic characteristics of the taxpayers have been discussed in many tax compliance studies to determine their impact on TCB. Cognitive theory supports that individuals' behavior varies in response to their demographic differences (Adriani, 2016).

Prior studies statistically supported that demographic factors of the taxpayers have significant impact on their compliance behavior, and TCB differs significantly in accordance with the change in demographic characteristics (López-Luzuriaga & Scartascini, 2023; Prasetyo et al., 2020; Yimam & Asmare, 2020; Shiferaw & Tesfaye, 2020). In addition, the commonly used demographic factors are gender, age, level of education, level of income and occupation. Prior studies provided evidence that gender is an important determinant of TCB and empirically concluded that TCB varies significantly between the male and female (López-Luzuriaga & Scartascini, 2023; Yimam & Asmare, 2020; Febrian & Islami, 2020; D'attoma et al., 2020). Like gender, previous studies also showed that the age of the respondents has an impact on TCB. Shiferaw and Tesfaye (2020) and Hofmann et al. (2017) statistically concluded that the level of TCB differs significantly at different age levels of taxpayers. In addition, the taxpayers' educational qualifications were also incorporated in prior studies as a potential determinant of TCB. Aregbesola et al. (2020) and Subramaniam (2019) empirically supported that taxpayers' educational background has significant impact on TCB and they argued that compliance behavior of the taxpayers varies according to the academic qualification of the taxpayers.

Furthermore, prior studies also considered taxpayers' income level an important determinant of TCB. Dissanayake and Premaratna (2020) concluded that TCB differs in accordance with changes in the income level of taxpayers. Moreover, the occupation of the respondents was also included in previous tax studies to determine its impact on TCB. Alm (2019), Alasfour et al. (2016) and empirically supported the hypothesis that taxpayers' occupation has significant impact on their compliance attitudes, and Alabede (2014) provided empirical evidence that TCB significantly varies in response to different occupational statuses.

Therefore, according to the assumption of cognitive theory and the findings of prior studies, the following hypotheses are developed to achieve the second objective of the study.

H4 Gender of the taxpayers has a significant effect on TCB.

H5 Age of the taxpayers has a significant impact on TCB.

H6 Level of education of the taxpayers has a significant effect on TCB.

H7 Level of income of the taxpayers has a significant impact on TCB.

H8 Occupational status of the taxpayers has a significant impact on TCB.

4.4 SUMMARY

This chapter discussed the underpinning and supporting theories of the study, namely, deterrence theory, social exchange theory, social influence theory and cognitive theory. The discussions of the underpinning theories provide justifications for including independent and moderating variables in the proposed tax compliance model. Then, it draws the research framework based on the underpinning and supporting theories and existing literature on the tax compliance issue. Finally, it discussed the development of the hypotheses of the study in order to achieve the research objectives. A detailed discussion of the methodology employed in this study will be presented in the next chapter.

CHAPTER FIVE

RESEARCH METHODOLOGY

5.1 INTRODUCTION

This chapter discusses the research techniques and methods employed in this research. It explains the research design, research approaches, operational definition and measurement of constructs and variables of the study. Then the chapter addresses the development of research instruments, sampling population and technique, geographical area, and the data collection procedures of the present study. Finally, it discusses several research tools employed in this study to analyze the collected empirical data.

5.2 RESEARCH DESIGN

A research design presents a comprehensive outline that defines the overall procedure of research to produce the answers to the identified research questions (Davis & Cosenza, 1993). Hair, Bush and Ortinau (2008) define research design as the roadmap for a researcher to plan how the data will be obtained and how the findings will be revealed. Kumar (2018) identified two primary functions of a research design: first, the construction of the whole research process with logical order, followed by ensuring the quality of the entire process, with particular emphasis given to its validity, objectivity, and accuracy. The procedure of the current research is shown in Figure 5.1.

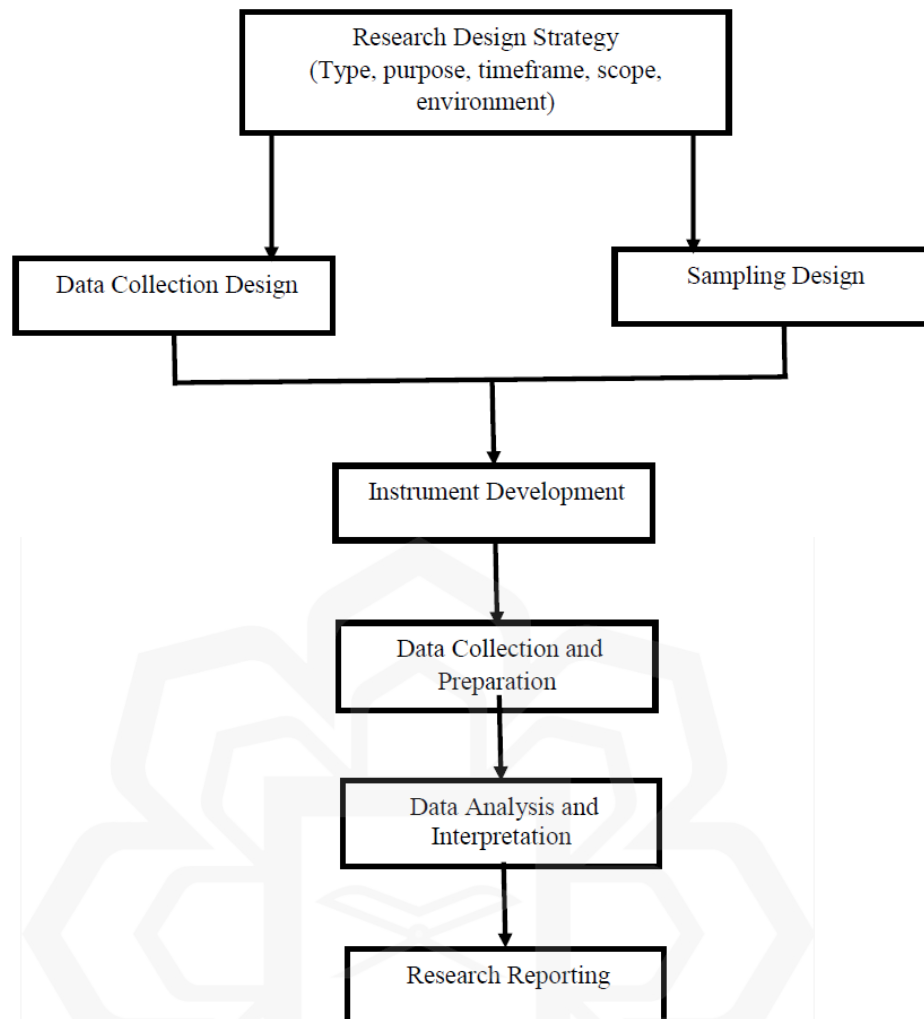


Figure 5.1 Research Design Strategy
Source: (Research Process (Zikmund, 2003))

5.3 RESEARCH APPROACHES

Two research methodologies, namely inductive and deductive approaches, have been utilized in most research. The inductive research approach is also recognized as the theory-building approach, which mainly focuses on introducing new theories to enhance the existing knowledge (Bhattacharjee, 2012). However, the deductive research approach attempts to explain the existing theories by analyzing new empirical data and reveals associations between the existing theories and new facts (Bell, Bryman & Harley, 2018). This study reviewed the prior literature to identify the research gaps and to understand the relationship between independent, dependent and moderating variables. The study further incorporates different theories to support the association

between the variables. Hence, the utilization of a deductive methodology presents a more justifiable method for this research.

5.4 QUANTITATIVE RESEARCH

Generally, research has two forms, namely qualitative and quantitative. Qualitative research generally focuses on the individuals' narratives of social incidences and various realities, where the data is gathered from interviews and observations (Zikmund & Babin, 2009). The primary purpose of qualitative research is to gain in-depth understanding on how people experience the world (Merriam, 2002). In qualitative research, theory-building or inductive approaches have been made with the use of detail and enriched primary data. However, the major criticism of this approach is that the findings may not be generalized as it is associated to a small population (Ochieng, 2009).

Unlike qualitative research, quantitative study deals with numeric data (Zikmund & Babin, 2009; Bhattacharjee, 2012), which is collected from secondary sources or surveys. This type of research is suitable to examine casual relationships and depict the findings in a general manner to address the large population (Ochieng, 2009). As the current study obtained individual taxpayers' perceptions of their compliance behavior using a survey, it can be considered as quantitative research. Cresswell (2009) opined that quantitative research suits complex research designs with many variables and treatments. In this research, a survey on taxpayers' opinions was conducted through a self-administrated questionnaire, while the reliability and validity of the questionnaire were confirmed through a pilot test.

5.5 TAXPAYERS' OPINION SURVEY

Most prior research utilized taxpayers' opinion surveys to examine the samples' perceptions, opinions, attitudes and behaviors (Jackson & Milliron, 1986; Torgler, 2007; Engida & Baisa, 2014). Torgler (2007) described the benefits of utilizing the survey research method. He added that taxpayers' opinion surveys open the scope for the researcher to collect data from the socioeconomic, demographic, and behavioral context of the taxpayers. As taxpayers' opinion survey has been utilized in tax

compliance studies in the contexts of both developed and developing nations (Fjeldstad & Semboja, 2001; Kasipillai & Jabbar, 2006; Manaf, 2004; Saad, 2011; Verboon & van Dijke, 2011; Engida & Baisa, 2014), a taxpayers' opinion survey was utilized as a research method in this study.

5.6 OPERATIONAL DEFINATION AND MEASUREMENT OF CONSTRUCTS AND VARIABLES

Operational definition of constructs and different variables of the study are discussed in this section. The research model of the study is formed in combination of one dependent variable, four independent variables and one moderator. Operational definition of the variables and constructs is discussed in the following sections.

5.6.1 Tax Compliance Behavior

The dependent variable of this research is TCB, which is defined as the correct declaration of the tax base, calculating the correct tax liabilities, submission of tax returns on time and making the payable tax amount before the due time (e-Hassan et al., 2021; Taing & Chang, 2021). Alabede (2012) argued that any action of the taxpayers that contradicts the above definition of tax compliance will be considered non-compliance.

Prior studies argued that measuring tax compliance behavior is always challenging as non-compliance acts are considered as a crime, and due to this, no one will be willing to declare himself as non-compliant (Alm, 1999; Long & Swingen, 1991; Alabede, 2012). Multiple direct and indirect methods have been documented in prior studies to measure tax compliance behavior, and among them, the self-report method is the most common and widely used strategy (Fischer et al., 1992; Jabbar, 2009; Alabede, 2012). In the self-report method, a hypothetical case or scenario is drawn to the respondents in order to measure their behavior on a particular issue. Marshall, Smith and Armstrong (2005) supported the incorporation of scenarios as the method of data collection in tax compliance studies. They opined that it is the most effective strategy for data collection regarding sensitive issues such as tax compliance. Adopting scenario case as the method of data collection has been documented in tax compliance studies (Augustine, 2016; Alabede, 2012; Saad, 2011; Marshall et al., 2005; Wenzel, 2004;

Kirchler & Maciejovsky, 2001; Chan et al., 2000; Fischer, 1993). In line with the recommendation of prior studies, this research adopted scenario case strategy to collect the data regarding tax compliance behavior.

According to the definition of tax compliance, its primary components or dimensions are income reporting compliance, tax offset reporting compliance, filing compliance and payment compliance (e-Hassan et al., 2021; Taing & Chang, 2021). As documented in other studies, these four components are used to measure tax compliance behavior in this study. Brown and Mazur (2003) defined the measuring components of TCB; according to them, income reporting compliance stands for declaring all taxable income in accordance with the country's tax laws. Similarly, tax offset reporting compliance means claiming genuine tax rebates according to tax laws. Filing compliance represents submitting tax returns voluntarily within the due time, and payment compliance means paying the payable tax amount within the due time.

This study adapted two scenario cases including six items (appendix A) to measure the TCB. Two items (1 & 5) are used to get the respondents' views on which income item(s) and the amount they would include in the tax return if they were in the same situation mentioned in the scenario cases. One item (2) is used to gather data on which expense(s) the respondents would consider including in the tax return to get the tax rebate. Furthermore, two items (3 & 6) are added to collect the respondents' opinion on which date they would submit their tax return if they were in the same situation. Lastly, one item (4) is incorporated to get their decision on when they would pay their payable amount of tax if they were in the same situation as mentioned in the scenario. The responses are recorded in three options, where option 1 represents somewhat compliant, and option 2 and 3 represent moderately compliant and fully compliant respectively. Furthermore, option 1 is representing the compliance according to the tax laws, and other two options are not, although option 2 and 3 apparently look like complying the tax law. The respondents who want to employ all possible ways to minimize the tax obligation are considered as somewhat compliant, and those who choose some of the acts of minimizing their tax liabilities are considered as moderately compliant. All six items are summated to get the overall scale of tax compliance behavior. The source of dimension and measuring items are shown in table 5.1

Table 5.1 Dimension and Measurement Items of the TCB

Dimension	Source of Dimension	Measurement Items	Source of Measurement
Tax Compliance Behavior	e-Hassan et al. (2021), Taing and Chang (2021), Alabede (2012), Devos (2008), Loo et al. (2009)	1. Income reporting compliance 2. Tax offset reporting compliance 3. Filing compliance 4. Payment compliance	Brown & Mazur (2003), Ashby et al., (2009), Alabede (2012)

5.6.2 The Quality of Government

The quality of government is a broad issue with multi-dimensional aspects. Cepiku (2013) opined that the quality of government does not have a single index that can cover all of its aspects; instead, focusing on the key dimensions can be helpful to get an overall notion of the quality of government. According to Norris (2012), the notion of QoG represents the capability of a government to perform all sorts of activities impartially to ensure every citizen's well-being. In addition, the QoG also covers a government's commitment and effective measures to control corruption and the provision of public services without compromising their optimum quality (Charron et al., 2015; Norris, 2012).

However, researchers argued that many concepts in social science such as the quality of life, quality of government and its sub-components (e.g., impartiality), cannot be measured directly (Veenhoven, 2002); rather, the perception and the experience of the citizen regarding the public sectors could be a fair way to get understanding about the subject (Charron et al., 2015). This study adopted the same strategy to measure the QoG by collecting the perception and experience of the citizens (taxpayers).

The current study considered the three basic services, namely, public health care, public education and law enforcement agencies, as the dummy to measure the quality of government as recommended (Charron et al. 2015). The aspects to measure the quality of government are mentioned in the following sections.

- (a) Impartiality: This indicator measures the perception of taxpayers (citizens) to what extent they are treated by the government, specifically, to what extent they receive treatment from the public health sectors, public educational sectors and the police force of the country (Charron et al., 2015, Norris, 2015).
- (b) Quality of public services: This indicator measures the perception of the taxpayers regarding the quality of public services provided by the government (Rothstein & Teorell, 2008; Charron et al., 2015).
- (c) Control of corruption: This indicator measures the perception and practical experience of the taxpayers regarding corruption in the public sector (Mauro, 2004; (Rothstein & Teorell, 2008; Charron et al., 2015).

Each dimension of QoG is measured (appendix A) using a five-point Likert scale. The responses are scored as strongly disagree (1) to strongly agree (5)⁷. The perception of the taxpayers regarding the quality of the government in terms of being impartial in conduct is measured by eight items. In this case, the high score indicates that the respondents have a good perception regarding the quality of the government in terms of being impartial in conduct. Contrary to this, a low score means the perceived quality of the government on a particular ground is not good. The QoG, in terms of the provision of public services to its citizens, is evaluated by seven items. A high score means that according to the taxpayers' perception, the government is doing well in providing public services, and a low score indicates the perceived quality of the government is not good. The QoG regarding the government's attempt to combat corruption is measured by eight items. A high score indicates that the government is doing good to combat corruption, and a low score implies the poor performance of government in controlling corruption. The present study defines QoG by incorporating its three dimensions, namely, impartiality, provision of public services and control of

⁷ Strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5).

corruption, and examines the effect of QoG towards TCB by employing each dimension. The source of dimensions and measurement items are presented in table 5.2.

Table 5.2 Dimension and Measurement Items of the QoG

Dimension	Source of Dimension	Measurement Items	Source of Measurement
Impartiality	Rothstein and Teorell (2008), (Mauro 2004), Norris 2012), Charron et al., (2015).	<ol style="list-style-type: none"> 1. The government conducts its activities impartially. 2. Government is consistent to provide impartial public services. 3. People are getting impartial service from the public education sectors. 4. The police are serving impartially to ensure people’s security. 5. In public health sectors, no special preferences are given to the people considering their political, and social identity. 6. Government has close supervision to ensure impartial service to the people. 7. The government is performing well in its provision of impartial services to the people. 	Faridy et al., (2014); Abdullahi, (2017); Alabede, (2012); Charron at. el., (2015).

Dimension	Source of Dimension	Measurement Items	Source of Measurement
Quality of Public Services	Rothstein and Teorell (2008), Norris 2012), Charron et al., (2015).	8. The quality of public education is good.	Abdullahi, (2017);
		9. The quality of public health services is good.	Alabede, (2012);
		10. The quality of the police force is good.	Charron at. el., (2015).
		11. Government initiatives to improve the quality of public education are effective.	
		12. Government initiatives to improve the quality of public health services are effective.	
		13. Government initiatives to improve the quality of the police force are effective.	
		14. The government is performing well in terms of the provision of quality services to people.	
Control of Corruption	Rothstein and Teorell (2008), (Mauro 2004), Norris 2012),	15. The government is committed to combating corruption in the public health sector.	Abdullahi, (2017); Alabede, (2012);
		16. The government is committed to combating corruption in the public education sector.	Charron at. el., (2015).

Dimension	Source of Dimension	Measurement Items	Source of Measurement
	Charron et al., (2015).	17. The government is committed to combating corruption in the police force.	
	La Porta et al., (1999)	18. People do not pay extra money to receive their legally entitled services from the public health sector.	
		19. The government takes effective measures to combat corruption in the public health sector.	
		20. The government takes effective measures to combat corruption in the public education sector.	
		21. The government takes effective measures to combat corruption in the police force.	
		22. The performance of the Anti-Corruption Commission (ACC) is excellent.	

5.6.3 The Quality of Online Tax Services

Quality of the tax services can be considered as an important determinant of TCB. However, most of the tax regimes adopted online services to provide smooth and hassle-free services to the taxpayers (Ardillah & Farhanah 2022; Machfuzhoh & Pratiwi 2021). Bangladesh tax regime also incorporated digital tools to provide online tax services in the last decade (Ministry of Finance, 2023). Hence, it is more relevant to examine the impact of online tax services quality rather than manual service quality towards TCB.

The online tax service is defined as an internet-based service that facilitates taxpayers to get effective and smooth service throughout all phases of fulfilling their tax obligations (Naveed, 2019; Mustapha & Sheikh, 2014). The QoTS can be determined based on the taxpayer's perception and real experience regarding the online tax services provided by the tax authority. Prior studies pointed out the key features of online tax service, which includes secured, easy access to all, user-friendly, and capable of comprehending all relevant information in a single channel (Adebiyi, 2023; Night & Bananuka, 2020; Hu et al., 2009). Furthermore, Hu et al. (2009) measured the quality of e-tax service by considering three dimensions: easy access to relevant tax information, complete tax filing, and payment of tax obligation through a secured and easily accessible online method. This study considered the dimensions presented by Hu et al. (2009) to measure the QoTS. Five items were adapted to measure these three dimensions (appendix A). Like the QoG, a five-point Likert scale is employed to rate the responses, and a higher score indicates the respondents perceived the quality of online tax services as good, and a lower score means the opposite. Furthermore, this study considered all dimensions of QoTS in a single construct and measured them on a single scale. The source of dimension and five items to measure the QoTS are presented in table 5.3.

Table 5.3 Dimension and Measurement Items of QoTS

Dimension	Source of Dimension	Measurement Items	Source of Measurement
The Quality of Online Tax Services	Hu et al., (2009); Naveed et al., (2019)	<ol style="list-style-type: none"> 1. The NBR has a very useful and informative website. 2. I can get the necessary and updated information from the NBR's website. 3. I can easily submit my tax return through e-filing of NBR. 4. I can easily pay the tax amount through e-payment of NBR. 	Hu et al., (2009)

5.6.4 Tax System Structure

Based on the deterrence theory, Allingham and Sandmo (1972) introduced the financial self-interest model of tax compliance and pointed out three components related to tax system structure, which include tax rate, detection probability and penalty, as the determinants of tax compliance. Fischer (1993) also discussed these three dimensions of tax system structure in his model. This study adopted the three dimensions presented by Fischer (1993) to define the tax system structure of tax compliance behavior.

- (a) Probability of being detected: Probability of being detected is operationally defined as the perception of taxpayers regarding the capacity of tax authority to detect the non-compliers (Alabede, 2012).
- (b) Severity of penalty: It is to define the perception of taxpayers on how severe or extensive the penalty is that is imposed by the tax authority on the detected non-compliers. Fischer (1993) opined that it is not the real penalty rather, it is the perception of taxpayers on the penalty as an economic tool of enforcement mechanism.
- (c) Tax rate: Tax rate is defined here as the perception of taxpayers regarding the fairness of tax rate and fair distribution of tax burden (Gilligan & Richardson, 2005).

Prior tax studies focused on tax system structure, and most of which examined the effect of its individual component on TCB. (Remali et al., 2018; Widuri et al., 2019; Bangun et al., 2017; Sinnasamy & Bidin, 2017; Guldana, 2013; Freire-Seren & Panades, 2013; Abiola & Asiweh, 2012;). However, a few studies examined the impact of overall tax system structure on TCB (Alabede, 2012; Abdullahi, 2017). This research aimed to highlight the LDC context and examine the effects of taxpayers' perceptions regarding overall tax system structure employed by NBR on TCB. Hence, rather than focusing on its dimension, this study concentrated on the overall scale. For this purpose, the present study adapted 11 items (appendix A) to measure tax system structure of tax compliance

behavior. Like the QoG and QoTS, a five-point Likert scale is employed to rate the responses.

The dimension probability of being detected is measured by three items, where the respondents are asked to express their perception of the possibility of being detected in the case of non-compliance. A high score indicates a greater probability of being detected, whereas a lower score represents a lower possibility. The severity of the penalty is measured by four items, where respondents are asked to express their perception of how serious problems or sanctions would be imposed on someone if he were caught in non-compliance. A high score represents the perceived penalty is severe, and a low score indicates the penalty is less intense. The tax rate is measured by four items, where the respondents are asked to share their perception of the tax rate's fairness. A high score indicates the perceived tax rate is fair in this case, and a low score means the tax rate is less fair. Table 5.4 shows the different dimensions and measurement items of the tax system structure.

Table 5.4 Dimension and Measurement Items of the TSS

Dimension	Source of Dimension	Measurement Items	Source of Measurement
Probability of being detected	Chau and Leung (2009); Fischer et al. (1992); Jackson and Milliron (1986); Manaf (2004); Loo et al. (2009)	<ol style="list-style-type: none"> 1. There is a high chance that the tax authority would catch Mr. 'A' if he did not include his extra income in the tax return. 2. There is a high chance that the tax authority would catch Mr. 'A' if he had claimed the amount as a deduction. 3. The tax authority has enough workforce in its audit team to catch Mr. 'A'. 	Wenzel (2004)

Dimension	Source of Dimension	of Measurement Items	Source of Measurement
Severity of penalty	Chau and Leung (2009); Devos, 2008; Fischer et al. (1992); Jackson and Milliron (1986); Manaf (2004); Loo et al. (2009)	<p>4. Mr. 'A' needs to pay the tax that he owes, together with interest on it.</p> <p>5. Mr. 'A' has to give a larger amount of penalty compared to the amount of tax saving due to not complying with the tax law.</p> <p>6. Mr. 'A' has to face legal charges in the relevant court.</p> <p>7. The tax authority in my country practices serious enforcement and the larger amount of penalty to deter tax non-compliance.</p>	James, Murphy & Reinhart (2005)
Tax rate	Chau and Leung (2009); Fischer et al. (1992); Gilligan & Richardon, (2005).	<p>8. Under the existing tax laws of the country, I believe the burden of income tax is fairly distributed.</p> <p>9. Wealthy classes in my country are not paying a fair amount of tax in against their income.</p> <p>10. The NBR practices a progressive tax rate.</p> <p>11. Tax rebate has not been allocated fairly in the tax system of my country.</p>	Gilligan & Richardon, (2005).

5.6.5 Demographic Factors

This study incorporated demographic factors in the tax compliance model as one of the independent variables. The commonly used demographic factors in the prior tax compliance studies are gender, age, level of education, and level of income and occupation (Croson & Gneezy, 2009; Krichler, 2007; Hofmann et al., 2017; Torgler, 2007). *Gender* refers to gender of the taxpayers, either male or female to depict which of the two genders show more compliance behavior (Croson & Gneezy, 2009). *Age* refers here to the age group of the taxpayers, including young, middle, and old (Hofmann et al., 2017; Krichler, 2007). The income level can be defined as the taxpayers' gross income (Ahmed & Braithwaite, 2004), and it is classified as low-income, medium-income and high-income (Alabede, 2014). Furthermore, the level of education refers to the highest level of education achieved by the taxpayers (Hofmann et al., 2017). It is also categorized as lower-level (HSC/Diploma), middle-level (Bachelor) and higher-level (Master) educational qualifications. Lastly, the occupation of the respondents indicates their professional status, and they are categorized as government employees, private sector employees, or self-employed.

Demographic characteristics of the respondents are collected through some categorical questions. For gender, there are only two options male and female, and respondents were asked to report, and the responses were recorded as (1) male and (2) female. For the age of the respondents, three categories are created: young age (18-30 years), middle age (31-50 years), and older age (over 51 years). The respondent's responses regarding their age were recorded as (1) young age, (2) middle age and (3) older age⁸. Similarly, the level of education of the taxpayers was also categorized and recorded into three levels: (1) lower-level of education (below diploma or HSC), (2) middle-level education (Bachelor degree) and (3) higher-level of education (Masters and above). In addition, the level of income was also grouped into three: low-income earners⁹ (monthly income BDT 25,000-50,000/ USD 250-500), middle-income

⁸ Present study followed Alabede (2012) to classify the age group of the taxpayers.

⁹ As per BBS, the annual income range for low-income earners is from BDT 200,000 to BDT 600,000 (Bangladesh Bureau of Statistics, 2020). However, this study considered the low-income earners from BDT 300,000 as it is the minimum taxable annual income in Bangladesh, and the study includes only taxable income earners as respondents.

earners¹⁰ (monthly income BDT 50,001-100,000/ USD 500-1,000) and high-income earners (monthly income above BDT 100,000/ USD 1,000). Respondents' responses about their monthly income were recorded as (1) low-income earners, (2) middle-income earners and (3) high-income earners. Lastly, the employment status of the respondents was categorized and recorded as (1) government, (2) private sector, and (3) self-employed.

In this study, demographic variables are measured by categorical data as done by (Alabede, 2012; and Hofmann et al., 2017). The source of the dimensions of the demographic variables is shown in table 5.5.

Table 5.5 Source of Dimensions for Demographic Variables

Dimension	Source of Dimension
Gender	Eckel and Grossman (2001), Croson and Gneezy (2009),
Age	Hofmann et. al. (2017), Torgler (2007),
Level of education	Chan et al. (2000),
Level of income	Ahmed and Braithwaite (2004), Alabede (2014).
Occupation	

5.6.6 Tax Knowledge

Tax knowledge is the moderating variable of present study. Ahmad, Mohd-Hanefah and Mohd-Noor (2007) defined tax knowledge as the capability of taxpayers to comprehend the rules and regulations of tax laws and compute tax liabilities accordingly. This research considered the definition of tax knowledge as provided by Ahmed et al. (2007). Furthermore, six items (appendix A) had been adapted to measure the taxpayers' tax knowledge. From which, three are related to the income that needs to be added to the

¹⁰ According to BBS, middle-income earners are categorized as having annual income ranging from BDT 600,001 to BDT 1,200,000, and above this threshold are considered as high-income earners (Bangladesh Bureau of Statistics, 2020).

tax return, and the remaining three are attached to the expense that can be claimed as tax rebates in the tax return. A five-point Likert scale is utilized to rate the responses, where a high score indicates the respondents have better tax knowledge, and a low score means the respondents' tax knowledge level is low. The responses of the participants were categorized into three categories: well-informed, un-informed and mis-informed, and it was done according to the recommendation of Alabede (2012). Firstly, those who answered the questions strongly agree or agree were considered as well-informed and have good tax knowledge. Secondly, those who answered as neutral were considered uninformed and they do not have tax knowledge. Lastly, those who chose the answer as strongly disagree or disagree were considered misinformed and they have the wrong information regarding the tax laws. Finally, all six items are summated together to get the overall scale of tax knowledge. The dimensions and the measurement items of tax knowledge are depicted in table 5.6.

Table 5.6 Dimension and Measurement Items for the Tax knowledge

Dimension	Source of Dimension	Measurement Items	Source of Measurement
Tax Knowledge	Ahmad et al. (2007), Manaf (2004), Loo et al. (2009) & Alabede (2012).	<ol style="list-style-type: none"> 1. Interest accrued on the savings account is a taxable income. 2. Medical allowance from the employer for heart surgery is a taxable income. 3. Prize money from the employer is a taxable income. 4. Donation to the Ahsania Mission Cancer Hospital can be deducted as a tax rebate. 5. Deposit of instalment to a pension scheme can be deducted as tax rebate. 	Alabede (2012)

Dimension	Source of Dimension	of Measurement Items	Source of Measurement
		6. The holding tax on a house/property can be deducted as a tax rebate.	

5.7 DEVELOPMENT OF RESEARCH INSTRUMENTS

A structured, self-administrated questionnaire (appendix A) was developed to obtain the data from targeted respondents. A *questionnaire* is known as a formal framework comprising questions and scales to obtain primary data (Hair et al., 1998). The questionnaire of this research was categorized into two main sections, where the first section was further categorized into a few sub-sections.

The sub-sections (part I-V) in the first section of the questionnaire were designed to cover the dependent variable, independent variables and one moderating variable: part I covered tax compliance behavior, the study's dependent variable. In order to obtain accurate answers from the respondents, two scenario cases were drawn, and the respondents were asked if they could identify themselves with the same condition.

Then part II of the questionnaire was dedicated to obtaining taxpayers' perceptions regarding the QoG. Taxpayers were asked about their perception of the dimensions of the QoG, namely, impartiality, the provision of essential services, and control of corruption. Two questions in this part (question number 12 and 25) were purposefully stated in the opposite direction, and it was done in order to obtain a more valid opinion from the respondents. The response was collected by utilizing a five-point Likert scale. The subsequent part III was designed to obtain taxpayers' perceptions regarding QoTS. Taxpayers were asked to share their experience about the website's usefulness on NBR, e-filing and e-payment as provided by the tax authority. Similar to part II, the data was collected using the five-point Likert scale.

Part IV covered taxpayers' perceptions about the tax system structure, particularly their perception of detection probability, penalty rate, and tax rate. In this

part, two questions (question number 43 and 45) were stated in a reverse direction. The taxpayers' responses were collected by utilizing the five-point Likert scale. Part V was used to obtain data on the moderating variable: the taxpayers' tax knowledge. Six questions were placed on the taxpayers to obtain data about their tax knowledge regarding the existing tax laws and their capability to compute their tax liability. Like the previous part, the data was gathered using the five-point Likert scale.

The second section was designed to obtain demographic information of the respondents. A cover letter introducing the researcher to the respondents and mentioning the purpose of the study was attached to the questionnaire. The language of the questionnaire was English. In addition, the questionnaire was translated into Benglai as it is the country's official language. The questionnaire in both languages was sent to qualified proofreaders to ensure their accuracy. The structure of the questionnaire is presented in table 5.7.

Table 5.7 Structure of the Questionnaire

Section	Construct	Variables	Type of Questions	Number of Item
1	Tax Compliance Behavior	Dependent Variable	Hypothetical	Six
	The Quality of Government	Impartiality Provision of public goods Control of corruption	Likert scale	Eight Seven Eight
	The quality of online tax service	The quality of online tax service	Likert scale	Five
	Tax system structure	Probability of being detected Severity of penalty	Likert scale	Three Four

		Tax rate		Four
	Tax Knowledge	Tax knowledge	Likert scale	Six
2	Demographic	Gender, age, education, income and occupation.	Categorical	

5.7.1 Pre-Test

After developing the questionnaire, it is essential to assess face and content validity by conducting a pre-test. Hair, Sarstedt, Hopkins and Kuppelwieser (2014) opined that face validity is highly recommended before using the questionnaire for collecting data. The pre-test also enables the researcher to know the questionnaire's appropriateness to measure the research objectives (Hair, Black, Babin & Anderson, 2010).

In doing so, the questionnaire was sent to four expert academicians with in-depth knowledge and around 15 years of experience in teaching the subject of taxation in Bangladesh. In addition, it was also sent to two tax professionals with long-standing experience in dealing with clients' tax matters. Furthermore, the questionnaire was sent to three income taxpayers to get their opinions about the understandability of the items in the questionnaire.

The experts validated the items and the questionnaire's structure and gave suggestions to improve it. After examining the questionnaire's face validity and content validity by the experts, tax practitioners and taxpayers, it was translated into Bengali (the official language of Bangladesh) by a professional translator. Finally, the main and translated copies of the questionnaire were again sent to the tax practitioners and the income taxpayers to check their accuracy and understandability.

5.7.2 Pilot Study

A pilot study is a process of conducting a small-scale survey before commencing the main survey (Pallant, 2020). Cooper and Schindler (2014) opined that pilot studies play a significant role in identifying the weaknesses in a given research design and the

relevant research instruments, as they are trial tests before the main test. Moreover, in quantitative studies, pilot tests help researchers avoid committing Type-I or Type-II errors by reducing the systematic errors before conducting the main test. The presence of Type-I or Type-II errors might lead to the research being in vain.

Cooper and Schindler (2014) recommended a range of 25 to 100 sample sizes for administering a pilot test. They further opined that the actual size of an appropriate pilot test can be determined based on the research method the researcher plans to employ. For this study, the sample size set for the pilot study was 50.

A total of 83 questionnaires were sent to the respondents online by employing the snowball strategy, and 57 responses were received among them. The response rate was 69%. The responses were recorded in SPSS, and the Cronbach alpha coefficient score was considered to test and interpret the reliability of the research instrument. According to George and Mallery (2019), an alpha value of .70 would be considered acceptable. In this study, the Cronbach alpha coefficient of every variable was above .70. The highest was the QoG (.96), and the lowest was the tax compliance behavior (.84). As the Cronbach alpha coefficient score of each variable was greater than .70, the reliability testing results can be considered as acceptable, according to George and Mallery (2019). The results of the reliability test for a pilot study of the current research are presented in table 5.8.

Table 5.8 Reliability Test of Pilot Study

Latent Variable	Items	Alpha
The QoG	23	.96
The QoTS	5	.94
Tax System Sturcture	11	.89
Tax Knowledge	6	.86
TCB	6	.84

5.8 RESPONDENTS AND SAMPLE OF THE STUDY

Defining the appropriate respondents and their size is one of the important parts of the empirical research. The following sections highlight the sampling population, geographical area, sampling techniques and sample size of the study.

5.8.1 Sampling Population

The sampling population is significant for research as an effective generalization of the findings depends on it (Cavana, Delahaye, & Sekaran, 2001). The sampling population could be defined as a specific set of samples that will be best fitted for a study (Zikmund et al., 2013). They added that the sampling population should be selected empirically, and the samples' characteristics should be carefully considered to represent the entire population.

This study's target population was individuals with taxable income and personal TINs under the Bangladesh Income Tax Ordinance, 1984. As the current research was focused on the personal income taxpayers, according to the law, this group includes individuals who enjoy taxable income from salary, business and/ or any lawful sources, house owners who have rental income, and all registered professionals who provide individual services like doctors, engineers and law practitioners (Bangladesh Income Tax Ordinance, 1984a).

5.8.2 Geographical Area of the Study

The geographical area of this study is Bangladesh, an LDC as well as the eighth most populous country in the world. The country is divided into eight divisions, further subdivided into 64 districts. Dhaka, with a population of 20 million, is the country's capital city. At the same time, Chattogram is the country's business capital, with a population of 5 million (Bangladesh Bureau of Statistics, 2020).

In order to achieve sufficient representation from each division and district, this study focused on Dhaka and Chattogram cities of the country. Dhaka is considered to be the meeting point of the whole country. People from different divisions and districts come and live in this city, and on this basis, the city offers sufficient representation from all divisions, social and economic statuses. Apart from this, out of 31 tax zones

demarcated by NBR for the entire country, 15 are in Dhaka (National Board of Revenue, 2020c), indicating that almost 50% of NBR activities are operated in this city. In addition, Chattogram city is included in the geographical area of the study as it is the business capital of the country. Moreover, the largest seaport in the country is in Chattogram City, and a significant portion of the country's business activities have been operating there. Furthermore, NBR has been conducting its operation in Chattogram city with 4-tax zones, which is the second highest position in terms of tax activities in the country (National Board of Revenue, 2020c). Therefore, the study selects Dhaka and Chattogram city as the geographical area of the study.

5.8.3 Sampling Technique

The sampling procedure is a crucial part of the research, in which appropriate respondents are identified in order to obtain data that can help achieve the research objectives. Onwuegbuzie and Collions (2007) opined that an appropriate sampling procedure determines the ultimate success of research as it requires selecting the right respondent with the most accurate information.

In the domain of social science research, researchers generally utilize four different sampling methods: probability, purposive, convenience and mixed-method sampling (Teddlie & Yu, 2007). Considering the scope of the current research, detailed discussions on all of these sampling methods are not presented here.

As this research aims to empirically examine the determinants of tax compliance behavior of taxpayers in Bangladesh, the purposive sampling technique is employed here as the actual population is not readily available. Purposive sampling, also known as judgmental or subjective sampling, has primarily been utilized in qualitative and quantitative research. Purposive sampling is utilized in choosing respondents with specific attributes from the selected geographical area of a given study (Collins et al., 2006; Teddlie & Yu, 2007). Maxwell (2008) stated that purposive sampling helps the researcher to select specific settings or persons deliberately to gather the required information, which might not be obtained from other sources.

In order to implement the purposive sampling technique, some strategies are commonly utilized in social science research, which include criterion, homogeneity,

typical case, snowball or chain, and extreme or deviant case (Teddlie & Yu, 2007). This study employs the criterion and snowball method to identify the research respondents under the purposive sampling technique.

Initially, the criterion technique is utilized to identify the individuals with TINs from the selected locations of the study, followed by the application of the snowball method to reach other respondents who also possess similar characteristics. The identified TIN holders direct the researcher to locate other respondents with similar characteristics, and this process continued until the researcher obtained a sufficient count of respondents.

Moreover, prior tax compliance studies also employed the snowball-sampling method to gather the survey data (Isa, 2014; Hansford & Hasseldine, 2012). Zaidi, Henderson and Gupta (2017) adopted the snowball-sampling technique to collect survey data from the taxpayers and opined that the snowball technique is preferable in such studies where the list of respondents is hard to provide.

5.8.4 Sample Size

Researchers have focused more on selecting an appropriate sample size as the entire result of a study depends on it. To determine the appropriate sample size, the total count of individual taxpayers in the selected geographical areas was considered. Bangladesh has 2.8 million individual taxpayers with TINs, of which 2.1 million are from Dhaka and Chattogram (Ministry of Finance, 2023). This study will consider the rule of thumb outlined by Krejcie and Morgan (1970) to determine the sample size. The required sample size is 384 for a population of more than 1,000,000, as Krejcie and Morgan (1970) recommended (Appendix B).

However, to minimize the non-response rate, researchers emphasize increasing the sample size to ensure sufficient data is obtained (Israel, 2009; Sekaran & Bougie, 2010). According to Sekeran (2003), if the sample size is between 30 and 500, it can be considered proper and adequate. This research plans to study 500 samples.

5.9 DATA COLLECTION

Data collection for this research started on 1st April 2021, and at that time, the COVID-19 situation in Bangladesh was recorded as worse than ever. The government of Bangladesh announced a total lockdown at that time (Bhattacharjee & Adhikary, 2021). Considering the COVID-19 situation and the time constraints of the study, the researcher started the data collection procedures online.

The questionnaire was transformed into a Google form, and the link with a short introductory message was prepared to send to the respondents. Eight research assistants were engaged to do the data collection procedures faster. A similar practice was evidenced in prior research (Saad, 2011; Alabede, 2012).

The respondents of this research are individual taxpayers, and their list is only kept in the tax office. The researcher tried to obtain the list from the office but could not succeed due to the security policy of the tax office. This study adopted snowball sampling to identify the respondents as the list of individual taxpayers is not easily available and accessible.

With help from the research assistants/ enumerators and utilizing the researcher's networking, 18 respondents were identified with diverse professional backgrounds who had taxable income and TIN. The researcher then contacted them personally and requested them to participate in the survey and help the researcher to reach the potential respondents of this study. Afterwards, by employing a snowball sampling strategy, the researcher and the supporting team were able to collect the email address and/ or online communication media (e.g., WhatsApp and Messenger) of the potential respondents and reached a total of 1782 individuals with the same characteristics, which was set for the respondents of this study. Finally, 421 respondents submitted the questionnaire through the Google form by 31 August 2021.

5.10 DATA ANALYSIS PROCEDURES

The data collected in this study has been analyzed with the SPSS software, and different statistical techniques are incorporated, which included data inspection and transformation, descriptive statistics, cross-tabulation analysis, reliability testing, factor analysis, correlation analysis, and multiple regression analysis. The study has three

objectives, among them, RO1 and RO2 are designed to examine the direct effect of independent variables (QoG, QoTS, TSS and demographic factors) on the dependent variable (TCB). Moreover, RO2 is also developed to examine the difference in TCB in accordance with the change of demographics characteristics of the individual taxpayers in Bangladesh. According to the recommendations of prior studies, independent sample t-test (for two groups) and one-way ANOVA (for more than two groups) are the most suitable statistical techniques to examine or compare the difference (Pallant, 2020; Fredrick & Peter, 2019; Tehulu & Dinberu, 2014; Gupta, 2009). Similarly, this study employs independent sample t-test and one-way ANOVA to examine the difference of TCB in responding to the change of demographic characteristics of the respondents.

In addition, RO3 is formed to assess the moderating effect of tax knowledge on the relationship between TCB and its determinants (QoG, QoTS and TSS). As recommended in the prior studies (Murphy, 2007; Ramanathan & Akanni, 2010; Aguinis & Gotterdson, 2010; Alabede, 2012), statistical technique namely, multiple regression analysis employed to examine the direct effect of QoG, QoTS, TSS and demographic factors on TCB. Moreover, following the suggestions of previous research (Harnovinsah, Kansil, Nugroho & Putra, 2023; Sritharan & Salawati, 2019), multiple regression analysis also employed to investigate the moderating effects of tax knowledge on the relationship between TCB and its selected determinants (QoG, QoTS and TSS). A detailed discussion of the above-mentioned statistical tools is presented below.

5.10.1 Data Inspection and Transformation

The data of this study was collected through the survey questionnaire, and the responses were keyed into the SPSS version 27. Proper inspection and screening were done in order to find the missing data and outliers. These procedures were done in accordance with the recommendation of Coakes and Ong (2011), Hair et al. (2010), Meyer et al. (2006) and Pallant (2020).

5.10.2 Descriptive Statistics

The primary purpose of descriptive statistics in this study was to present the respondents' socio-economic background briefly and shed light on the pattern of the respondents' behavior. Primarily, the mean and standard deviation is illustrated in descriptive discussion, and it was documented in the prior studies related to tax compliance behavior (Fled & Schneider, 2007; Torgler, 2007; Alabede, 2012; Abdullahi, 2017).

The mean score and the standard deviation of each item were calculated, and the mean scores of the particular items under one variable were summated to get the overall mean score of the variable. The 50th percentile of the range of the five-point Likert scale was employed here to interpret the mean score. Lemmon, Huber & McLinden (2010) asserted that the percentile is the estimated proportion of the data, which should fall above and below a given range.

The formula for computing a percentile is $n = P/100(N+1)$, where n = the estimated proportion, P = the percentile, in this case, 50, and N = the number or the range of the Likert scale, which is five for this calculation.

The percentile was calculated as 2 for the dependent variable (TCB) and 3 for the independent variables (QoG, QoTS and TSS) and moderating variable (tax knowledge). The percentile was used to interpret the mean score. The mean score below 2 for the dependent variable, and below 3 for the independent and moderating variables was considered as low (negative), and above threshold was recorded as high (positive). This research followed the same strategy to calculate and interpret the mean score as it was done by the study of Isa (2007) and Alabede (2012).

5.10.3 Statistical Treatments to Examine the Effect of Demographic Factors on TCB

This study examines the impact of demographic factors on TCB (RO2). Initially, cross tabulation analysis was done, then statistical tools, namely, independent sample t-test and one-way ANOVA, have been considered to use to achieve RO2. In addition, multiple regression analysis is also conducted to examine the direct effect of demographic factors on TCB.

5.10.3.1 Cross- Tabulation Analysis

Cross-tabulation is a statistical technique used in research to analyze the relationship between two or more variables (Wagner, 2009). In this research, cross-tabulation was done between the demographic variables and dependent variable (tax compliance behavior), and this was done in order to obtain further insight into the behavior of the respondents based on their demographic background. The interpretation was made by considering the frequency and the percentage of the related variables, and a similar method was documented in prior tax compliance research (Alabede, 2014; Manaf, 2004).

5.10.3.2 Independent Sample t-Test and One Way ANOVA

In the next phase, an independent sample t-test and one-way ANOVA were carried out to examine the effect of demographic factors on TCB. As the data related to demographic factors are categorical, the most suitable techniques are independent sample t-test and one-way ANOVA for exploring differences in the taxpayers' compliance behavior along with their demographic characteristics. Similarly, this study utilised the same statistical techniques to analyze the data. This approach is also evident in the prior studies where the researchers did the independent sample t-test and one-way ANOVA to examine the effect of demographic variables on TCB (Fredrick & Peter, 2019; Tehulu & Dinberu, 2014; Gupta, 2009). Furthermore, a Post Hoc test was also done to test the difference among individual categories of each demographic factor, and it was performed according to Pallant (2020).

5.10.4 Statistical Treatments to Investigate the Direct and Moderating Effect

This study examines the direct effects of independent variables (dimensions of QoG, QoTS, dimensions of TSS and demographic factors) on dependent variable (TCB) (RO1 and part of RO2). In addition, it also aims to investigate the interacting effect of tax knowledge on the association between selected independent variables (dimensions of QoG, QoTS, dimensions of TSS) and TCB (RO3). Multiple regression analyses have been considered to be used to obtain the RO1, 2 and 3.

5.10.4.1 Goodness of Measure

Sekaran and Bougie (2010) suggested measuring the “goodness” of the research instruments to ensure the accuracy of the research findings as well as to maintain the scientific standard of the research. The most common practice to measure “goodness” is to employ the reliability and validity test (Mohajan, 2017; Bajpai & Bajpai, 2014). Following the recommendations of prior research, the study used the same statistical techniques to measure the goodness of the research instruments.

a. Reliability Testing

Reliability testing is conducted to assess the internal consistency of the items which are used to measure the variables of the study. Although there are other methods to examine reliability, most social science research considered Cronbach’s alpha score to test reliability (Hair et al., 2010; Sekaran & Bougie, 2010). Furthermore, in the realm of tax studies, most of the empirical research employed Cronbach’s alpha to test and interpret the internal consistency of the measuring items (Faizal, Palil, Maelah & Ramli, 2017; e-Hassan et al., 2021; Abdullahi, 2017).

Reliability test has been conducted in two phases of the present study. The initial test was carried out at the time of pilot testing. Reliability testing in the stage of pilot testing is very crucial for empirical research as internal consistency of the measuring items can be assessed before commencing the main data collection. Afterward, the following reliability testing was carried out before running the main statistical tools.

The common practice and widely acceptable level of Cronbach’s alpha score is .70 (Hair et al., 2010). The rule of thumb presented by George and Mallery (2019) to interpret reliability is largely used in empirical research. The study considered Cronbach’s alpha coefficient rating presented by George and Mallery (2019) to interpret the result of reliability test. Table 5.9 illustrates the rule of thumb to interpret the Cronbach’s Alpha coefficient.

Table 5.9 Rule of Thumb of Cronbach's Alpha

Cronbach's Alpha Rating	Remark
>.90	Excellent
>.80	Good
>.70	Acceptable
>.60	Questionable
>.50	Poor
<.50	Unacceptable

b. Factor Analysis

The validity of the construct is measured by factor analysis, and it is employed to reduce the original items to a small set of usable dimensions. The main purpose of conducting factor analysis is identifying the primary dimensions used to construct the original variable (Hair et al., 2010). Hair et al. (2010) mentioned two ways to conduct the factor analysis, namely, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). This research considers employing EFA for construct validity as the research instruments of the study were adapted from prior studies.

Coakes and Ong (2011) outlined the steps involved in running the EFA, and this study considered their recommendations. Initially, the researcher verified that the assumptions of EFA were checked and confirmed. Then, the items under each variable were submitted to run the EFA in the SPSS software. Following this, the output of SPSS was taken into consideration in order to evaluate the preparedness of every principal construct for factor analysis. The value of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity was considered in this stage. In addition, the value of the anti-image correlation coefficient, communality, total explained variance and the eigenvalue were checked for each principal construct's extracted factors to ensure that the data covered the minimum criteria of EFA. Lastly, utilizing the varimax approach, factors rotation was examined.

This study followed the rule of thumb presented by prior studies in order to interpret the findings of EFA (Pallant, 2020; Coakes & Ong, 2011; Hair et al., 2010). The rule of thumb includes KMO $>.60$; Bartlett's Test of Sphericity significant at ($p<.05$); communalities $>.50$; factor loading $\pm.30$ to $\pm.40$; eigenvalue >1 ; total variance explained of at 60% or the eigenvalue is higher than 1; anti-image correlation coefficient should not be less than .50.

5.10.4.2 Correlation Analysis

Correlation analysis is a statistical tool used to identify multicollinearity among the variables and to determine the strength of the relationship between the variables employed in the study (Meyer et al., 2006; Hair et al., 2010). Multicollinearity refers to the presence of high correlation between the two or more independent variables. In the multiple regression analyses, the detection of multicollinearity is very important as the reliability of the regression models depends much on it. Hair et al (2010) opined that the presence of multicollinearity causes unreliable and unstable findings of the regression coefficient.

Researchers presented the standards of correlation coefficients to consider multicollinearity. Gujarati and Porter (2009) recommended that correlation coefficient greater than .08 reflects the possible threat for multicollinearity. However, Hair et al. (2010) opined that the correlation coefficient $>.07$ can be considered as a potential concern for multicollinearity between two independent variables. The present study considers the recommendation of Hair et al. (2010) to detect multicollinearity.

In addition, the strength of the relationship between the variables was examined by employing the Pearson product-moment coefficient, and according to Coakes and Ong (2011), the Pearson product-moment coefficient is suitable for establishing a correlation between continuous and categorical variables. In this study, the correlation strength among the variables was considered statistically significant at ($p<.01$; $p<.05$) level.

5.10.4.3 Multiple Regression Analysis

This study aims to investigate the main effect between tax compliance behavior and its determinants (QoG, QoTS, tax system structure and demographic factors), as well as the moderating role of tax knowledge on tax compliance behavior and its selected determinants (QoG, QoTS and tax system structure). Prior behavioral studies, including several tax compliance studies, documented the use of multiple regression analysis as a statistical means to examine the direct relationship between independent variables and dependent variable, and the effect of moderating variable on the relationship between dependent variable and independent variables (Harnovinsah et al., 2023; Sritharan & Salawati, 2019; Alabede, 2012; Ramanathan & Akanni, 2010; Aguins & Gotterdson, 2010; Murphy, 2007).

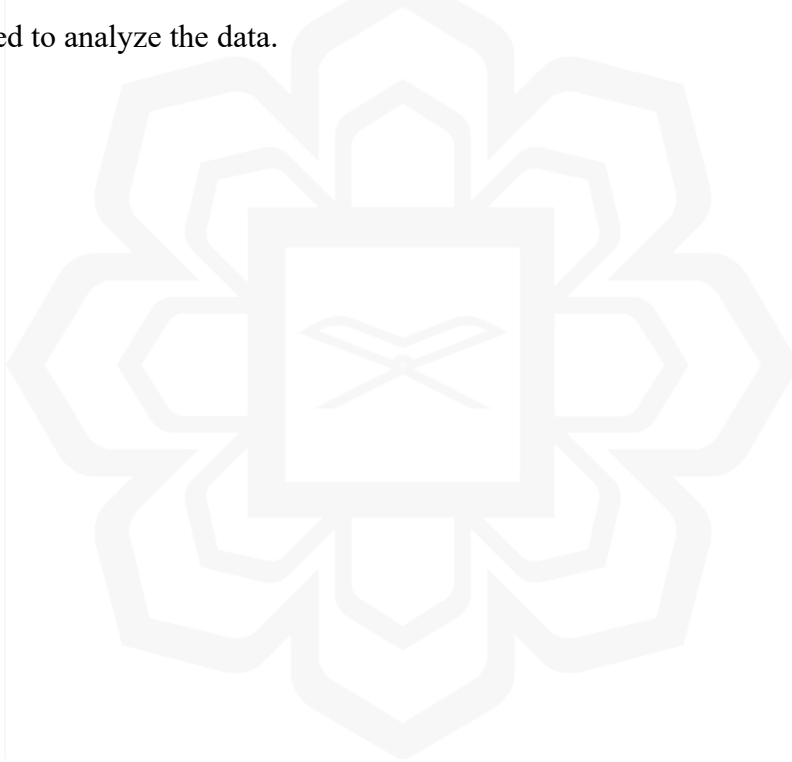
According to the suggestion of prior studies, this study employed multiple regression analysis statistical techniques to investigate the direct effect between independent variables and dependent variable, and the impact of moderator on the association between selected independent variables and dependent variable. The research considered the procedures recommended by Hair et al. (2010) to run the multiple regression analysis. Initially, a set of assumptions, including the sample size, normality, linearity, homoscedasticity, and multicollinearity, were examined in order to assess the preparedness of data. The following steps of multiple regression commenced once all the assumptions fulfilled the standard. In this stage, the dependent variable (TCB) was regressed on the selected predictors (independent variables namely, QoG, QoTS, TSS and demographic factors) to investigate the direct effects. In the following steps, the TCB was regressed on the selected predictors (QoG, QoTS and TSS), moderator (tax knowledge), and the interaction of each predictor and moderator.

To interpret the output of multiple regression analyses, the study followed the recommendations of Hair et al. (2010). Initially, the F value of the regression model was considered. Then the adjusted R^2 and change in R^2 were taken into consideration. Lastly, the contribution (in weight) of each independent variable and moderating variable (interaction between independent and moderating variable) was assessed.

5.11 SUMMARY

This chapter discusses the research procedures and techniques applied in this research to achieve the research objectives. It started by discussing the study's research design, followed by the discussion of research approaches, strategies and techniques that underlie the methodological part of this study. The approach of this study is quantitative.

Following this, the chapter discussed the instruments and techniques that were employed to gather the data. The taxpayers' opinion survey technique has been adopted for data collection in the study. A structured questionnaire was designed, and the snowball sampling method was applied to identify and collect data from the respondents. The ensuing discussion covered different statistical treatments, which were used to analyze the data.



CHAPTER SIX

RESEARCH FINDINGS AND DISCUSSIONS

6.1 INTRODUCTION

This chapter highlights different statistical techniques and procedures to achieve the research objectives and discusses the empirical findings of the study. Initially, it discusses on the data inspection to identify the missing data and outliers, the study's response rate and non-response bias of respondents. Then, the chapter illustrates the outcomes of cross tabulation between demographic factors and TCB, followed by the findings of independent sample t-test and one way ANOVA. Afterwards, it discusses the assumptions of multiple regression analyses, regression models of the study and their results. Then, it presents the findings of hypotheses testing. Finally, the chapter depicts the discussions of empirical findings according to the study's research objectives.

6.2 DATA INSPECTION AND TRANSFORMATION

Primary data for this study has been collected through a survey questionnaire. The collected data has been screened accurately, and necessary transformations have been carried out according to the suggestion of Coakes and Ong (2011), Hair et al. (2010), Meyer et al. (2006) and Pallant (2020).

6.2.1 Missing Data and Outliers

Prior studies recommended a few techniques to deal with the missing data. However, Hair et al. (2010) opined that the imputation method can be applied in such a case where the missing data is less than 10% of the respondents. In this study, ten respondents did not answer all the items of questionnaire, of which, eight respondents did not fill in one item each, one respondent did not answer two items, and the remaining one did not complete four items. Ten respondents who did not complete all the items of the

questionnaire represented 2.57% of the total respondents¹¹ of the study. Following the recommendation of Hair et al. (2010), the median of the near-by point method has been employed in this study to replace the missing data, as the percentage of the missing data is less than 10%. Table 6.1 depicts the summary of the missing data.

Table 6.1 Summary of the Missing Data

Variable	Number of Missing Items	Number of Respondents	Percentage of the Sample Size
Quality of Government- Impartiality	4	3	.771
Quality of Tax Government- Control of Corruption	5	4	1.02
Quality of Online Tax Services- e-filing	5	3	.771
Total	14	10	2.57

Outliers can be addressed as a variable's unusual or extreme value and should be detected to facilitate possible removal. According to Hair et al. (2010), an outlier can be identified on a single variable, in other words, a univariate outlier or on multiple variables, which is called a multivariate outlier. The Z score can identify univariate outliers; the rule of thumb is that this score should not exceed 4. Multivariate outliers can be diagnosed by the Mahalanobis Distance (D2) probability score, and they could be considered outliers if the score is less than .001. In this study, no outlier is identified as the Z-score of all cases is less than 4, and the Mahalanobis Distance (D2) probability score is higher than .001 for all the cases.

¹¹ In this study, the number of respondents can be retrieved is 389.

6.3 RESPONSE RATE

Prior studies strongly recommended increasing the sample size in order to avoid non-response bias (Israel, 2009; Sekaran & Bourgies, 2010), and for this study, the sample size determined in chapter five was 500. A total of 1782 questionnaires were sent to the targeted respondents. However, 421 questionnaires were retrieved from the respondents, which represented a response rate of 24%. Among 421 questionnaires received from the participants, 389 were found to be usable (the usable response rate was 22%).

Questionnaires were sent to individual taxpayers, including public, private, and self-employed employees. Table 6.2 depicts that 623 questionnaires were circulated to the public sector respondents, representing 35% of the distributed questionnaire. In addition, 784 questionnaires (44%) were administered to individuals involved in the private sector, and 375 questionnaires (21%) were distributed among self-employed taxpayers.

However, the highest number of responses were received from respondents who work in the private sector, followed by self-employed and public sectors. A total of 172 questionnaires were received from the private sector, of which 159 were found usable. Subsequently, 135 responses were received from self-employed individuals, of which 125 were recorded as usable responses. However, comparatively lower responses were received from the public sector; only 114 responses were received from this sector, out of which 105 responses were considered usable responses.

Table 6.2 Distribution of Questionnaire

Questionnaire	Public Sector		Private Sector		Self-Employed		Total	
	F	P (%)	F	P (%)	F	P (%)	F	P (%)
Administrated	623	35	784	44	375	21	1782	100
Retrieved	114	18	172	22	135	36	421	24
Badly completed	09	1	13	2	10	3	32	2
Usable	105	17	159	20	125	33	389	22

Note: 1. F=Frequency, P=Percentage

2. Percentage of retrieved badly completed and usable questionnaire determined based on the total number of administrated questionnaires for each group of respondents.

3. A total of 32 respondents did not complete most of the items of questionnaire, and these responses considered as ‘badly completed’ questionnaires.

6.4 NON-RESPONSE BIAS

Non-response bias is a severe concern to studies that employ a survey to gather the data. It occurs in such conditions when there is a meaningful difference between the responders and non-responders of a sample in terms of demographic and attitudinal variables (Couper, 2000). Out of several techniques, the extrapolation method has been discussed in prior studies to examine the non-response bias (Al-Aali, 2021; Dirsehan & Cankat 2021; Armstrong & Overton, 1977). According to the extrapolation method, respondents who participated in the survey after completion of the pre-determined time set by the researchers were considered the late respondents, and those who attended the survey within its time frame were equated as the early respondents. Then, the responses of both groups are compared to determine the presence of non-response bias (Armstrong & Overton, 1977; Johnson, Beaton, Murphey & Pike, 2000; Al-Aali, 2021; Dirsehan & Cankat, 2021). The extrapolation method was used in this study to determine the non-

response bias, as it was used in several prior studies that were related to tax compliance (Manaf, 2004; Jabbar, 2009; Alabede, 2012; Shagari & Saad, 2017).

According to Pallant (2020), independent *T* statistics can be employed to determine the non-response bias between the early and late respondents. In order to do this, the results of independent t-test and Levene's test for equality of variance are taken into consideration in this study. If the p value of Levene's test is greater than .05 or .01, then it indicates that the assumption of equal variance is not violated, and non-response bias does not exist (Pallant, 2020). Moreover, insignificant results ($p > .05$) of independent sample t-test also provide evidence for not existing any significant difference between early and late respondents.

This study sets a particular time frame to administrate and return the questionnaire to the respondents. Starting from 1 April 2021 to 30 June 2021, three months have been fixed to complete the data collection work, and a record of the receiving time of the questionnaire has been maintained. A total of 308 usable questionnaires were received from the respondents during this period. As the total number of responses needed for this study was 384, the collection period of the questionnaire was further extended by one month. The same data collection strategy was followed, and 81 additional usable responses were received in that time.

According to Armstrong and Overton (1977), the respondents who fail to participate in the survey within the stipulated time frame would be considered as late respondents. In the case of this study, the number of responses that have been received between normal time frame (308) of data collection is considered as early respondents, and the number of responses has been obtained in the extended time (81) is considered as late respondents. A comparison of these two groups was made by independent t-test, and the outcome is presented in Table 6.3.

The outcome of the independent t-test indicates that the difference between the early and late respondents in terms of the mean score was minimal. The mean scores of TCB, the study's dependent variable, for the early and late respondents, were 1.90 and 2.05, respectively, and the difference was 0.15, which was marginal. Furthermore, the result of Levene's test of equality of variance between the early and late respondents reveals that the significant value for all variables, including the demographic variables was greater than 0.01 ($p > .01$). Among the dependent, independent and moderating

variables, respondents' income has the highest significant value of 0.98, whereas the TSS has the lowest significant value of 0.11. Since the results of Levene's test for all variables is not significant ($p > .01$), the equal variances were considered as assumed. Furthermore, the results of independent sample t-test for all variables were found not significant ($p > .05$), which also indicates that there are no significant differences between the early and late respondents. Hence, based on the results of independent sample t-test, it can be concluded that the assumption of the equality of variance between the early and late respondents was not violated, and therefore, the data of the study was free from non-response bias.

Table 6.3 Test for Non-Response Bias

Variable	Early Responses		Late Responses		Levene's Test		Independent t-Test
	M	SD	M	SD	F	Sig	Sig
TCB	1.90	0.53	2.05	0.54	1.13	0.28	0.22
QoG	2.28	0.95	2.25	0.91	1.39	0.24	0.19
QoTS	2.84	1.13	3.02	1.06	1.71	0.19	0.14
TSS	2.53	0.83	2.71	0.75	6.46	0.11	0.06
Tax Knowledge	2.57	0.93	2.50	0.94	0.36	0.55	0.48
Gender	1.26	0.44	1.28	0.45	0.50	0.48	0.46
Age	2.10	0.80	2.18	0.91	1.35	0.24	0.23
Education	5.13	1.09	5.48	0.97	2.62	0.12	0.11
Income	2.62	0.85	2.51	0.83	0.01	0.98	0.86
Occupation	2.05	0.77	2.05	0.76	0.02	0.83	0.76

In addition, another comparison has been made between the early and late respondents based on the demographic factors (see Table 6.4). The data shows that 80% of male respondents attended the survey as early respondents, and that was 2% higher than the female respondents (78% female attended the survey as early respondents). In the case of age grouping, young respondents (aged from 18 to 30 years) participated in the survey on time with the highest percentage (86%).

In contrast, percentages of middle and older aged respondents attended the survey simultaneously (77% and 79%, respectively). Respondents with educational qualifications, namely HSC or diploma and bachelor's degree, attended the survey within around 85%.

In addition, percentages of master's degree holders participated (72%). Regarding the professional identity of the respondents, around 20% of respondents from the three groups (government service holders, private sector employees and self-employed) attended the survey over the extended time. As far as the respondent locations were concerned, the results show that respondents participated in the survey as early respondents from Dhaka and Chattogram region were 78% and 80%, respectively.

It is very clear from the above presentation that a higher number of participants from every demographic aspect attended the survey within the time frame (as early respondents). This further proves that the study's data is free from non-response bias.

Table 6.4 Cross Tabulation: Demographic Factors and Response Bias

Demographic Factors	Early Responses		Late Responses	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	228	80	58	20
Female	80	78	23	22
Marital Status				

Demographic Factors	Early Responses		Late Responses	
	Frequency	Percentage	Frequency	Percentage
Single	96	79	25	21
Married	203	79	53	21
Divorced	09	75	03	25
Aging Group*				
Young	83	86	14	14
Middle	202	77	61	23
Older	22	79	06	21
Education				
HSC/Diploma	71	84	11	14
Bachelor's degree	88	86	14	14
Master's Degree	146	72	59	28
Occupation				
Government Service	84	80	21	20
Private Sector	125	79	34	21
Self-Employed	99	79	26	21
Income Level				
Lower Income	207	82	46	18
Middle Income	87	73	32	27
Higher Income	14	82	03	18
Location				
Dhaka	157	78	44	22
Chattogram	151	80	37	20

6.5 RELIABILITY OF RESEARCH INSTRUMENT

This study considered Cronbach's alpha score to test the reliability of the measuring items, and it has been done in two stages. The reliability testing was initially conducted at the pilot study stage (Table 5.8), and the internal consistency of the items used in this study to measure the variables was checked. Furthermore, another test was carried out before initiating the main statistical analyses.

George and Mallery (2019) stated that a Cronbach alpha value $>.70$ would be considered good and reliable. In this study, the Cronbach alpha coefficient of the dependent variable (TCB), independent variables (QoG, QoTS and Tax system structure) and moderating variable (TK) were documented above $.70$. The highest value was the QoG (.97). The lowest value was the TCB (.78). The results of the reliability test are presented in Table 6.5. Furthermore, the results of the reliability test were almost similar to the findings of the initial reliability test that was conducted at the stage of the pilot study.

Table 6.5 Reliability Test of the Study

Latent Variable	No. of Items	Alpha
TCB	6	.783
QoG	23	.973
QoTS	5	.918
TSS	11	.872
TK	6	.866

6.6 DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

The demographic characteristics of this study's respondents in terms of their socio-economic background are presented in table 6.6, which indicates that 74% of the study respondents were male and the rest, 26%, were female. Although this participation ratio is not in line with the population ratio of Bangladesh, where the male and female ratio

is 51:49 (BBS, 2018), the data matches the employment ratio of the country, which is 72:28 (BBS, 2018). Regarding the age grouping of the respondents, 25% were from the age limit of 18 to 30 and 67% were from middle age (between 31 to 50 years). The age profile of the respondents represented the age distribution of Bangladesh as more middle-aged people (59.4%) are involved in income-generating activities (BBS, 2018).

Regarding the educational qualifications of the respondents, 78% completed their graduation, whereas 22% had a diploma or higher secondary school (HSC) degree. The data related to the respondent's income level showed that 65% of the respondents were from lower income brackets ranging from monthly income BDT 25,000 to BDT 50,000, 30% were from medium income group (that is from BDT 50,001 to BDT 100,000), and 5% were from higher income level (above BDT 100,000). Bangladesh is a low-income country, and from this perspective, the demographic information of the respondents' income level fairly represents the actual income distribution in Bangladesh. In terms of the geographical location of the respondents, data showed that 52% of the respondents were residing in Dhaka, and 48% were from Chattogram city.

Table 6.6 Demographic Information of the Respondents

Category	Frequency (N=389)	Percentage (Total=100%)
Gender		
Male	286	74
Female	103	26
Age		
Young	97	25
Middle	263	67
Older	29	8
Level of Education		
Low (HSC/Diploma)	82	22

Medium (Bachelor)	103	26
High (Master)	204	52
Level of Income		
Low	253	65
Medium	119	30
High	17	5
Occupation		
Government Employee	105	27
Private Sector Employee	159	41
Self-employed	125	32
Location		
Dhaka	201	52
Chattogram	188	48

6.7 DESCRIPTIVE STATISTICS

6.7.1 Tax Compliance Behavior

The respondents' responses towards their TCB are presented in table 6.7. The data showed that the overall mean score was 1.94. Indicating a weak mean score (less than 2) that reflects the respondents' poor TCB.

In addition, the data revealed that only 20% of the respondents comply fully in terms of declaring their real income in accordance with the tax law, whereas only 16% comply partly, and a more significant portion of the respondents (64%) comply very poorly. A similar response was received from the respondents on tax claim reporting, where only 17% complied fully; however, 83% of the respondents complied moderately or poorly. Almost similar responses from the respondents regarding income reporting and tax claims, which supports their unwillingness to comply with the tax rule. In

addition, a large number of respondents want to utilize all possible ways to minimize their tax obligations.

Table 6.7 Descriptive Statistics for Tax Compliance Behavior

Component	M	SD	Non-compliance				Compliance	
			Somewhat		Moderately			
			Compliance		Compliance			
			F	%	F	%	F	%
Income reporting	1.56	0.81	248	64	61	16	80	20
Tax claims reporting	1.50	0.77	260	67	61	16	68	17
Return filing	2.24	0.78	95	25	102	26	192	49
Tax payment	2.47	0.68	38	10	129	33	222	57
Overall	1.94	0.76	161	41	88	23	140	36

Note: 1. The percentage in parenthesis was rounded to nearest whole number.

2. M= Mean, SD= Standard Deviation

3. F= Frequency, %= Percentage

4. Somewhat Compliance=1, Moderately Compliance=2, Compliance=3.

5. Mean score for TCB is 2.

Overall, the data revealed that 36% of the respondents fully complied with declaring real income, claiming the rebate, submitting the tax file and making the payment. However, 64% did not comply fully, which was considered non-compliance. Hence, the data supported the findings in the literature that significant tax non-compliance exists in the tax system in Bangladesh (Khan et al., 2019; OECD, 2018).

The descriptive statistics of the tax compliance behavior of the respondents support that the level of tax compliance in Bangladesh is significantly low.

6.7.2 Quality of the Government

The descriptive statistics of the respondent's opinions regarding the QoG are presented in table 6.8. Overall, the low mean scores (2.27) indicates that the respondents perceived the poor QoG in Bangladesh.



Table 6.8 Descriptive Statistics for the Quality of Government

Code	Description	M	Std D	SD/D ¹²	N	S A/A ¹³
QoG1	As the representative of the people and the legitimate body to run the country, the government conducts all of its activities impartially.	2.29	1.23	260 (67)	39 (10)	90 (23)
QoG2	Our government is consistently trying to retain and increase the support of the people by providing impartial public services.	2.24	1.24	231 (59)	58 (15)	100 (26)
QoG3	Public education sectors in my country provide impartial opportunities to all citizens regardless of considering people's political, social, and or any other identity.	2.34	1.23	246 (63)	57 (15)	86 (22)
QoG4	In my country, people have confidence and trust that they are getting better and impartial treatment from the public health sectors	2.32	1.21	256 (66)	39 (10)	94 (24)
Q0G5	In any issues related to safety and security, I consider going first to the police due to their professional and bias-free services.	2.23	1.20	268 (69)	47 (12)	74 (19)

¹² This study considers the mean score to interpret the descriptive statistics of the respondent's perception regarding the items of the QoG. Thus, to present the respondent's responses briefly, strongly disagree and disagree were presented in one column. A similar strategy was followed by Alabede (2012).

¹³ Similarly, strongly agree and agree were presented in one column.

Code	Description	M	Std D	SD/D ¹²	N	S A/A ¹³
ReQoG6 ¹⁴	Considering political, social, or any other identity, certain individuals are given special preference in the public health sectors in my country.	2.21	1.09	48 (13)	63 (16)	278 (71)
QoG7	Our government closely monitors the public sectors to ensure impartial service to the people and takes immediate action against those who are responsible for violating this principle.	2.33	1.14	259 (67)	48 (12)	82 (21)
QoG8	Overall, it can be said that the public sectors of the country performing well in providing impartial services to the people of our country.	2.37	1.18	249 (64)	49 (13)	91 (23)
Overall: QoG in terms of impartial treatment		2.29	1.19			
QoG9	I am satisfied with the quality of public education in my country.	2.23	1.20	263 (67)	46 (12)	80 (21)
QoG 10	I am satisfied with the quality of public health service in my country.	2.15	1.17	275 (71)	44 (11)	70 (18)

¹⁴ Item number 6 was stated in the questionnaire in an opposite direction, and it was reverse coded and keyed in at the stage of data entry.

Code	Description	M	Std D	SD/D ¹²	N	S A/A ¹³
QoG 11	I am satisfied with the quality of the police force in my country.	2.17	1.19	267 (69)	58 (15)	64 (16)
QoG 12	The measures that our government has taken to enhance the quality of the police force are effective.	2.46	1.24	233 (60)	57 (15)	99 (25)
QoG 13	The measures that our government has taken to enhance the quality of the public education system are effective	2.43	1.23	253 (66)	38 (9)	98 (25)
QoG 14	The measures that our government has taken to enhance the quality of public health sectors are effective.	2.29	1.13	262 (67)	51 (13)	76 (20)
QoG 15	Overall, it can be said that our government is performing very well in terms of providing quality services to the people.	2.31	1.21	257 (66)	42 (11)	90 (23)
Overall: QoG in terms of providing quality services		2.28	1.19			
QoG 16	Our government is committed to combating corruption in the public health sector.	2.18	1.19	273 (70)	34 (9)	82 (21)
QoG 17	Our government is committed to combating corruption in the public education sector.	2.28	1.22	258	48	83

Code	Description	M	Std D	SD/D ¹²	N	S A/A ¹³
				(66)	(12)	(21)
QoG 18	Our government is committed to combating corruption in the police force.	2.26	1.23	263	46	80
				(67)	(12)	(21)
ReQoG 19 ¹⁵	People have to pay extra money to get their due services from the public health sector.	2.21	1.07	66	40	283
				(17)	(10)	(73)
QoG 20	The measures that our government has taken to combat corruption in the public education sectors are working effectively.	2.27	1.06	266	58	65
				(68)	(15)	(17)
QoG 21	The measures that our government has taken to combat corruption in the public health sector are working effectively.	2.23	1.13	268	51	70
				(69)	(13)	(18)
QoG 22	The measures that our government has taken to combat corruption in the police force are working effectively.	2.11	1.17	281	39	69
				(72)	(10)	(18)
QoG 23	The Anti-Corruption Commission (ACC) of our country is performing very well to make the country corruption-free.	2.16	1.18	276	32	81

¹⁵ Item number 19 was stated in the questionnaire in an opposite direction, and it was reverse coded and keyed in at the stage of data entry.

Code	Description	M	Std D	SD/D¹²	N	S A/A¹³
				(71)	(8)	(21)
Overall: QoG in terms of control of corruption		2.26	1.18			
Overall		2.27	1.19			

Note: 1. SD= Strongly Disagree, D= Disagree, N= Neutral, A= Agree, SA= Strongly Agree.

2. The minimum score is 1 (Strongly Disagree) and the maximum score is 5 (Strongly Agree).

3. Mean score is 3

4. Number in parentheses indicates the % of the responses.

Furthermore, the descriptive results revealed that the highest mean score of the items QoG 1-8 was 2.35, which indicates that most respondents believe that the government is not treating the citizens impartially. Overall, in all eight items, a greater number of respondents (more than 60%) considered that the government is not treating them impartially; however, around 23% of them had a positive impression of the government in this aspect.

Items QoG 9-15 were incorporated into the questionnaire to allow the respondents to express their views regarding the quality of the services provided by the government. The highest mean scores of these items is 2.46 (QoG12) and could be considered as low mean scores, which indicates that the respondents are not satisfied with the quality of services provided by the government.

Furthermore, the view of the respondents concerning the government's attempt and role to combat corruption was expressed in the items QoG16-23, and the data revealed that the mean score of all these items is less than 2.28, which indicates containing a low mean score of the items, the government is not exhausting all efforts in combatting corruption. Overall, the mean score and the descriptive results depicts that the QoG in Bangladesh is not good.

6.7.3 Quality of Online Tax Services

The descriptive statistics of the quality of online tax services (QoTS 1-5) are presented in table 6.9. Overall, the mean score was 2.87, which indicates that the respondents have poor perceptions regarding QoTS. The data also revealed that 43% of the respondents agreed that the NBR has a useful and informative website, and this item has the highest mean (3.09). Similarly, 45% respondents considered NBR website as the source of having necessary and updated information. However, only 31% of respondents perceived that they pay the tax amount easily through e-payments option of NBR.

Table 6.9 Descriptive Statistics for the Quality of Online Tax Services

Code	Description	M	Std D	SD/ D	N	S A/A
QoO TS1	The NBR has a useful and informative website.	3.09	1.34	156 (40)	64 (16)	169 (43)
QoO TS2	I can get the necessary and updated information from the NBR's website.	3.07	1.35	148 (38)	65 (17)	176 (45)
QoO TS3	I can easily submit my tax return through e-filing of NBR.	2.86	1.23	166 (43)	78 (20)	145 (37)
QoO TS4	I can easily pay the tax amount through e-payment of NBR.	2.67	1.25	209 (54)	60 (15)	120 (31)
QoO TS5	The NBR provides user-friendly online services.	2.66	1.23	209 (54)	56 (14)	124 (32)
Overall		2.87	1.28			

Note: 1. SD= Strongly Disagree, D= Disagree, N= Neutral, A= Agree, SA= Strongly Agree.

2. The minimum score is 1 (Strongly Disagree) and maximum score is 5 (Strongly Agree)

3. Mean score is 3.

4. Number in parentheses indicates the % of the responses.

6.7.4 Tax System Structure

The respondents' views towards the tax system structure of tax compliance behavior were gathered through TSS1-11 items, and the descriptive statistics of these items were depicted in table 6.10. Overall, with a low mean score of 2.63, the data supports that the economic enforcement mechanisms of NBR are not working effectively.

Furthermore, among the eleven items, TSS1-3 has been incorporated into the questionnaire to get the respondents' opinion regarding the probability of detection for non-compliance, and more than 50% of them considered the detection probability to be very low for not complying with tax rules.

In addition, items TSS4-7 were added to the survey to get respondents' views on the severity of the penalty, and the data indicates that almost half of the respondents do not believe that the non-compliers have to pay a larger penalty amount. Furthermore, items TSS8 to TSS11 disclosed the perception of the respondents regarding the fairness of the tax rate. The data indicates as shown in table 6.10, that around 50% of the respondents viewed that tax rate is not allocated fairly. Descriptive statistics for tax system structure are presented in table 6.10.

Table 6.10 Descriptive Statistics for Tax System Structure

Code	Description	M	Std D	SD/ D	N	S A/A
TSS1	There is a high chance that the tax authority would catch Mr. 'A' if he did not include his extra income in the tax return.	2.77	1.20	208 (54)	39 (10)	142 (36)
TSS2	There is a high chance that the tax authority would catch Mr. 'A' if he had claimed the amount as a deduction.	2.74	1.21	200 (51)	58 (15)	131 (34)
TSS3	The tax authority has enough workforce in its audit team to catch Mr. 'A'.	2.58	1.19	228 (59)	44 (11)	117 (30)
TSS4	Mr. 'A' needs to pay the tax that he owes, together with interest on it.	2.90	1.22	168 (43)	50 (13)	171 (44)
TSS5	Mr. 'A' has to give a larger amount of penalty compared to the amount of tax	2.79	1.25	190 (49)	58 (15)	141 (36)

Code	Description	M	Std D	SD/ D	N	S A/A
	saving due to not complying with the tax law.					
TSS6	Mr. 'A' has to face legal charges in the relevant court.	2.83	1.23	184 (47)	62 (16)	143 (37)
TSS7	The tax authority practices serious enforcement and the larger amount of penalty to deter tax non-compliance.	2.67	1.19	205 (53)	55 (14)	129 (33)
TSS8	Under the existing tax laws of the country, I believe the burden of income tax is fairly distributed.	2.36	1.14	255 (66)	47 (12)	87 (22)
ReTS S9 ¹⁶	Wealthy classes in my country are not paying fair amount of tax against their income.	2.39	1.08	274 (70)	44 (11)	71 (19)
TSS1 0	The NBR practices a progressive tax rate.	2.72	1.17	188 (48)	86 (22)	115 (30)
ReTS S11 ¹⁷	Tax rebate has not been allocated fairly in the tax system of my country.	2.22	1.06	293 (75)	42 (11)	54 (14)
Overall		2.63	1.17			

Note: 1. SD= Strongly Disagree, D= Disagree, N= Neutral, A= Agree, SA= Strongly Agree.

2. The minimum score is 1 (Strongly Disagree) and maximum score is 5 (Strongly Agree)

¹⁶ Item number 9 of the TSS was stated in the questionnaire in an opposite direction, and it was reverse coded and keyed in at the stage of data entry.

¹⁷ Similar to the item number 9, item 11 of the TSS was also stated in the questionnaire in an opposite direction, and it was reverse coded and keyed in at the stage of data entry.

3. Mean score is 3.

4. Number in parentheses indicates the % of the responses.

6.7.5 Tax Knowledge

The respondent's knowledge about tax rules and regulations has been assessed through items TK1 to TK6, and descriptive statistics of these six items are presented in table 6.11. Overall, the data depicts a low mean score of 2.54, which shows that the majority of the respondents do not have the proper knowledge regarding tax.

As shown in table 6.11, the data revealed that only around 25% of them have the correct knowledge regarding tax. Items TK1 to TK3 have been added to the questionnaire to assess the respondents' knowledge of taxable income, and the data shows more than half of them have misinformation about it. Surprisingly, around 20% do not have knowledge about taxable income. In addition, items TK4 to TK6 were used to understand the respondents' level of knowledge regarding tax rebates, and the data supports that only one-fourth of them are well informed about it. Specifically, only 24% know that donating to any NBR-enlisted charitable hospital can be claimed as a tax rebate (TK4).

Table 6.11 Descriptive Statistics for Tax Knowledge

Code	Description	M	Std D	MI	UI	WI
TK1	The interest accrued on a savings account is a taxable income.	2.60	1.18	208 (53)	70 (18)	111 (29)
TK2	A medical allowance received from an employer for heart surgery is a taxable income.	2.46	1.21	231 (59)	72 (19)	86 (22)
TK3	Prize money received from an employer is a taxable income.	2.60	1.21	207 (53)	80 (21)	102 (26)

TK4	A donation to the Ahsania Mission Cancer Hospital can be deducted as a tax rebate under the Bangladesh Income Tax Law.	2.58	1.17	208	88	93
				(53)	(23)	(24)
TK5	The deposit of installment to a pension scheme can be deducted as tax rebate under the Bangladesh Income Tax Law.	2.58	1.23	224	51	114
				(58)	(13)	(29)
TK6	The holding tax on a house/property can be deducted as a tax rebate under the Bangladesh Income Tax Law.	2.47	1.21	227	67	95
				(58)	(17)	(25)
Overall		2.54	1.20			

Note: 1. MI= Miss Informed, UI= Uninformed, WI= Well Informed

2. TK= Tax Knowledge.

3. The minimum score is 1 (Strongly Disagree) and maximum score is 5 (Strongly Agree)

4. Mean score is 3.

5. Number in parentheses indicates the % of the responses.

Items TK1 to TK3 have been added to the questionnaire to assess the

6.8 CORRELATION MATRIX

A correlation analysis was conducted to detect the multicollinearity and examine the strength of the relationship between different variables of the study. The findings of the inter-correlation among the different variables were presented in table 6.12.

Table 6.12 Inter-Correlation Matrix

SL	Variables Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Dependent Variable																
1	TCB	1														
Other Variables																
2	QoG_Imp	.314**	1													
3	QoG_Pps	.342**	.831**	1												
4	QoG_Coc	.290**	.809**	.850**	1											
5	QoTS	.289**	.564**	.527**	.535**	1										
5	TSS_Pbd	.307**	.489**	.501**	.492**	.662**	1									
6	TSS_Sp	.401**	.511**	.437**	.421**	.659**	.751**	1								
7	TSS_Tr	.146**	.352**	.358**	.429**	.411**	.490**	.431**	1							
8	TK	.032	-.093	-.052	.068	-.027	-.059	-.034	-.096	1						
9	Gender	.317**	.096	.123*	.116*	.019	.042	.029	-.003	.103*	1					
10	Age	.290**	.024	.018	-.004	.041	.084	.063	-.005	.094	.032	1				
11	Education	.242**	-.032	-.052	-.058	.063	.096	.154**	.027	-.029	-.024	.163**	1			
12	Occupation	-.123*	.052	.080	.082	.063	-.006	.034	.018	.010	-.063	-.071	-.094	1		

13	Income	.364**	.214**	.219**	.226**	.181**	.166**	.121*	.149**	.015	.107*	.264**	.085	-.105* 1
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**Correlation is significant at the 0.01 level (2-tailed)

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



The data indicated the degree of relationship between the variables. TCB, the dependent variable of the study, showed a significant positive correlation with the independent variables, namely QoG_Imp ($r = .314, p < .01$), QoG_PPS ($r = .342, p < .01$), QoG_CoC ($r = .290, p < .01$), QoTS ($r = .289, p < .01$), TSS_PBD ($r = .307, p < .01$), TSS_SP ($r = .401, p < .01$), TSS_TR ($r = .146, p < .01$). In addition, the results also showed a significant correlation between TCB and demographic factors, namely, gender ($r = .317, p < .01$), age ($r = .290, p < .01$), education ($r = .242, p < .05$), occupation ($r = -.123, p < .01$), and income level ($r = .364, p < .01$).

However, the findings of the inter-correlation matrix revealed high correlation among the three dimensions of QoG. Impartiality was highly correlated with PPS ($r = .831, p < .01$) and CoC ($r = .809, p < .01$). Similarly, PPS showed a high correlation with CoC ($r = .850, p < .01$). Furthermore, QoTS depicted a significant positive correlation with impartiality ($r = .564, p < .01$), PPS ($r = .527, p < .01$) and CoC ($r = .535, p < .01$).

In addition, the results of the inter-correlation matrix of tax system structure depicted that one of its dimensions, namely, PBD was highly correlated SP ($r = .751, p < .01$) and moderately correlated with TR ($r = .490, p < .01$). Moreover, the dimension SP showed a moderate correlation with TR ($r = .430, p < .01$).

Among the categorical variables (independent variable of the study), gender showed positive correlation with PPS ($r = .123, p < .05$), CoC ($r = .116, p < .05$) and TK ($r = .103, p < .05$). Furthermore, respondents' level of education also showed positive correlation with SP ($r = .154, p < .05$) and age ($r = .163, p < .01$). Moreover, the respondent's level of income depicted positive correlation with Imp ($r = .214, p < .01$), PPS ($r = .219, p < .01$), CoC ($r = .226, p < .01$), QoTS ($r = .181, p < .01$), PBD ($r = .166, p < .01$), SP ($r = .121, p < .01$) and TR ($r = .149, p < .01$).

However, tax knowledge, the moderating variable of the study, showed a poor correlation with the dependent variable TCB ($r = .032$) and other independent variables Imp ($-.093$), PPS ($-.052$), CoC ($.068$), QoTS ($-.027$), PBD ($-.059$), SP ($-.034$) and TR ($.096$). In addition, some categorical variables also revealed significant correlations among each other; for instance, age was correlated with education ($r = .163, p < .01$) and occupation was correlated with income ($r = -.105, p < .05$).

The results of correlation matrix revealed that some independent variables were highly correlated, which indicates the potential risk of multicollinearity. As mentioned

in the research methodology chapter, correlation coefficient $>.70$ or $>.80$ between two independent variables could be considered as the possible threat for multicollinearity (Hair et al., 2010; Gujarati & Porter, 2009). Senaviratna and Cooray (2019) recommended a few solutions, including the increase of sample size, combining the variables and dropping the highly correlated variables to deal with the multicollinearity problems. As the present study plans to examine the impact of individual effect of IVs towards TCB, therefore, combining the variables would limit the scope of the study. Moreover, considering the time constraints, increasing sample size would not be a feasible option for this research. Therefore, the present study considers removing the highly correlated constructs to reduce the multicollinearity and increase the reliability and clarity of the regression model.

The findings of correlation matrix (presented in table 6.12) depicted that the construct impartiality was highly correlated with provision of public services (.831) and control of corruption (.801). Moreover, the construct provision of public services was also highly correlated with control of corruption (.850). The findings of the above correlation coefficients clearly indicate the potential concern of multicollinearity between impartiality and PPS, impartiality and CoC, and PPS and CoC. Therefore, the constructs impartiality and PPS were excluded from regression analysis.

Moreover, the construct probability of being detected was highly correlated with severity of penalty (.75), which is also an indicative of multicollinearity (Hair et al., 2010). Hence, to minimize the potential risk of redundancy and increase the stability and reliability of the regression model, the construct probability of being detected was removed from further analysis.

Overall, except for the constructs dropped from further analysis, the findings of the inter-correlation matrix support a fair degree of linear relationship exists among the remaining variables of the study. Furthermore, it also supports the non-existence of high correlation between the existing variables.

6.9 FACTOR ANALYSIS

In this study, face validity and content validity were carried out at the pre-testing stage, and it was performed with the help of some subject expert academicians and tax

professionals. In addition to that, EFA was conducted to examine the content validity of the latent variables and similar procedures were followed by other tax compliance studies (Murphy, 2007; Abadele, 2012; Abdullahi, 2017).

6.9.1 Control of Corruption

The initial output of the factor analysis of the CoC revealed that the KMO of sample adequacy was .93, which is greater than the standard (.50), and the Bartlett's Test of Sphericity was significant ($p < .05$). The score of KMO and Bartlett's Test of Sphericity supported that the variable CoC was suitable to run at factor analysis. Furthermore, using the varimax rotation, the result revealed that all items of CoC were extracted under one factor in the principle-component analysis, which explains around 71% of the variance, with the eigenvalue above 1. In addition, the highest and the lowest communality recorded at .785 (CoC7) and .563 (ReCoC4). Therefore, the assumption of the construct validity of the variable CoC may be achieved. Factor analysis for the CoC is presented in table 6.13.

Table 6.13 Factor Analysis for the CoC

Factor	Code	Load	Communal	Total Variance
Factor 1				71.19%
Our government is committed to combating corruption in the public health sector.	CoC1	.862	.743	
Our government is committed to combating corruption in the public education sector.	CoC2	.839	.704	
Our government is committed to combating corruption in the police force.	CoC3	.871	.758	

Factor	Code	Load	Communal	Total Variance
People have to pay extra money to get their due services from the public health sector.	ReCoC4	.751	.563	
The measures that our government has taken to combat corruption in the public education sectors are working effectively.	CoC5	.828	.686	
The measures that our government has taken to combat corruption in the public health sector are working effectively.	CoC6	.856	.733	
The measures that our government has taken to combat corruption in the police force are working effectively.	CoC7	.886	.785	
The Anti-Corruption Commission (ACC) of our country is performing very well to make the country corruption-free.	CoC8	.850	.723	
KMO: .93		Total Variance Explained: 71.19%		
Bartlett's Test of Sphericity: Sig:.000				

6.9.2 The Quality of Online Tax Services

The result of KMO (.877) and the value of Bartlett's Test of Sphericity (.000) indicated that the data collected for the construct QoTS was suitable for factor analysis. All the items were extracted in a single factor aligned with the literature. The factor with the eigenvalue of 3.77 accounted for around 75% of the variance. The commonality of the

items was accounted for within the range from .533 to .714. Furthermore, item QoTS5 had the highest factor loading at .845, and item QoTS2 had the lowest at .730. Overall, the outcome of the factor analysis supported the minimum criteria, and it can be said that the construction validity was achieved. Results of factor analysis for the QoTS are presented in table 6.14.

Table 6.14 Factor Analysis for the QoTS

Factor	Code	Load	Communal	Total Variance
Factor 1				75.44%
The NBR has a very useful and informative website.	QoTS1	.770	.593	
I can get the necessary and updated information from the NBR's website.	QoTS2	.730	.533	
I can easily submit my tax return through e-filing of NBR.	QoTS3	.766	.587	
I can easily pay the tax amount through e-payment of NBR.	QoTS4	.767	.588	
The NBR provides user-friendly online services.	QoTS5	.845	.714	
KMO: .877		Total Variance Explained: 75.44%		
Bartlett's Test of Sphericity: Sig:.000				

6.9.3 Severity of Penalty

The KMO and the value of Bartlett's Test of Sphericity for the construct SP were accounted at .830 and .001 respectively, which supported the fact that the data collected for the construct was suitable for factor analysis. Moreover, all the items of the construct

SP extracted into one factor covering around 78% of the variance with the eigenvalue 3.10.

The analysis also revealed the commonality of all items was within the range of .716 to .802, which supported the standard (Communality>.50). Item SP3 had the highest loading factor (.896). In contrast, item SP1 had the lowest (.846). Overall, from the outcomes of the factor analysis, it can be concluded that the construct SP had achieved the assumption of construct validity. Results of factor analysis for SP are presented in table 6.15.

Table 6.15 Factor Analysis for the SP

Factor	Code	Load	Communal	Total Variance
Factor 1				77.56%
Mr. 'A' needs to pay the tax that he owes, together with interest on it.	SP1	.846	.716	
Mr. 'A' has to give a larger amount of penalty compared to the amount of tax saving due to not complying with the tax law	SP2	.886	.785	
Mr. 'A' has to face legal charges in the relevant court.	SP3	.896	.802	
The tax authority in my country practices serious enforcement and a larger amount of penalty to deter tax non-compliance.	SP4	.895	.800	
KMO: .830		Total Variance Explained: 77.56%		
Bartlett's Test of Sphericity: Sig:.001				

6.9.4 Tax Rate

The value of KMO and Bartlett's Test of Sphericity for the variable TR accounted for .530 and .001 respectively, and this result supports that the data collected for the construct were suitable to run in the factor analysis. Moreover, the findings revealed that all the items of the construct were extracted in two factors with an eigenvalue greater than 1, where the variance accounted for factors one (46.58) and two (33.29) respectively. However, two factors extracted in the factor analysis was slightly differ from the findings of the literature, as a single factor was mentioned in the literature to explain the construct TR. Alabede (2012) opined that in social science research, the outcome or findings may vary in response to the variation of research context and situation.

This study considered TR as a whole scale, and two factors extracted in the factor analysis were summated to get the total scale. In addition, all four items of the single dimension of tax rate were retained with two new factors, and due to this, it can be assumed that the construct TR maintained a fair representation of the literature findings.

The findings of the factor analysis also revealed that the minimum and the maximum value of communality accounted for .754 (TR2) and .823 (TR3), respectively, and all the items were loaded in between the range of .842 to .907 in factor loading. Overall, the factor analysis outcome supports that the construct validity assumption was attained for the construct TR. Results of factor analysis for TR is presented in table 6.16.

Table 6.16 Factor Analysis for the TR

Factor	Code	Load	Communal	Total Variance
Factor 1				46.58%
Under the existing tax laws of the country, I believe the burden of income tax is fairly distributed.	TR1	.729	.828	

Factor	Code	Load	Communal	Total Variance
The NBR practices a progressive tax rate.	TR3	.796	.754	
Factor 2				33.29%
Wealthy classes in my country are not paying fair amount of tax in against their income.	ReTR2	.842	.825	
Tax rebate has not been allocated fairly in the tax system of my country.	ReTR4	.886	.788	
KMO: .530		Total Variance Explained: 79.88%		
Bartlett's Test of Sphericity: Sig:.001				

6.9.5 Tax Knowledge

The result of KMO (.879) and the value of Bartlett's Test of Sphericity (.000) of the construct supported that the collected data of the construct tax knowledge were suitable for the factor analysis. Furthermore, the output of factor analysis revealed that all items of the construct were extracted in a single factor. With an eigenvalue of 3.60, this factor accounted for 61% of the variance.

In addition, the results also expressed that the highest communality accounted for the items TK1 (.718) and the lowest for the items TK4 (.517). Regarding the factor loading, item TK1 had the highest value (.848), whereas item TK4 had the lowest value (.719). Overall, the findings of the factor analysis met the minimum standard of construct validation, and on that basis, it can be assumed that the construct validity of the latent variable was achieved. Results of factor analysis for tax knowledge is presented in table 6.17.

Table 6.17 Factor Analysis for Tax Knowledge

Factor	Code	Load	Communal	Total Variance
Factor 1				60.12%
The interest accrued on a savings account is a taxable income.	TK1	.848	.718	
A medical allowance received from an employer for heart surgery is a taxable income.	TK2	.721	.519	
Prize money received from an employer is a taxable income.	TK3	.786	.617	
A donation made to the Ahsania Mission Cancer Hospital could be claimed for a tax rebate.	TK4	.719	.517	
The deposit of installment to a pension scheme could be claimed for a tax rebate.	TK5	.820	.673	
The holding tax of a house/ property could be claimed for a tax rebate.	TK6	.750	.562	
KMO: .879			Total Variance Explained: 60.12%	
Bartlett's Test of Sphericity: Sig: .000				

6.9.6 Tax Compliance Behavior

The initial output of the factor analysis of TCB revealed that the KMO of sample adequacy was .879, which is greater than the standard (.50), and the Bartlett's Test of Sphericity was .000. The score of KMO and Bartlett's Test of Sphericity supported that

the variable QoG was suitable to run at factor analysis. Furthermore, using the varimax rotation, the result revealed that two factors were extracted in the principle-component analysis; however, in the literature, a single factor was found to explain the variable TCB. Alabede (2012) supported this type of variation in social science research as the outcome or findings may vary in response to the research context and situation changes.

The two extracted factors explain around 60% of the variance, with the eigenvalue above 1 and the highest and lowest communality recorded at .853 and .500, respectively. The items were loaded within the range of .632 (TCB6) to .917 (TCB3). Overall, the outcome of the factor analysis of the TCB met the minimum criteria to support the construct validity. Therefore, the assumption of the construct validity of the variable TCB may be achieved.

This study considered tax compliance behavior as a whole scale, and two factors extracted in the factor analysis were summated to get the total scale. In addition, all six items of the single dimension of tax compliance behavior were retained with two new factors, and due to this, it can be assumed that the construct TCB maintained a fair representation of the literature findings. Results of factor analysis for TCB are presented in table 6.18.

Table 6.18 Factor Analysis for the TCB

Factor	Code	Load	Communal	Total Variance
Factor 1				41.22%
Source of incomes that need to report in the tax return	TCB1	.836	.728	
Source of expenses that need to report in the tax return	TCB2	.804	.663	
The total amount of taxable income that need to report in the tax return	TCB5	.858	.738	

Factor	Code	Load	Communal	Total Variance
How many days after the fiscal year does someone need to submit the tax return	TCB6	.632	.500	
Factor 2				29.49%
Tax return filing	TCB3	.917	.853	
Tax payment	TCB4	.883	.802	
KMO: .879		Total Variance Explained: 60.12%		
Bartlett's Test of Sphericity: Sig:.000				

6.10 MULTIPLE REGRESSIONS

This study employed multiple regression techniques to achieve the RO1, RO2 (partly) and RO3. The multiple regression analysis employed to identify the relationship between tax compliance behavior and its determinants. Furthermore, multiple regression analysis was also done to examine the moderating role of tax knowledge on the determinants of TCB.

6.10.1 Assumptions of Multiple Regressions

This study considered checking the assumptions of multiple regressions before conducting the main analysis. For this purpose, the fundamental assumptions of multiple regression presented by Coakes and Ong (2011) and Pallant (2020) were considered. Meyer et al. (2006) asserted that assuring the fulfilment of the assumptions of multiple regressions is crucial for the research, as violating one or more assumptions may ruin the outcome of the research. The main assumptions of multiple regressions to employ in this study are discussed below.

6.10.1.1 Sample Size

The appropriate sample size is the very crucial assumption of multiple regressions, as the generalization of research findings largely depends on it. Small or inappropriate sample size may distort the novelty of research outcomes. Hair et al. (2010) proposed a rule of thumb to identify the adequacy of sample size, which stated a minimum ratio of five cases for each independent variable (5:1) and the optimum level of 15 to 20 cases for each independent variable.

This study has five independent variables; according to the rule of thumb presented by Hair et al. (2010), the optimum sample size should be $(5 \times 15) 75$. This study, however, has a sample size of 389, which is more than six times the optimum sample size of 75.

However, Tabachnick and Fidell (2007) presented another formula to determine the desired sample size to meet the assumption of the multiple regressions, where they mentioned the sample size should be $N > 50 + 8M$; in this case, M represents the number of independent variables. According to this theory, the optimum sample size for this study is $(N > 50 + 8 \times 5) 90$. Considering this formula to determine the appropriate sample size, this study has a sufficient number of samples to run the multiple regression.

6.10.1.2 Multivariate Normality

Multivariate Normality is one of the assumptions of multiple regression analysis, and it can be done through statistical and graphical ways. In statistical methods, normality is assessed by considering the skewness and kurtosis of the variables. Meyer et al. (2006) opined that normality could be assumed if the score of skewness and kurtosis do not cross ± 1 . However, according to Hair et al. (2010), the critical value should be ± 1.96 (for a 0.5 significant level) and ± 2.58 (for a 0.01 significant level) to assess the normality. Moreover, to examine normality, graphical methods were also used in the prior literature, and the most common method was the normal probability plot. Normality is assumed in the graphical method if the data distribution follows the diagonal line (Hair et al. 2010).

According to the recommendation of Meyer et al. (2006), this study adopted both statistical and graphical methods to assess the normality of the data. The result of

the statistical method presented in table 6.19 shows that the skewness and kurtosis of the continuous variables of the study are between ± 1.96 , which indicates that the normality of the data was assumed. In addition, the normality plots were also considered (depicted in appendix C), and the outcome documented that the data distribution somewhat followed the diagonal line, as Hair et al. (2010) suggested. Thus, the analytical findings and graphical presentations supported that the normality of the data of the present study was assumed.

Table 6.19 Testing of Normality

Variable	Statistics			
	Mean	Std. Deviation	Skewness	Kurtosis
Tax Compliance Behavior	1.93	0.53	0.61	-0.46
Control of Corruption	2.21	0.98	0.84	-0.49
The Quality of Online Tax Services	2.88	1.11	0.09	-1.51
Severity of Penalty	2.80	1.08	0.01	-1.21
Tax Rate	2.42	0.65	0.12	-0.46
Tax Knowledge	2.55	0.93	0.45	-1.31

6.10.1.3 Linearity

One of the assumptions of multiple regression analysis is that the constructs in the analysis need to be correlated in a linear pattern (Mayer et al., 2006). According to Hair et al. (2010) and Mayer et al. (2006), a scatter plot is considered generally to measure the linear relationship between the variables. In addition to a graphical presentation to check the linearity, Pearson correlation coefficients can also be utilized to examine the linear relationship between two variables (Hair et al., 2010; Mayer et al., 2006).

This study took into consideration the graphical and statistical results to assess the linearity. Mayer et al. (2006) opined that in the case of a linear relationship between two variables, the scatter plot will be depicted as an oval shape, and the peak of the shape will be neither too peaked nor too flat. The matrix scatter plot of the study (presented in appendix C) depicted a fair oval shape, and it supported the fact that a linear relationship between the variables exists. Moreover, the correlation matrix of the study presented in table 6.12 also confirmed the fair linear correlation among the existing variables.

6.10.1.4 Homoscedasticity

The assumption of homoscedasticity in multiple regression analyzes represents that the residuals or the error terms are equally distributed, and the violation of the assumption of homoscedasticity refers to the fact that the residuals or the error terms are clustered at some points (Coakes & Ong, 2011). The most common way to graphically examine the assumption of homoscedasticity is by considering the residual scatter plot (Coakes & Ong, 2011; Pallant, 2020). The residual scatter plot (presented in appendix C) supports that the residuals or the error terms of the data are not clustered at any specific value, and the assumption of homoscedasticity was assumed.

6.10.1.5 Multicollinearity

The last but most crucial assumption of employing multiple regression analysis is to check the multicollinearity among the independent variables. Multicollinearity can be found in the data if a high correlation exists among the independent variables; in those cases, the predictive capacity of the individual variables is reduced (Pallant, 2020). The correlation matrix of this study is presented in table 6.12, where the outcomes revealed the presence of multicollinearity among some of the independent variables. Therefore, the variables impartiality, provision of public services and probability of being detected were dropped from the regression model. In addition, the results of the correlation matrix supported that all the remaining independent variables were free from the potential risk of multicollinearity.

In addition, Hair et al. (2010) asserted that multicollinearity among multiple variables can be examined by observing the tolerance value and variance inflation factor (VIF). The benchmark for tolerance value is .10, and for the VIF is 5 or 10, and any score within this threshold is acceptable and can be treated as no multicollinearity (Hair et al., 2010). In this study, tolerance and VIF were calculated separately for the main and moderating effects, as Alabede (2012) recommended.

The value of tolerance and VIF for the variables in the main effect was presented in table 6.20. The outcome shows that the value of tolerance and VIF for all independent variables were less than .10 and 10, respectively, and the results supported the fact that multicollinearity did not prevail in the main effect.

Moreover, this study also examined the presence of multicollinearity in the interacting effect of the variables. The results (presented in table 6.21) supported that multicollinearity did not contribute any issue to the variables in the moderating effect.

Table 6.20 Assessing Multicollinearity for the Main Effect

Variable	Tolerance	Variance Inflation Factor (VIF)
Control of Corruption	.615	1.625
The Quality of Online Tax Services	.478	2.094
Severity of Penalty	.517	1.933
Tax Rate	.728	1.373
Gender	.969	1.033
Age	.905	1.105
Level of Education	.929	1.077
Level of Income	.961	1.041
Occupation	.858	1.166

Table 6.21 Assessing Multicollinearity for the Moderating Effect of Tax Knowledge

Variable	Tolerance	Variance Inflation Factor (VIF)
Control of Corruption X Tax Knowledge	.632	1.582
The Quality of Online Services X Tax Knowledge	.441	2.266
Severity of Penalty X Tax Knowledge	.484	2.066
Tax Rate X Tax Knowledge	.727	1.376

6.10.2 Regression Models

The study examines the effect of the dimensions of QoG, QoTS, dimensions of TSS and demographic factors on TCB. Moreover, it also assesses the moderating role of tax knowledge on the relationship between TCB and its determinants (dimensions of QoG, QoTS and dimensions of TSS). The QoG and TSS have three dimensions each, and the objective of the study is to examine the effect of each dimension of QoG and TSS towards TCB. However, as presented in table 6.12, due to multicollinearity issues, two dimensions of QoG (impartiality and PBD) have been dropped from the regression model. Similarly, PBD, one of the dimensions of TSS has been removed from the regression model. Therefore, the remaining independent variables (CoC, QoTS, SP, TR and demographic factors) have been included in the regression models.

To address the analytical procedures of moderation in the regression model, Sharma, Durand and Gur-Arie (1981) recommended a multi-stage hierarchical regression process, and a similar step process was also suggested by Hair et al. (2010). This study considered the recommendations of Sharma et al. (1981) to run the regression model. Prior tax compliance studies also followed similar procedures to examine the moderating effects (Alabede, 2012; Loo et al., 2009; Murphy, 2007; Wenzel, 2004).

In the initial step, the dependent variable of the study, TCB, and the independent variables, namely, CoC, SP, TR and demographic factors were entered into the model. The primary purpose of this model was to assess the main effect of the independent variables and their predictive capacity to explain the dependent variable. In addition, this step was conducted to fulfil the first two objectives (RO1 and part of RO2) of the study. Moreover, the outcomes of the multiple regression analysis of the first model were also used to validate the hypotheses H1c, H2, H3b, H3c, H4, H5, H6, H7, and H8. Regression model 1 is presented below.

$$Y \text{ Tax Compliance Behavior} = \beta_0 + \beta_1 \text{ Control of Corruption} + \beta_2 \text{ The Quality of Online Tax Services} + \beta_3 \text{ Severity of Penalty} + \beta_4 \text{ Tax Rate} + \beta_5 \text{ Gender} + \beta_6 \text{ Age} + \beta_7 \text{ Level of Education} + \beta_8 \text{ Level of Income} + \beta_9 \text{ Occupation} + e \dots \dots \dots \text{Model 1}$$

In the model *Y* represents the dependent or criterion variable, β_0 represents the intercept, β_{1-9} are the beta coefficients and *e* represents the error terms.

In the second step, the moderating variable of the study, tax knowledge, was entered into the model, which is presented below.

$$Y \text{ Tax Compliance Behavior} = \beta_0 + \beta_1 \text{ Control of Corruption} + \beta_2 \text{ The Quality of Online Tax Services} + \beta_3 \text{ Severity of Penalty} + \beta_4 \text{ Tax Rate} + \beta_5 \text{ Gender} + \beta_6 \text{ Age} + \beta_7 \text{ Level of Education} + \beta_8 \text{ Level of Income} + \beta_9 \text{ Occupation} + \beta_{10} \text{ Tax Knowledge} + e \dots \dots \dots \text{Model 2}$$

In the model *Y* represents the dependent or criterion variable, β_0 represents the intercept, β_{1-10} are the beta coefficients and *e* represents the error terms.

In the third step, the interaction term of moderating variable with selected independent variables, namely, CoC, QoTS, SP and TR were entered into the model. Model 3 was prepared in order to meet the third objective (RO3) of the study. Furthermore, the statistical outcomes of the model were utilized to test the hypothesis H1f, H2a, H3e and H3f. The multiple regression model that examines the moderating role of tax knowledge is presented below.

$$Y \text{ Tax Compliance Behavior} = \beta_0 + \beta_1 \text{ Control of Corruption} + \beta_2 \text{ The Quality of Online Tax Services} + \beta_3 \text{ Severity of Penalty} + \beta_4 \text{ Tax Rate} + \beta_5 \text{ Gender} + \beta_6 \text{ Age} + \beta_7 \text{ Level of Education} + \beta_8 \text{ Level of Income} + \beta_9 \text{ Occupation} + \beta_{10} \text{ Tax Knowledge} + \beta_{11} \text{ Control of Corruption} * \text{Tax Knowledge} + \beta_{12} \text{ Quality of Online Tax Services} * \text{Tax Knowledge} +$$

$$\beta_{13} \text{ Severity of Penalty*Tax Knowledge} + \beta_{14} \text{ Tax Rate*Tax Knowledge} + e \dots \text{Model 3}$$

In this model Y represents the dependent or criterion variable, β_0 represents the intercept, β_{1-14} are the beta coefficients and e represents the error terms.

6.10.3 Results of the Multiple Regression Analysis

This study adopted a multi-stages hierarchical regression process as recommended by Sharma et al. (1981). Accordingly, three multiple linear regression models were developed. The outcomes of the regression models are presented in the following sections. Initially, the main effect of predictor or the independent variables on the dependent variable were determined in model 1. The outcomes are presented in table 6.22.

Table 6.22 Summary of Regression Model 1

Model	R ²	Adjusted R ²	Change R ²	Df	F value	P Value
1	.384	.369	.384	9(379)	26.20	<.001***

- a. Predictors (Constant): CoC, QoTS, SP, TR, Gender, Age, Level of education, Level of income, Occupation.
- b. Dependent Variable: TCB

In this model, the dependent variable TCB was regressed on the independent variables, namely CoC, QoTS, SP, TRR and demographic factors (gender, age, level of education, level of income and occupation). The findings indicated that the independent variables significantly predict the TCB, $df(9, 379)$, $F= 26.20$, $p<.001$. which can be concluded that the independent variables of the study have significant impact on TCB. Moreover, the adjusted $R^2 = .369$ depicts that this model explains the 36.9% variance of TCB.

On the individual contribution of independent variable (presented in table 6.23), seven variables, the CoC, SP, gender, age, level of education, level of income and

occupation made a significant contribution to model 1 while the contribution of QoTS and TR was found not significant. The results of the model 1 indicates that the CoC ($\beta=.131$; $p<.01$), SP ($\beta=.316$; $p<.01$), gender ($\beta=.263$; $p<.01$), age ($\beta=.132$; $p<.01$), level of education ($\beta=.135$; $p<.01$), level of income ($\beta=.185$; $p<.01$) and occupation ($\beta=-.078$; $p<.10$) were significantly associated with TCB.

Table 6.23 Regression Summary of Predicting Variables of Model 1

Model	Variable	Beta	T	P Value
1	CoC	.131	2.543	.011**
	QoTS	-.007	-.114	.909
	SP	.316	5.638	<.001***
	TR	-.021	-.514	.608
	Gender	.263	6.411	<.001***
	Age	.132	3.124	.002***
	Level of education	.135	3.216	<.001***
	Level of income	.185	4.253	<.001***
	Occupation	-.078	-1.896	.059*

Note: Significant Levels are *** $p<.01$, ** $p<.05$, * $p<.10$

In addition, the moderating variable, TK was included in model 2 as a predicting variable. Similar to model 1, the dependent variable was regressed on the independent variables. The findings indicated that the independent variables significantly predict the TCB, $df(10, 378)$, $F=23.56$, $p<.001$, which can be concluded that the independent variables of the study have significant impact on TCB. Moreover, the adjusted $R^2 = .368$ depicts that this model explains the 36.8% variance of TCB. Summary of the regression model 2 presented in table 6.24.

Table 6.24 Summary of Regression Model 2

Model	R ²	Adjusted R ²	Change R ²	Df	F value	P Value
2	.384	.368	.384	10(378)	23.56	<.001***

a. Predictors (Constant): CoC, QoTS, SP, TR, TK, Gender, Age, Level of education, Level of income, Occupation, TK.

b. Dependent Variable: TCB

On the individual contribution of the independent variable (presented in table 6.25), the regression model 1, the CoC, SP, gender, age, level of education, level of income and occupation made a significant contribution to model 2. However, the contribution of QoTS and TK in the model was insignificant. In addition, the adjusted R² of model 1 (.369) and model 2 (.368) depict marginal changes, indicating that including TK as an independent variable in the regression model does not affect the TCB. The individual contributions of predicting variables are presented in table 6.25.

Table 6.25 Regression Summary of Predicting Variables of Model 2

Model	Variable	Beta	T	P Value
2	CoC	.130	2.518	.012**
	QoTS	-.008	-.143	.886
	SP	.316	5.633	<.001***
	TR	.024	-.503	.615
	TK	-.021	-.500	.617
	Gender	.265	6.421	<.001***
	Age	.135	3.155	.002***
	Level of education	.134	3.190	<.002***

Level of income	.185	4.252	<.001***
Occupation	-.077	-1.878	.061*

Note: Significant Levels are *** p<.01, ** p<.05, * p<.10

In model 3, the interacting effects of moderating variables along with independent variables, namely, CoC, QoTS, SP and TR were entered into the regression model. The dependent variable was regressed into the independent variables and the product terms of selected independent and moderating variables. The findings indicated that the model significantly predicts the TCB, $df(14, 374)$, $F= 18.09$, $p<.001$. It can be concluded that the independent variables and the interacting terms of the moderator and selected independent variables of the study significantly impact TCB. Moreover, the adjusted $R^2 = .381$ depicts that this model explains the 38% variance of TCB. Summary of regression model 3 is presented in table 6.26.

Table 6.26 Summary of Regression Model 3

Model	R ²	Adjusted R ²	Change R ²	Df	F value	P Value
3	.404	.381	.404	14(374)	18.09	<.001***

- a. Predictors (Constant): CoC, QoTS, SP, TR, TK, Gender, Age, Level of education, Level of income, Occupation, CoC*TK, QoTS*TK, SP*TK, TR*TK.
- b. Dependent Variable: TCB

The individual contribution of the predictors in model 3 is presented in table 6.27. The results depict that CoC ($\beta=.120$; $p<.05$), SP ($\beta=.308$; $p<.01$), gender ($\beta=.262$; $p<.01$), age ($\beta=.126$; $p<.01$), level of education ($\beta=.141$; $p<.01$), level of income ($\beta=.185$; $p<.01$) and occupation ($\beta=-.069$; $p<.10$) were significantly related with TCB. In addition, for the moderating effect, the findings revealed that tax knowledge moderated the relationship between CoC and TCB significantly but in a negative direction ($\beta= -.154$; $p<.01$). Furthermore, tax knowledge also played a significant

positive role in the relationship between SP and TCB ($\beta=.114$; $p<.05$). However, the result further depicted that tax knowledge does not have any significant moderating role in the relationship between QoTS and TCB and TR and TCB.

Table 6.27 Regression Summary of Predicting Variables of Model 3

Model	Variable	Beta	T	P Value
3	CoC	.120	2.332	.020**
	QoTS	.004	.076	.939
	SP	.308	5.542	<.001***
	TR	-.034	-.729	.466
	TK	-.014	-.333	.739
	Gender	.262	6.356	<.001***
	Age	.126	2.990	.003***
	Level of education	.141	3.380	<.001***
	Level of income	.185	4.261	<.001***
	Occupation	-.069	-1.698	.090*
	CoC*TK	-.154	-3.066	.002***
	QoTS*TK	-.007	-.110	.912
	SP*TK	.114	1.978	.049**
	TR*TK	-.004	-.093	.926

Note: Significant Levels are *** $p<.01$, ** $p<.05$, * $p<.10$

6.11 CROSS TABULATION: DEMOGRAPHIC FACTORS AND TAX COMPLIANCE BEHAVIOR

Demographic characteristics are an important way to understand the behavior of the respondents (Devos, 2003; Torgler, 2007). Hence, cross-tabulation between demographic factors and tax compliance behavior was conducted to focus more on the overall tax compliance behavior of the respondents and to achieve part of RO2 of the study.

6.11.1 Gender and TCB

Cross-tabulation of gender and tax compliance, as documented in table 6.28, shows that females are more compliant than their counterparts. The data reveals that 53% of the female respondents are fully compliant, and the rest, 47%, do not fully comply with the tax rules and regulations. Meanwhile, the complaint and non-compliant percentages for the males are 29 and 71, respectively. Empirical findings of the prior studies are also in line with the data of this study that females are comparatively more compliant than males (D'attoma et al., 2017; Kastlunger et al., 2010; Palil, 2010; Manaf, 2004).

Table 6.28 Cross Tabulation: Gender and TCB

	Gender			
	Male		Female	
	Frequency	Percentage	Frequency	Percentage
Somewhat Compliant	131	46	32	31
Moderately Compliant	71	25	16	16
Fully Compliant	84	29	55	53
Total	286		103	

Note: 1. The percentage was rounded to the nearest whole number.

6.11.2 Age and TCB

Cross tabulation of the age of the respondents and tax compliance is presented in table 6.29, and the data shows that 81% of the respondents from the young age group do not comply fully, and only 19% of them act according to the tax rules. Furthermore, for the middle age group, the percentage of fully compliant respondents is 41%, which is higher than that of young respondents. In addition, older people are more compliant than middle-aged and young people. 45% of the respondents whose ages are above 50 comply fully with tax rules and regulations.

Table 6.29 Cross Tabulation: Age and TCB

	Age*					
	Young Age		Middle Age		Older Age	
	F	P	F	P	F	P
Somewhat Compliant	53	54	101	38	10	34
Moderately Compliant	26	27	54	21	6	21
Compliant	18	19	108	41	13	45
Total	97		263		29	

Note: 1. F= Frequency; P= Percentage

2. The percentage was rounded to the nearest whole number.

3. Young age (18-30 years), Middle age (31-50 years), Older age (above 50 years).

Prior studies also suggest that older people tend to be more compliant than young people (Hofmann et al., 2017; Antwi et al., 2015; Palil, 2010), which is reflected in the findings of the cross-tabulation between age and tax compliance of this study.

6.11.3 Level of Education and TCB

A cross-tabulation of respondents' levels of education and tax compliance behavior is depicted in table 6.30, and the data revealed that respondents with lower educational degrees are less compliant than those with higher educational backgrounds. Respondents with the highest educational degree to HSC or Diploma comply with the tax laws at 24%, and the rest, 76% of this group, do not comply fully. However, the percentage of fully compliant middle and higher-qualified respondents in terms of having academic degrees is 30% and 43%, respectively, which means that more academically qualified respondents are more compliant. The findings align with the prior empirical findings (Kwok et al., 2018; Kurniawan, 2020). However, the data shows, as depicted in table 6.13, more than 55% of the respondents from all educational backgrounds are non-compliant.

Table 6.30 Cross Tabulation: Education Level and TCB

	Level of Education*					
	Low		Medium		High	
	F	P	F	P	F	P
Somewhat Compliant	40	49	47	45	76	37
Moderately Compliant	22	27	25	25	40	20
Compliant	20	24	31	30	88	43
Total	82		102		205	

Note: 1. F= Frequency; P= Percentage

2. The percentage was rounded to the nearest whole number.

3. Level of education categorized as low (HSC/Diploma), medium (Bachelor) and high (Master)

6.11.4 Level of Income and TCB

A comparison of respondent's tax compliance behavior on the basis of their level of income is presented in table 6.31, and the data revealed that 28% of the respondents from the low-income group are fully compliant, whereas the rest 72% are non-compliant. A higher number of respondents from the middle-income earners group complied fully with the tax laws (46%) compared to the low-income earners group. However, 76% of the respondents from the higher income earners group complied fully with tax laws, which is the highest among all groups, and it supports the finding of the prior literature that the higher income earners are more complied than the low-income earners (Alm, 2019; Palil, 2010; Manaf, 2004).

Table 6.31 Cross Tabulation: Income and TCB

	Income level*					
	Low-Income		Middle-Income		High-Income	
	F	P	F	P	F	P
Somewhat Compliant	120	48	42	35	2	12
Moderately Compliant	61	24	22	19	2	12
Compliant	72	28	55	46	13	76
Total	253		119		17	

Note: 1. F= Frequency; P= Percentage

2. The percentage was rounded to the nearest whole number.

3. Level of income is categorized as low (BDT 25,000-50,000 per month), middle (BDT 50,001-100,000 per month) and high (above BDT 100,000 per month).

6.11.5 Occupation and TCB

Cross tabulation between occupation and tax compliance is presented in table 6.32. The table shows that 47% of the government service holders comply fully and the rest (53%) of them do not act in accordance to the tax laws. For the private service holders, 29% of the respondents from this group complied fully whereas 71% from the same group complied a little or moderately and were considered non-compliant. As long as the self-employed respondents are concerned, the data showed 34% of them comply fully and the remaining 66% do not comply completely.

However, the data revealed that government employees are comparatively more compliant than the private service holders and self-employed individuals, which is consistent with the study of Alm (2019) and Alabede, (2014).

Table 6.32 Cross Tabulation: Occupation and TCB

	Occupation					
	Govt. service		Private sector		Self-Employed	
	F	P	F	P	F	P
Somewhat Compliant	35	33	76	48	51	41
Moderately Compliant	21	20	36	23	31	25
Compliant	49	47	47	29	43	34
Total	105		159		125	

Note: 1. F= Frequency; P= Percentage

2. The percentage was rounded to the nearest whole number.

6.12 INDEPENDENT SAMPLE T-TEST AND ONE-WAY ANOVA

This study considered the use of independent sample t-test and one way ANOVA to examine the difference in TCB in accordance with the change of demographic characteristics of the respondents. These statistical analyses were carried out to obtain the research objective RO2 of the study. Independent sample t-test was performed for the demographic factors which has two groups, and one-way ANOVA was carried out for more than two groups.

6.12.1 Gender and TCB

In this study, an independent sample t-test was conducted to compare the TCB of the respondents according to their gender. The data revealed the mean for males and females was 1.83 and 2.22 respectively, which indicates that females were comparatively more compliant than their counterparts. In addition, the p-value of the Levene's test for equity variances was .001($p < .01$), which is considered as equal variance was not assumed. Furthermore, the p-value of independent sample t-test was .001($p < .01$), which indicates a significant difference in terms compliance behavior exists between male and female taxpayers in Bangladesh. The output of the independent sample t-test is presented in table 6.33.

Table 6.33 Differences in TCB between Male and Female

		Levene's Test for Equality of Variances			Independent t-test
		Mean	SD	F	Sig
TCB	Male	1.838	.452	50.863	<.001***
	Female	2.22	.649		

Note: ***Significance at 99% confidence level

6.12.2 Age and TCB

In this study, the age of the respondents has been categorized into three groups: young, middle, and older. The ANOVA results suggest that the TCB differs significantly between different groups of age ($df = 2,386$; $F=20.94$; $p<.01$). As the Levene's statistics were significant ($p<.001$), the equal variance was considered as not assumed. Therefore, Pallant (2020) recommended to run robust test of equality of means in a situation where Levene's statistics found to be significant, and the assumption of equal variance has been violated. This test is done to reconfirm the findings of Levene's test. Accordingly, Pallant (2020) suggests considering the results of Welch test and Brown-Forsythe test before making the decision regarding the violation of homogeneity of variance. This study followed the recommendations of Pallant (2020), and the results of Welch test and Brown-Forsythe test showed that mean of TCB differs significantly ($p<.001$ for both tests) across the different age of the respondents. Hence, the results indicated that equal variance was not assumed and there is significant difference in TCB in accordance with the change of age.

Furthermore, post-hoc comparison was assessed using Dunnett's T3 method to check the individual differences between groups. The results indicated that the mean score of young age ($M=1.65$; $SD=.362$) was significantly different from middle age ($M=2.03$; $SD=.554$) and old age ($M=2.09$; $SD=.541$). The mean differences were significant at the .01 level. However, the result also revealed no significant difference between middle and old age. The output of one-way ANOVA regarding age and TCB is presented in table 6.34.

Table 6.34 One Way ANOVA Results regarding Age and TCB

Test of Homogeneity of ANOVA Variances						
Age Groups	Mean	Std. Deviation	Levene's Statistics	Sig.	F	Sig
Young	1.65	.362	12.75	<.001	20.94	<.001***
Middle	2.03	.554				

Older 2.09 .541

Robust Test of Equality of Means

	Statistic^a	df1	df2	Sig.
Welch	31.064	2	74.287	<.001***
Brown-Forsythe	23.466	2	79.807	<.001***

Group Differences				
Age Groups	Mean Differences	Sig	95% Confidence Interval (LL-UL)	
Young-Middle	-.379	<.001***	-.500	-.258
Young-Older	-.452	<.001***	-.719	-.184
Middle-Older	-.072	.871	-.338	.193

Note: 1. LL- Lower level; UL- Upper level.

2. ***Significance at 99% confidence level

3. ^a Asymptotically F distributed.

6.12.3 Level of Education and TCB

The respondents' education level has been categorized into three groups: low, medium, and high. The ANOVA results suggested that the TCB differs significantly between different levels of education status of the respondents (df = 2,386; F=12.86; p<.01). Since the Levene's statistics were significant (p<.01), that provide evidence that equal variance was not assumed. Furthermore, the Welch test and Brown-Forsythe test were

significant at ($p < .001$), which also suggested that there is significant difference in TCB across the different educational backgrounds of the taxpayers.

In addition, a post-hoc comparison was conducted using Dunnett's T3 method to check the individual differences between groups. The results indicated that the mean score for the low level of education ($M=1.75$; $SD=.416$) was significantly different from the high level of education ($M=2.06$; $SD=.551$), and the mean score for the medium level of education ($M=1.84$; $SD=.540$) was significantly different from the high level of education ($M=2.06$; $SD=.551$). The mean difference was significant at the .01 level. However, the result also indicated no significant difference between low level of education and medium level of education. The output of one-way ANOVA regarding level of education of the taxpayers and TCB is presented in table 6.35.

Table 6.35 One Way ANOVA Results Regarding Level of Education and TCB

		Test of Homogeneity of Variances					
Level of Education	Mean	Std. Deviation	Levene's Statistics	Sig.	F	Sig.	
Low	1.75	.416	6.02	.003	12.63	<.001***	
Medium	1.84	.540					
High	2.06	.551					

Robust Test of Equality of Means				
	Statistic^a	df1	df2	Sig.
Welch	14.391	2	205.20	<.001***
Brown-Forsythe	13.930	2	313.32	<.001***

		Group Differences		
Age Groups	Mean Differences	Sig	95% Confidence Interval (LL-UL)	
Low-High	-.379	<.001***	-.454	-.165
Medium-High	-.452	<.001***	-.378	-.062
Low-Medium	-.072	.871	-.259	.078

Note: 1. LL- Lower level; UL- Upper level

2. ***Significance at 99% confidence level

3. ^a Asymptotically F distributed.

6.12.4 Level of Income and TCB

The respondents' income level has been categorized into three groups: low level, medium level, and high level. The ANOVA results suggested that the TCB differs significantly between different levels of income status of the respondents ($df = 2,386$; $F=30.51$; $p<.01$). The Levene's statistics result were found significant ($p<.001$), and it indicated that the equal variance was not assumed. Moreover, the study considers the results of Welch test and Brown-Forsythe test to further check the assumption of equal variance, and the results (both tests were significant at $p<.001$) also suggest that equal variance was not assumed and TCB differs significantly across the taxpayers with different income levels.

Moreover, a post-hoc comparison was conducted using Dunnett's T3 method to examine the individual differences between groups. The results indicated that the mean score of low level of income ($M=1.81$; $SD=.456$) was significantly different from the medium level of income ($M=2.11$; $SD=.597$), high level of income ($M=2.62$; $SD=.416$). In addition, the mean score of the medium-income level ($M=2.11$; $SD=.597$) was also significantly different from the high-income level ($M=2.62$; $SD=.416$). The mean

differences were significant at the .01 level. The output of one-way ANOVA regarding level of income of the taxpayers and TCB is depicted in table 6.36.

Table 6.36 One Way ANOVA Results Regarding Level of Income and TCB

Test of Homogeneity of ANOVA Variances						
Level of Income	Mean	Std. Deviation	Levene's Statistics	Sig	F	Sig
Low	1.81	.456	11.42	<.001***	30.51	<.001***
Medium	2.11	.597				
High	2.62	.416				
Robust Test of Equality of Means						
	Statistic^a	df1	df2	Sig.		
Welch	36.52	2	43.76	<.001***		
Brown-Forsythe	31.65	2	104.80	<.001***		
Group Differences						
Age Groups	Mean Differences		Sig	95% Confidence Interval (LL-UL)		
Low-Medium	-.296		<.001***	-.445	-.147	
Medium-High	-.511		<.001***	-.802	-.219	

Low-High	-.807	<.001***	-1.08	-.533
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Note: 1. LL- Lower level; UL- Upper level

2. ***Significance at 99% confidence level

3. ^a Asymptotically F distributed.

6.12.5 Occupation and TCB

Occupation of the respondents has been categorized into three groups: government sector, private sector, and self-employed. The ANOVA results suggested that the TCB differs significantly between the different occupational statuses of the respondents and TCB (df = 2,386; F=10.85; p<.01). Since the Levene's statistics were significant, the equal variance was considered as not assumed. In addition, the results of Welch test and Brown-Forsythe test showed that mean of TCB differs significantly (p<.001 for both tests) across the individual taxpayers with different occupational status.

Furthermore, to examine the individual differences between groups, a post-hoc comparison was conducted using Dunnett's T3 method. The results indicated that the mean score of government employees (M=2.12; SD=.615) was significantly different from private sector employees (M=1.81; SD=.460), and self-employed (M=1.93; SD=.521), which indicates the government service holders are more committed to complying tax laws rather than the private sector employees and self-employed. The mean differences were significant at the .01 level. However, ANOVA results also indicated no significant difference between private-sector employees and self-employed. The output of one-way ANOVA regarding the occupational status of the taxpayers and TCB is illustrated in table 6.37.

Table 6.37 One Way ANOVA Results Regarding Occupation and TCB

Test of Homogeneity of Variances						
ANOVA						
Occupation	Mean	Std. Deviation	Levene's Statistics	Sig	F	Sig
Government Sector	2.12	.615	7.22	<.001***	10.85	<.001***
Private Sector	1.81	.460				
Self-employed	1.93	.521				
Robust Test of Equality of Means						
	Statistic^a	df1	df2	Sig.		
Welch	9.77	2	226.57	<.001***		
Brown-Forsythe	10.22	2	309.75	<.001***		
Group Differences						
Occupation	Mean Differences	Sig	95% Confidence Interval (LL-UL)			
Govt.- Private	.307	<.001***	.138	.477		
Govt. – Self-employed	.187	.043**	.004	.371		

Private-Self- employed	-.120	.124	-.262	.022
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Note: 1. LL- Lower level; UL- Upper level

2. ***Significance at 99% confidence level
3. ^a Asymptotically F distributed.

6.13 TESTING THE HYPOTHESES OF THE STUDY

Hypotheses of this study were developed to determine the relationship between TCB and its determinants, and to examine the moderating role of tax knowledge between the dependent variable and independent variables. As recommended by Hair et al. (2010) and Cavana et al. (2001), this study considered the results of multiple regression analysis, independent sample t-test and one way ANOVA to test the validity of the hypotheses. Hypotheses testing was accomplished in two steps: hypotheses of the main effect evaluated initially, and then, hypotheses of the moderating effects.

The research framework of the study (presented in chapter 4) depicts the independent variables and moderating variable that might have the effect in determining the TCB. However, two dimensions of QoG (impartiality and provision of public services) and one dimension of TSS (probability of being detected) have been excluded from the regression model due to the multicollinearity issues (discussed in section 6.10). Therefore, the hypothesis H1a, H1b, H1d, H1f, H3a and H3d are not discussed in the following section.

6.13.1 Hypotheses Testing on the Main Effect

The research objectives RO1 and RO2 design to examine the direct effect between independent variables (dimensions of QoG, QoTS, dimensions of TSS and demographic factors) and dependent variable (TCB). Therefore, hypotheses H1c, H2, H3b, H3c, H4, H5, H6, H7 and H8 have been developed to achieve RO1 and RO2. The discussions on the testing of hypotheses related to RO1 and RO2 are presented below.

The statistical results of regression model 3, as presented in table 6.27 depict a significant and positive relationship between the CoC (one of the dimensions of QoG) and TCB. Similar findings are also documented in model 1 (table 6.23) and model 2 (table 6.25). The results of multiple regression analyses show a statistically positive significant relationship between CoC and TCB. The results also suggest that holding other variables constant, single unit improvement of taxpayers' perception in the CoC will increase the TCB of Bangladeshi taxpayers by 13.1% (Beta coefficient). Therefore, H1 is supported.

However, the statistical results of regression model 3 as presented in table 6.27 indicate no significant relationship between the QoTS and TCB. The findings of model 1 (table 6.23) and 2 (table 6.25) also provided similar results. Hence, the results of the multiple regression analysis do not support the hypothesis H2, which posited that the perceptions of the taxpayers regarding the QoTS are not associated with their TCB.

Furthermore, the statistical results of regression model 3 (table 6.27) depict a significant and positive relationship between the SP (dimension of TSS) and TCB. Almost similar results are documented in regression model 1 (table 6.23) and model 2 (6.25). Therefore, the output of the multiple regression analysis supports the hypothesis H3b, which pointed out that the perception of the taxpayers regarding the SP is positively associated with their TCB. The results also suggest that holding other variables constant, single unit enhance of taxpayers' perception towards the TSS will increase the TCB of Bangladeshi taxpayers by 31.6% (Beta coefficient).

Conversely, the statistical outcomes of regression model 3 (table 6.27) indicate no significant relationship between the TR (one of the dimensions of TSS) and TCB. Similar findings are documented in model 1 (table 6.23) and 2 (table 6.25). Hence, the results of the multiple regression analysis do not support the hypothesis H3c, which posited that the perceptions of the taxpayers regarding the TR are not related with their TCB.

Furthermore, the statistical results of multiple regression model 1 reveal a significant positive relationship between gender and TCB (table 6.23). Similar results are also reflected in model 2 (6.25) and model 3 (6.27). Moreover, the result of the independent sample t-test (table 6.33) provided statistical evidence that TCB varies significantly in accordance with the difference of gender of the taxpayers. The data

revealed that the p-value of the Levene's test for equality of variances was .001 ($p < .05$), which indicates the assumption of equal variance was violated, and there was a significant difference between males and females in terms of their TCB. In addition, the result of independent sample t-test was significant ($p < .001$) at .01 level, and it demonstrated that TCB of males and females were significantly different. Moreover, the data revealed a difference in mean score between males and females (1.83 and 2.22 respectively), which indicates that females are more compliant than males. Therefore, hypothesis H4 is supported.

In addition, the statistical results of the regression model 1 show a significant positive relationship between age of the taxpayers and TCB (table 6.23). Similar findings are also depicted in regression model 2 (table 6.25) and model 3 (6.27). Furthermore, the one-way ANOVA results, as presented in table 6.34, suggested that the TCB differs significantly across different age groups of the taxpayers ($df = 2,386$; $F=20.94$; $p > .001$). As the Levene's statistics were significant, the equal variance was considered as not assumed. Furthermore, the results of Welch test and Brown-Forsythe test ($p < .001$ for both tests) also supported that TCB of different age groups was not the same and varied in accordance with the age differences of the taxpayers.

Moreover, the result of the post-hoc comparison indicate that the mean score of young age ($M=1.65$; $SD=.362$) was significantly different from middle age ($M=2.03$; $SD=.554$) and old age ($M=2.09$; $SD=.541$). The mean differences were significant at the .05 level. However, the result revealed no significant difference between middle and old age. Thus, based on the statistical results, hypothesis H5 is supported.

In addition, the empirical findings of the regression model 1 support that taxpayers' level of education are significantly associated with TCB (table 6.23). similar results are also presented in model 2 (6.25) and model 3 (6.27). In addition, the findings of the one-way ANOVA (presented in table 6.35) suggested that the TCB of Bangladeshi taxpayers differs significantly in accordance with their different levels of educational status ($df = 2,386$; $F=12.86$; $p > .001$). The data showed that Levene's statistics were significant, i.e. equal variance was not assumed. In addition, the Welch test and Brown-Forsythe test were significant at ($p < .001$), which also suggested that there is significant difference in TCB across the different educational backgrounds of the taxpayers.

Furthermore, the results of the post-hoc comparison indicate that the mean score for the low level of education ($M=1.75$; $SD=.416$) was significantly different from the high level of education ($M=2.06$; $SD=.551$), and the mean score for the medium level of education ($M=1.84$; $SD=.540$) was significantly different from the high level of education ($M=2.06$; $SD=.551$). The mean difference was significant at the .05 level. However, the result also found no significant difference between low level of education and medium level of education. Thus, based on the empirical evidence, H6 is accepted.

Moreover, the results of regression model 1 demonstrate a significant relationship between taxpayers' level of income and TCB (table 6.23). Similar findings are demonstrated in model 2 (6.25) and model 3 (6.27). Moreover, the findings of one-way ANOVA (depicted in table 6.36) revealed that taxpayers having different level of income depict different level of TCB ($df = 2,386$; $F=30.51$ $p>.001$). Since the Levene's statistics were found significant, the equal variance was considered as not assumed. Furthermore, the results of Welch test and Brown-Forsythe test were further checked to make decision on the assumption of equal variance, and the results (both tests were significant at $p<.001$) also suggested that equal variance was not assumed and TCB differed significantly across the taxpayers with different income levels.

Furthermore, the post-hoc comparison results indicated that the mean score of low level of income ($M=1.81$; $SD=.456$) was significantly different from the medium level of income ($M=2.11$; $SD=.597$), and high level of income ($M=2.62$; $SD=.416$). In addition, the mean score of the medium-income level ($M=2.11$; $SD=.597$) was also significantly different from the high-income level ($M=2.62$; $SD=.416$). The mean differences were significant at the .05 level. Therefore, the hypothesis H7 is supported.

Moreover, the findings of regression model 1 show a significant impact of taxpayers' occupation on TCB (table 6.23). similar results are also depicted in multiple regression model 2 (6.25) and 3 (table 6.27). Furthermore, the statistical technique, one-way ANOVA, was conducted to determine the effect of taxpayers' occupation on their TCB. The result, as presented in table 6.37, showed that the TCB differs significantly between the different occupational statuses of the respondents and TCB ($df = 2,386$; $F=10.85$; $p>.001$). Levene's statistics were found as significant, and equal variance was considered as not assumed. In addition, the results of Welch test and Brown-Forsythe test showed that mean of TCB changes significantly ($p<.001$ for both tests) across the individual taxpayers with different occupational statuses.

Furthermore, the result of a post-hoc comparison indicated that the mean score of government employees ($M=2.12$; $SD=.615$) was significantly different from private sector employees ($M=1.81$; $SD=.460$), and self-employed ($M=1.93$; $SD=.521$). The results further demonstrated that the government service holders are more committed to complying with tax laws than the private sector employees and self-employed. The mean differences were significant at the .05 level. However, ANOVA results also indicated no significant difference between private-sector employees and self-employed. Hence, the hypothesis H8 is supported. Summary of the study's hypotheses on the main effect is presented in table 3.38.

Table 6.38 Results of the Hypotheses Testing on the Main Effect

Hypothesis	Result
H1a The quality of government in terms of being impartial to the citizens has a positive relationship with TCB.	H1a was removed due to high multicollinearity.
H1b The quality of government in terms of provision of public services has a positive relationship with TCB.	H1b was removed due to high multicollinearity.
H1c The quality of government in terms of control of corruption has a positive relationship with TCB.	Supported
H2 The quality of online service provided by the tax authority has a positive relationship with TCB.	Not Supported
H3a Tax system structure in terms of probability of being detected has a positive relationship with TCB.	H3a was removed due to high multicollinearity.

H3b	Tax system structure in terms of severity of penalty has a positive relationship with TCB.	Supported
H3c	Tax system structure in terms of tax rate has a positive relationship with TCB.	Not Supported
H4	Gender of the taxpayers has a significant effect on TCB.	Supported
H5	Age of the taxpayers has a significant impact on TCB.	Supported
H6	Level of education of the taxpayers has a significant effect on TCB.	Supported
H7	Level of income of the taxpayers has a significant impact on TCB.	Supported
H8	Occupational status of the taxpayers has a significant impact on TCB.	Supported

6.13.2 Hypotheses Testing on the Moderating Effect

Research objective RO3 designs to examine the moderating effects of tax knowledge on the relationship between TCB and its determinants (dimensions of QoG, QoTS and dimensions of TSS). Hence, hypotheses H1f, H2a, H3e and H3f have been developed to attain the RO3. The hypotheses of the study on the moderating effects of tax knowledge are discussed in the following.

The statistical results of multiple regression model 3 (table 6.27) present a significant but negative moderating effect of tax knowledge on the relationship between CoC and TCB. The output of the multiple regression analysis supports the hypothesis H1a, which posits that tax knowledge of the taxpayer moderates the relationship between CoC and TCB. Therefore, hypothesis H1f is supported.

However, the outputs of multiple regression analysis show (table 6.27) that tax knowledge does not have a significant moderating effect on the relationship between the QoTS and TCB. The output of the multiple regression analysis fails to support the hypothesis H2a that the tax knowledge of the taxpayer moderates the relationship between QoTS and TCB. Therefore, the hypothesis H2a is not supported.

In addition, the statistical results of multiple regression analysis depict (table 6.27) a significant positive moderating effect of tax knowledge on the relationship between the SP and TCB. The output of the multiple regression analysis supports the hypothesis H3e that the tax knowledge of the taxpayer moderates the relationship between SP and TCB. Therefore, the results support the hypothesis H3e.

In contrast, the results of multiple regression model 3 (table 6.27) reveal no significant moderating effect of tax knowledge on the relationship between TR and TCB. The outputs of the multiple regression analysis do not support the hypothesis H3f, which posits that tax knowledge of Bangladeshi taxpayer does not moderate the relationship between TR and TCB. Hence, hypothesis H3f is not supported. Summary of the hypotheses relating to the moderating effect is presented in table 6.39.

Table 6.39 Results of the Hypotheses Testing on the Moderating Effect

Hypothesis	Result
H1d Tax knowledge moderates the relationship between the quality of government in terms of being impartial to the citizens and TCB.	H1d was removed due to high multicollinearity.
H1e Tax knowledge moderates the relationship between the quality of government in terms of provision of public services and TCB.	H1d was removed due to high multicollinearity.
H1f Tax knowledge moderates the relationship between the quality of government in terms of control of corruption and TCB.	Supported
H2a Tax knowledge moderates the relationship between the quality of online services provided by the tax authority and TCB.	Not Supported

H3d	Tax knowledge moderates the relationship between the tax system structure in terms of probability of being detected and TCB.	H1d was removed due to high multicollinearity.
H3e	Tax knowledge moderates the relationship between the tax system structure in terms of severity of penalty and TCB.	Supported
H3f	Tax knowledge moderates the relationship between the tax system structure in terms of tax rate and TCB.	Not Supported

6.14 DISCUSSION OF THE EMPIRICAL FINDINGS

This study primarily aimed to identify the determinants of TCB of Bangladeshi individual taxpayers. To evaluate the research objectives and find answers to the research questions (presented in chapter 1), statistical results of the study are considered, and a detailed discussion is presented in the following sections.

6.14.1 Research Question 1a: Do the Dimensions of QoG, Namely, Impartiality, Provision of Public Services and Control of Corruption Affect TCB in Bangladesh?

The statistical findings related to the testing of hypothesis H1c depicted the evidence to achieve part of RO1 and to answer RQ1a. The regression results relating to the testing of hypothesis H1c (table 6.23) supported the argument that low QoG in terms of inefficiency to control corruption in Bangladesh causes poor TCB. In addition, the results are also in line with the assumption of the social exchange theory, which argues that taxpayers have a reciprocal relationship with the government, and complying with the tax laws depends on what the taxpayers receive from the government in return for their financial contributions.

The findings are also in line with empirical evidence of prior literature. Previous research empirically supports the argument that corruption in public sectors significantly associated with tax noncompliance as it reduces taxpayers' spontaneous motivation to comply (Kurauone, Kong, Sun, Famba & Muzamhindo, 2021).

Furthermore, Augustine and Enyi (2020) and Bertinelli et al. (2020) concluded that corruption in public sectors seriously hampers country's economic developments and widespread corruption has a positive association with tax noncompliance. Moreover, referring to the context of developed and developing countries, Nimer et al. (2022) empirically identified corruption as a significant determinant of tax evasion.

In addition, Hussain et al. (2022) pointed out that corruption is negatively associated with public support and revenue earnings and recommended that control of corruption could be one of the best attempts that the government undertake to restore people's support and increase treasury earnings. The result of the regression analysis of the present study is in line to the findings and recommendations of prior studies as it posits that positive perception of the taxpayers regarding the government's initiative to grab the corruption has a significant positive relationship with TCB. Therefore, considering the assumption of social exchange theory, statistical results of the regression analysis and empirical evidence of prior studies, it can be concluded that CoC is one of the determinants of TCB.

6.14.2 Research Question 1b: Does QoTS Affect TCB in Bangladesh?

The statistical analysis performed on testing H2 provides evidence to achieve some parts of RO1 and to answer RQ1b. The result of multiple regression fails to support hypothesis H2. The results showed that taxpayers' perception of QoTS does not have a significant impact on their TCB. Although the social influence theory supports the argument that tax regimes have the opportunity to exert a positive influence towards the compliance behavior of taxpayers by providing quality services (Yusoff & Mohd, 2017; Alebede, 2012), the statistical results did not support that argument. In addition, the findings of the present study did not support the prior studies, which concluded that QoTS have a significant positive association with TCB (Ardillah & Farhanah, 2022; Machfuzhoh & Pratiwi, 2021; Rohmah & Ashlihah, 2021; Jawas et al., 2017).

One of the possible justifications for the findings is that the majority of taxpayers do not need to interact with the tax office as they depend on the tax agents to prepare and submit tax returns. Occhiali and Kalyango (2023) opined that a common perception exists among taxpayers that the tax system is too complicated, and because of this, hiring tax agents is quite usual at the present time. In addition, a huge dependency on

tax professionals has been documented globally (Walpole, 2009). Therefore, taxpayers who employ tax agents on their behalf to prepare and submit tax returns do not have practical experience in dealing with tax offices. In the context of Bangladesh, employing tax professionals is a common practice. The tax authority of Bangladesh, NBR, planned to appoint private tax agents up to the union or ward level (the lowest level of the local government system in Bangladesh) to boost revenue collection (Uddin, 2023).

Apart from this, some studies also presented similar findings that tax service quality does not significantly impact compliance behavior (Masumah & Hamidi, 2022; Rahayu, 2022; Indrawati, 2019; Sari & Fidiana, 2017). Furthermore, Abdulkadir and Alabede (2022) empirically revealed that in Nigeria's context, QoTS has no significant impact on TCB. Moreover, some studies concluded that there might be other important determinants that influence the TCB rather than QoTS, and for this, no significant association was found between QoTS and TCB (Rahayu, 2022; Indrawati, 2019; Sari & Fidiana, 2017).

The findings of the study regarding hypothesis H2 added a new narrative to the discourse of tax compliance studies that, in the context of LDCs, the QoTS does not determine the TCB. Moreover, it pointed to the need for future investigations into the other potential determinants of TCB.

6.14.3 Research Question 1c: Do the Dimensions of TSS, Namely, Probability of Being Detected, Severity of Penalty and Tax Rate Affect TCB in Bangladesh?

The statistical findings related to the testing of hypothesis H3b and H3c revealed the evidence to achieve part of RO1 and to answer RQ1c. The results of multiple regression analysis (table 6.23) support hypothesis H3b, which indicates that the perception of taxpayers' regarding the severity of penalty is significantly and positively associated with TCB. Hence, the results of the study supported the argument that lack of SP in Bangladesh causes poor TCB. Moreover, the results are also in line with the assumptions of deterrence theory, as the theory assumes that an increase in detection probability and/or an increase in penalty reduces the probability of crime.

Prior empirical findings support the outcomes of the study. Hayat et al. (2022) and Biru (2020) concluded that effective and stern imposition of penalties plays a

significant positive role in improving TCB. Muhwa and Omboi (2023) concluded that the level of compliance increases in a situation when tax authority practices high penalties. However, Siswak (2016) and Ndlovu and Schutte (2022) insisted on the need for imposing fair and justified penalties, otherwise it may lead to the dissatisfaction of the taxpayers and increase noncompliance.

Referring to the developing country context, Usman, Ahmad and Rehman (2024) examined the deterrent effect of penalty and empirically claimed that severity of penalty has the potential to increase the TCB. The present study highlights the LDC context and the statistical results relating to the effect of SP on TCB are in line with the developing country context. The results support the argument that taxpayers feel pressure to pay tax when the punishment of evading tax is severe. Thus, the findings of the study demonstrate the answer to the part of RQ1 and provide evidence that SP is one the significant determinants of TCB.

In addition, the results of regression analysis performed on testing H3c does not support the hypothesis. The results indicate that taxpayers' perception regarding TR does not have a significant impact on their TCB. However, deterrence theory supports the argument that as a deterring tool, TR impacts the TCB.

The findings of the prior studies relating to the effect of TR towards TCB reveal mixed results. Shafaruddin et al. (2022) and Oladipo et al. (2022) posited a significant and positive association between tax rate and TCB and commented that a fair tax rate motivates taxpayers to pay tax. In addition, Remali et al. (2018) documented similar findings and concluded that TR has a significant positive impact to determine the TCB of SME owners. However, prior studies pointed out the negative consequence of high tax rate towards TCB and commented that it demotivates taxpayers and increases noncompliance (Chindengwike & Kira, 2022). Furthermore, Ng'eni (2016) and Oladipupo and Obazee (2016) concluded that taxpayers choose to evade tax when perceived TR as too high and unaffordable. However, Inasius (2015) and Sapiei and Kasipillai (2013) revealed no significant relationship between TR and TCB and concluded that TR is not a determinant of TCB, which is similar to the findings of the present study.

One of the possible explanations of such results is that taxpayers in Bangladesh only consider SP as a deterrent tool (SP has significant relationship with TCB) not the

TR. The level of TCB is very low in Bangladesh and majority of the taxpayers employ every possible way to skip their tax obligations (as revealed in the descriptive results in table 6.7). Therefore, taxpayers are not interested in TR, and it does not play any significant role in making their tax complying decision. However, they fear SP as it involves monetary risks.

Therefore, the results of the multiple regression analysis and testing of hypothesis H1c, H2, H3b and H3c provide empirical evidence to achieve RO1 and to answer RQ1a, RQ1b and RQ1c. The quality of government in terms of control of corruption and the tax system structure in terms of severity of penalty are significantly related with TCB. However, the quality of online tax services and tax rate, one of the dimensions tax system structures, are not statistically significant determinants of TCB in Bangladesh.

6.14.4 Research Question 2: Do Demographic Factors Influence TCB in Bangladesh?

The results related to the testing of hypotheses H4, H5, H6, H7 and H8 demonstrated empirical evidence to achieve RO2 and to answer RQ2.

6.14.4.1 Effect of Gender of the Taxpayers on TCB

The statistical data on the testing of hypothesis H4 revealed evidence to achieve a part of RO2 and answer RQ2. The result of multiple regressions showed a statistically significant relationship between gender and TCB. Furthermore, the result of the independent sample t-test, as presented in table 6.33, revealed a significant difference between the TCB of males and females. In addition, the mean score of TCB for females is higher than their counterparts, which clearly indicates that comparatively female taxpayers tend to comply more than male taxpayers. The findings of this study regarding the impact of gender on TCB are in line with the empirical evidence of prior studies. Prasetyo et al. (2020), D'attoma et al. (2020) and Fredrick and Peter (2019) concluded that women are comparatively more compliant than their counterparts. In addition, Yimam and Asmare (2020) statistically proved that female owners of SMEs depict higher levels of TCB than male-owned SMEs. Prasetyo et al. (2020) empirically concluded that females are more loyal to the rule of law, and that leads them to

demonstrate higher level of TCB than the men. Furthermore, prior studies also found similar attributes of female taxpayers and argued that due to the risk-averse position in the process of financial decision making, women tend to take less risk and comply with tax laws (López-Luzuriaga & Scartascini 2023; Croson & Gneezy, 2009).

Therefore, the statistical outcome of the study provides answers to a part of RQ 2 that as a demographic factor, gender has a significant impact on TCB.

6.14.4.2 Effect of Age of the Taxpayers on TCB

The empirical data concerning the testing of hypothesis H5 provided findings to achieve some parts of the RO2 and to answer RQ2. The multiple regression results provided evidence that age has a significant effect on TCB. In addition, the ANOVA results (presented in table 6.34) showed that TCB changes significantly across the different age groups.

The findings of the study have similarities with previous empirical results. Prior studies statistically proved that older people and middle-aged taxpayers are more willing to comply than younger individuals (Shiferaw & Tesfaye, 2020; Hofmann et al., 2017; Antwi et al., 2015; Alabede, 2014). Krichler (2007) also found similar results and mentioned that in general, older people have more income and financial freedom than the youth, and these help them to comply more. In addition, Hofmann et al. (2017) concluded that older people are more willing to cooperate with the country as they depend more on states to get essential services including health care. Alabede (2014) empirically revealed similar findings and opined that middle-aged and older taxpayers have more experience regarding the consequences of non-compliance than the young taxpayers, which makes them more cautious about non-compliance. However, the results of the study indicated no significant difference between middle-aged and older taxpayers in terms of TCB. One of the possible reasons for this is that both middle-aged and older taxpayers are more compliant than the young taxpayers, and these two groups have almost the same attitude in terms of complying with the tax laws.

Hence, the findings of the study provided evidence to answer RQ2 that as a demographic factor, age has a significant effect on TCB.

6.14.4.3 Effect of Taxpayers' Level of Education on TCB

The empirical data related to the testing of hypothesis H6 provided answers to RQ2, which can be used to achieve a part of RO2. The result of regression analysis supported that taxpayers' educational status has a significant effect on TCB. Moreover, the ANOVA results (presented in table 6.35) depicted that TCB varies significantly across the different levels of educational status of the taxpayers.

The findings are similar to the prior empirical findings, which concluded that taxpayers with high educational qualifications tend to be more compliant than those with low educational profiles (Kurniawan, 2020; Kwok & Yip, 2018). Owosekun and Salawu (2020) also revealed higher academic backgrounds are positively associated with the TCB, and they mentioned that taxpayers with higher educational degrees are more conscious about the negative impact of non-compliance acts compared to the taxpayers with low academic profiles. Moreover, prior studies empirically concluded that higher educational qualifications are linked with higher levels of moral development and positive attitudes towards tax compliance (Aregbesola et al., 2020; Subramaniam, 2019; Gitaru, 2017). However, the result of post-hoc comparison indicated no significant difference between the TCB of taxpayers with low educational degrees and medium educational qualifications. Probably, taxpayers from these two categories have the same level of compliance attitude, as both groups depict less compliance behavior than the highly educated taxpayers.

Therefore, based on the findings, it is concluded that taxpayers' education level significantly affects their TCB. Thus, the results provided answer to some parts of RQ2.

6.14.4.4 Effect of Taxpayers' Level of Income on TCB

The statistical treatments employed to test hypothesis H7 justify answering some parts of the RO2 and RQ2. The findings of regression analyses supported the argument that taxpayers' level of income has a significant effect on TCB. Furthermore, the findings of one-way ANOVA, as presented in table 6.36, indicated that the TCB of Bangladeshi taxpayers' changes significantly in accordance with their level of income. In addition, the result of the post-hoc comparison also demonstrated that high-income earners are more compliant than the low and medium-income earners.

The findings are in line with the conclusion of previous studies. Al-Zaqeba et al. (2020) and Alm, 2019 empirically documented that high-income earners are more compliant than the low-income earners. Dissanayake and Premaratna (2020) empirically revealed similar findings and concluded that high-income earners are more sincere to cooperate with the government. In addition, some researchers pointed out that low-income earners tend not to comply as tax payment reduces the amount of their net income (Hofmann et al., 2017; Wearing & Heady, 1997). Thus, the findings of the study provided answer to some parts of RQ2.

6.14.4.5 Effect of Taxpayers' Occupation on TCB

The empirical data related to the testing of hypothesis H8 provided answers to some parts of RO2 and RQ2. The regression results of the study provided empirical evidence that taxpayers' occupation has a significant effect on TCB. However, the result provided a negative significant association between occupation of the taxpayers and TCB.

The ANOVA results (presented in table 6.37) depicted that TCB varies significantly across the different types of taxpayers' occupations. In addition, the result of the post-hoc comparison revealed that government employees are likely to be more compliant than the private service holders and self-employed individuals. Previous empirical research demonstrated similar findings. Prior studies concluded that self-employed taxpayers have broad opportunities to hide their income and tend to be less compliant (Alm, 2019). Due to the strict rules and monitoring of the government in the public sector, government employees have less scope of non-compliance with tax laws (Alabede, 2014). However, the results did not provide evidence to support the significant differences in terms of TCB between private service holders and self-employed individuals. Most probably, private service holders enjoy more freedom to submit their tax return as their employers do not force them and leave the choice of submitting tax return to them. In addition, self-employed taxpayers have the highest opportunity to hide their income. Therefore, private service holders and self-employed taxpayers may have similar attitudes to comply with the tax laws. Thus, this result provides a partial answer to RO2 and RQ2.

Therefore, statistical evidence of the study provided empirical justification that demographic characteristics of the individual taxpayers in Bangladesh have significant

impact on their TCB. In addition, cognitive theory provides theoretical justifications for the findings as it supports that difference in demographic characteristics influence the individual behavior.

6.14.5 Research Question 3: Does Tax Knowledge Moderate the Relationship between TCB and its Determinants, Namely, QoG, QoTS and TSS?

The present study includes tax knowledge into the tax compliance model as a moderator to examine its effect on the determinants of TCB. Hence, to achieve RO3 and answer RQ3, the adjusted R² of the multiple regression results of regression models 2 and 3 were taken into account. The adjusted R² in regression model 2 was 36.8%, where the determinants of TCB were included in the model; however, in model 3, tax knowledge was incorporated as a moderator into the model, and the adjusted R² was increased to 38.1%. It indicates that the predictive capacity of the tax compliance model increased after the inclusion of tax knowledge as a moderator. As a part of answering the research question RQ3, the increase of adjusted R² provides evidence that tax knowledge moderates the relationship between TCB and its determinants. Apart from this, the testing of Hypothesis H1f, H2a, H3e and H3f also provides justifications to answer the research question RQ3.

6.14.5.1 The Moderating Effect of Tax Knowledge Between CoC and TCB

The statistical results of multiple regression analysis support hypothesis H1f, which indicates that the tax knowledge of Bangladeshi taxpayers significantly moderates the relationship between their perception regarding CoC and TCB. In addition, the results also depicted a change in the direction of the relationship between QoG and TCB. In the main effect, the direction of the relationship between QoG and TCB was positive; however, in the moderating effect, it turned to negative. This indicates that tax knowledge has a negative significant moderating effect on the relationship between QoG and TCB. The regression results can be interpreted as that in the presence of tax knowledge, with an increase in QoG, taxpayers tend to be less compliant.

Prior studies concerned with the effect of tax knowledge on TCB revealed diverse findings. Kassa (2021), Manual and Xin (2016) and Kasipillai et al. (2013) revealed a significant negative association between tax knowledge and TCB. They

argued that having proper knowledge regarding tax issues may widen the scope for taxpayers to identify the loopholes of the tax as well as legal regulations, and by utilizing the loopholes, they can minimize or even evade tax liabilities. However, some studies found a positive relation (Oladipo et al., 2022; Mat Jusoh et al., 2021; Eric et al., 2019), and some found no association (Fauziati et al., 2020; Rachmawan et al., 2020) between tax knowledge and TCB.

In regression model 2 of the study, the results supported the argument that an increase in CoC will cause an increase in TCB. However, in regression model 3, with tax knowledge as a moderator, the direction of the relationship between CoC and TCB changed from positive to negative. In line with the findings of some prior studies (Kassa, 2021; Manual & Xin, 2016; Kasipillai et al., 2013), this result can be interpreted as having tax knowledge allows taxpayers to identify the loopholes in the tax system and skip tax obligations. In that case, taxpayers might not have much concern about the level of QoG in terms of CoC, rather their focus might be on maximizing the personal gain. Therefore, taxpayers tend not to comply. Cognitive theory also supports such behavior of taxpayers as it proposes that an individual's decision-making process is influenced by his knowledge. Thus, as a part of answering research question RQ3, it can be concluded that the tax knowledge of the taxpayers plays a significant negative moderating role on the relationship between CoC and TCB.

6.14.5.2 The Moderating Effect of Tax Knowledge Between QoTS and TCB

The outcome of multiple regression analyzes concerning the testing of hypothesis H2a provides evidence that tax knowledge does not have any significant moderating effect on the association between QoTS and TCB. The results indicated that tax knowledge does not have the moderating capacity to change the direction of the relationship between QoTS and TCB. The results of regression model, 2 of the study, statistically proved that QoTS does not significantly determine the TCB. In addition, regression model 3 of the study also provided statistical evidence that tax knowledge does not have a significant capacity to moderate the relationship between QoTS and TCB.

6.14.5.3 The Moderating Effect of Tax Knowledge Between SP and TCB

The statistical analysis for testing hypothesis H3e supports that tax knowledge significantly and positively moderates the relationship between SP and TCB. In regression model 2 of the study, the result showed that the perceptions of taxpayers regarding the SP significantly affect their TCB. Furthermore, in regression model 3, the result suggested that tax knowledge interacts with the relationship between SP and TCB. The result of regression model 2 and 3 indicated that in the presence of tax knowledge as moderator, the β value reduced to 11.4% from 31.6%. In addition, in model 2, the P value of the main effect of SP on TCB was significant at 0.01 level; however, in model 3, the moderating effect of tax knowledge on SP and TCB was significant at 0.05 level. Changes in β and P value indicated that tax knowledge weakens the relationship between SP and TCB.

Although the result depicted a positive moderating direction, it provided evidence that tax knowledge reduced the strength of the relationship between SP and TCB. Some prior studies revealed that tax knowledge negatively impacts TCB (Kassa, 2021; Manual & Xin, 2016; Kasipillai et al., 2013). In line with the empirical evidence of prior research, the outcome of the moderating effect of tax knowledge on SP and TCB can be interpreted as having tax knowledge allows taxpayers to know the loopholes of the tax system and avoid tax liabilities. Because of this, taxpayers tend not to comply and do not pay attention to the SP. Thus, the inclusion of tax knowledge as a moderator in the tax compliance model weakened the strength of the relationship between SP and TCB. Cognitive theory also supports such behavior of taxpayers as it proposes that the decision-making process of an individual is influenced by his knowledge. Therefore, to answer part of research question RQ3, the statistical results reveal that tax knowledge of the taxpayers plays a moderating role in the relationship between SP and TCB, and the moderator reduced the strength of their relationship.

6.14.5.4 The Moderating Effect of Tax Knowledge Between TR and TCB

The outcome of multiple regression analysis concerning the testing of hypothesis H3f provides statistical evidence that tax knowledge does not have any significant moderating effect on the relationship between TR and TCB. The results documented that tax knowledge does not have the interacting capacity to change the direction of the

relationship between TR and TCB. In addition, the findings of regression model 2 support that TR does not significantly determine the TCB. Moreover, regression model 3 of the study also provides statistical evidence that tax knowledge does not have a significant capacity to moderate the relationship between TR and TCB.

Therefore, to answer the research question RQ3, the results of the moderating effect of tax knowledge showed statistical evidence that tax knowledge significantly moderates the relationship between CoC and TCB. In addition, the results also provided empirical evidence that tax knowledge has significant moderating effects on SP and TCB. However, the result failed to demonstrate that tax knowledge moderates the relationship between QoTS, TR and TCB. Cognitive theory also supports the findings relating to the moderating effect of tax knowledge on the relationship between CoC, SP and TCB.

6.15 SUMMARY

This chapter discussed the various statistical treatments relating to the analysis of the primary data of the study. Systematic procedures and steps were followed as mentioned in chapter five in order to conduct the data analysis. Multiple regression analyses were conducted to examine the main effects of independent variables on the dependent variable. In addition, independent sample t-test and one way ANOVA were employed to examine the impact of demographic factors towards TCB.

Results of the study showed that QoG in terms of CoC and SP in terms of TSS have significant positive impact on TCB, and it supports the incorporation of these two variables in the tax compliance model as the determinants of TCB. Furthermore, the results also provided evidence that demographic factors have a significant impact on TCB. In addition, the moderating role of tax knowledge on the relationship between CoC, QoTS, SP, TR and TCB was investigated by employing multiple regression analysis. The findings demonstrated that tax knowledge significantly moderates the relationship between CoC and TCB, and it changed the direction of relationship from positive to negative. Furthermore, the moderator of the study also showed a significant effect on the association between SP and TCB. However, it reduced the strength of the main effect between these two variables. The results related to the moderator indicated that tax knowledge allows taxpayers to know the loopholes of the tax system, which

assists them to minimize their tax obligations. The contributions of the study, limitations associated with this research and recommendations for future studies will be discussed in the following chapter.



CHAPTER SEVEN

CONCLUSION

7.1 INTRODUCTION

This chapter presents a brief overview of the research findings, followed by the significance of the research from both practical and theoretical aspects. Then, it discusses the study's limitations. Finally, the chapter concludes with the recommendations for future research.

7.2 MAIN FINDINGS OF THE STUDY

This study primarily sought to identify the factors that determine the compliance behavior of Bangladeshi taxpayers. As mentioned in the study's research objectives in chapter one, this research aims to examine the determinants of TCB. Moreover, the research includes tax knowledge as a moderator in the proposed tax compliance model to define its impact on the relationship between TCB and selective determinants.

A structured questionnaire was developed to obtain the research data. This study considered individual taxpayers only as respondents, and the capital city of Bangladesh, Dhaka and the business capital city of the country, Chattogram, were selected as the geographical area of the study. The snowball sampling method was employed to collect the data. A total of 389 responses were taken into account for statistical analysis. Systematic approaches and procedures were followed as recommended in prior research to analyze the empirical data. An elaborate discussion of the findings was presented in chapter six. Only the key findings of the study are presented here.

Among the three research objectives of the study, RO1 is related to examining the effect of the dimensions of QoG, QoTS and the dimensions of TSS on TCB. Empirical findings of the study indicate that the level of TCB in Bangladesh is low. Moreover, poor QoG, QoTS and ineffective use of TSS are also reflected in the results. Two dimensions of QoG (impartiality and PPS) and one dimension of TSS (PBD) have been excluded from the regression model due to the multicollinearity issues. Multiple regression analysis results showed a significant positive association between QoG in

terms of CoC and TCB. The findings suggested that an improvement in CoC will cause an increase in TCB. Social exchange theory provides theoretical support that positive perception of the taxpayers regarding the CoC will increase TCB.

However, the result of the multiple regression analyses found no significant relationship between QoTS and TCB. The findings suggested that QoTS cannot be considered as a determinant of TCB. Although social influence theory suggests that tax authorities have the power to exert influence on the taxpayers by providing quality services, the statistical result found otherwise. The result indicated the need for further investigation to determine other potential factors of TCB in the context of LDCs.

Furthermore, the result of multiple regression analysis provided evidence that TSS in terms of SP has a significant positive relationship with TCB. The finding suggested that effective and stern imposition of SP will increase the level of TCB. This outcome is also supported by the deterrence theory as it assumes people will not be interested in being involved in a crime if they perceive the risk or loss of committing the crime will exceed the gain. However, the results indicate that TR, another dimension of TSS, is not significantly associated with TCB.

Moreover, RO2 is related to examine the impact of demographic factors towards TCB. Five demographic characteristics of the respondents namely, gender, age, level of education, level of income and occupation were taken into account. The results of multiple regression analyses provided empirical support to make decisions that demographic factors have significant impact on TCB, and these can be considered as its determinants. In addition, the results of independent sample t-test and one-way ANOVA revealed that TCB differs significantly across the change of different demographic characteristics of the respondents. Cognitive theory supports the findings that demographic differences have an impact on individuals' decision-making processes.

Lastly, RO3 is related to investigating the moderating role of tax knowledge on the relationship between TCB and its selected determinants. The output of multiple regression analyses suggested that tax knowledge significantly but negatively moderates the relationship between CoC and TCB. The finding indicated that taxpayers with tax knowledge tend to be less compliant while there is an increase in CoC. Moreover, the statistical results also demonstrated a positive significant role of the

moderator on the relationship between SP and TCB. However, the incorporation of moderator reduced the strength of the main effect between these two variables. In addition, the results of multiple regression analyses depicted no significant moderating effect of the moderator on the association between QoTS, TR and TCB. The findings relating to the moderating effect of tax knowledge on the relationship between CoC, SP and TCB are also supported by cognitive theory as it proposes that knowledge is associated with the individual decision-making process.

The main findings of the study are presented in table 7.1.



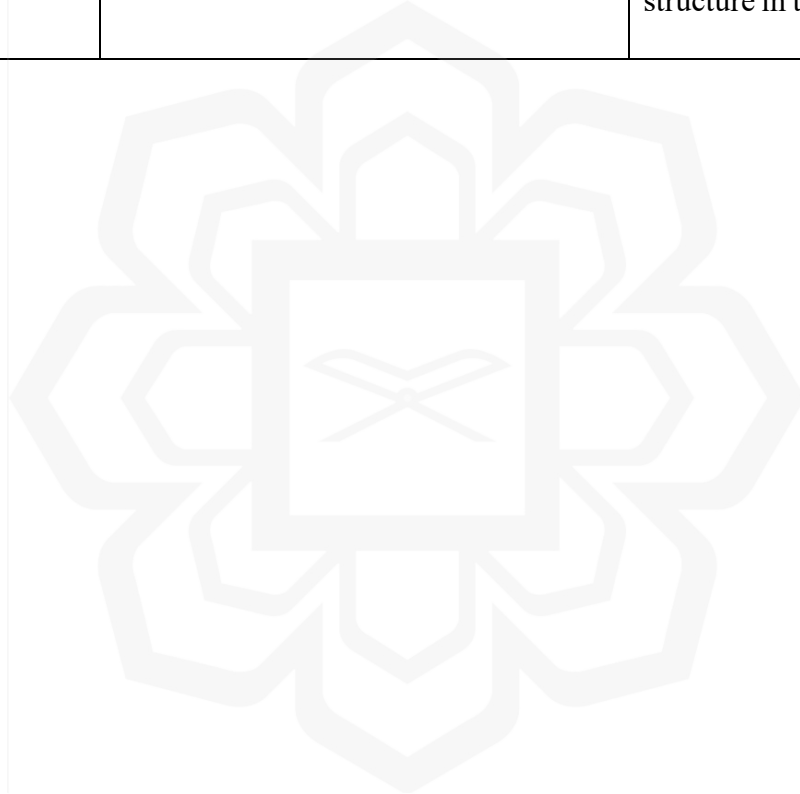
Table 7.1 Main Findings of the Study

Research Objective	Research Question	Hypothesis	Result
RO1: To examine the factors affecting TCB in Bangladesh.	1a. Do the dimensions of QoG namely, impartiality, provision of public services and control of corruption affect TCB in Bangladesh?	H1c: The quality of government in terms of control of corruption has a positive relationship with TCB.	H1c Supported
	1b. Does QoTS affect TCB in Bangladesh?	H2: The quality of online service provided by the tax authority has a positive relationship with TCB.	H2 Not Supported
	1c. Do the dimensions of TSS namely, probability of being detected, severity of penalty and tax rate affect TCB in Bangladesh?	H3b: Tax system structure in terms of severity of penalty has a positive relationship with TCB.	H3b Supported
		H3c: Tax system structure in terms of tax rate has a positive relationship with TCB.	H3c Not Supported

Research Objective	Research Question	Hypothesis	Result
<p>RO2: To investigate the influence of demographic factors on TCB in Bangladesh.</p>	<p>RQ2: Do demographic factors influence TCB in Bangladesh?</p>	<p>H4: Gender of the taxpayers has a significant effect on TCB.</p> <p>H5: Age of the taxpayers has a significant impact on TCB.</p> <p>H6: Level of education of the taxpayers has a significant effect on TCB.</p> <p>H7: Level of income of the taxpayers has a significant impact on TCB.</p> <p>H8: Occupational status of the taxpayers has a significant impact on TCB.</p>	<p>H4 Supported</p> <p>H5 Supported</p> <p>H6 Supported</p> <p>H7 Supported</p> <p>H8 Supported</p>

Research Objective	Research Question	Hypothesis	Result
RO3: To assess the moderating effects of Tax knowledge on the relationship between TCB and the factors affecting TCB in Bangladesh.	RQ3: Does tax knowledge moderate the relationship between TCB and its determinants, namely, QoG, QoTS and TSS?	<p>H1f: Tax knowledge moderates the relationship between the quality of government in terms of control of corruption and TCB.</p> <p>H2a: Tax knowledge moderates the relationship between the quality of online services provided by the tax authority and TCB.</p> <p>H3e: Tax knowledge moderates the relationship between the tax system structure in terms of severity of penalty and TCB.</p>	<p>H1f Supported</p> <p>H2a Not Supported</p> <p>H3e Supported</p>

Research Objective	Research Question	Hypothesis	Result
		H3f: Tax knowledge moderates the relationship between the tax system structure in terms of tax rate and TCB.	H3f Not Supported



7.3 CONTRIBUTIONS OF THE STUDY

The findings of the study have contributions in terms of policy implications or practical and theoretical aspects, and these are discussed in this section.

7.3.1 Policy Implications

The study's findings have several policy implications, which must be appropriately addressed to improve TCB in the LDC economies, specifically Bangladesh. Firstly, the results of this research proved that the QoG in terms of CoC has a significant positive impact on TCB, and it can be considered as an important determinant of TCB. In addition, the findings of the study supported the argument that poor CoC in Bangladesh leads low TCB. Therefore, the results indicate an urgent need to formulate policies to enhance CoC to change the current scenario of poor tax collection. In addition, it is necessary to highlight control of corruption in the national policy to restore taxpayers' confidence towards QoG.

The government of Bangladesh has an independent and constitutional institution, namely, the Anti-Corruption Commission (ACC), to fight the nuisance of corruption. However, the study's findings also proved that taxpayers negatively perceive the government's effort to combat corruption. Thus, timely reforms are needed for ACC, and more power should be given to them to ensure the prompt prosecution of the offenders. Similar policy directions are documented in prior studies that found a clear association between corruption and increased non-compliance (Augustine & Enyi, 2020; Bertinelli et al., 2020).

Furthermore, another finding of the study is that the SP significantly causes the low level of TCB in Bangladesh. The results indicated that the effective use of provision of a high penalty could enhance the level of TCB. Thus, significant reforms must be taken to ensure SP in order prevent non-compliance. Moreover, the findings of the study also documented that provision of penalty for the non-compliance act is mild. Thus, policy implication is required and necessary amendments in the tax laws need to be made.

Furthermore, the study's results demonstrated that demographic factors significantly affect TCB, and the level of TCB changes in accordance with variations

in demographic characteristics. Thus, the findings indicated the need for adopting multi-dimensional approaches rather than the existing uniform tax system to incorporate demographic differences to ensure optimum tax collection. Moreover, the NBR should categorize taxpayers based on their demographic characteristics and formulate specific strategies to address the issue of each group.

In addition, the results of the study demonstrated that tax knowledge has a negative moderating impact on CoC and TCB. The moderator also reduces the strength of the main effect between SP and TCB. The findings indicated that the moderating impact of tax knowledge decreases the level of TCB, however, the importance of tax knowledge cannot be ignored. Furthermore, the results relating to the impact of demographic factors on TCB depicted that taxpayers with higher educational background are more compliant than the taxpayers with low academic profile. Hence, the policymakers should make provisions to provide tax education to the general people in order to make them conscious about contributing to the nation through tax payments.

7.3.2 Theoretical Implications

The study has several contributions in terms of theoretical implications. As part of the contribution to the tax compliance literature, this study incorporated the notion of overall QoG in the tax compliance model and revealed the significant positive relationship between CoC, one of the dimensions of QoG, and TCB. Hence, the study empirically supported that CoC is one of the determinants of TCB.

In addition, another contribution of the study is to test the moderating role of tax knowledge on the relationship between TCB and its selected determinants. The results supported that tax knowledge significantly moderate the relationship between CoC and TCB, changing the direction of the relationship between these two variables from positive to negative. Furthermore, the result also depicted a significant moderating impact of tax knowledge on the relationship between SP and TCB. However, the results demonstrated that including tax knowledge as a moderator in the model, reduced the strength of the relationship between SP and TCB. The results of the moderating effect of tax knowledge supported the narrative of prior tax compliance research that having tax knowledge enables taxpayers to know the loopholes of the tax systems and non-comply purposefully.

Apart from these, the present study aimed to highlight the contextual scenario of LDC countries with particular reference to Bangladesh, where the empirical studies on tax compliance issues are scant. Hence, this study examined the effect of QoTS, TSS and demographic factors to determine TCB. The findings of this research demonstrated that SP, one of the dimensions of TSS, and demographic factors significantly determine the TCB of Bangladeshi taxpayers. However, this research also revealed no significant impact of QoTS and TR on TCB. The findings have comprehended the existing notion regarding QoTS and TR in the LDC context and concluded that QoTS and TR do not have a significant capacity to predict the compliance behavior of the taxpayers.

In addition, the results of the study support that social exchange theory (CoC), deterrence theory (SP) and cognitive theory (demographic factors and moderating effect of tax knowledge on CoC, SP and TCB) are relevant in the context of Bangladesh to explain the TCB. These theories originated in the developed country context, and later, incorporated in many tax studies in the context of developing countries (Lee et al., 2021; e-Hassan et al., 2021; Masud et al., 2021; Ya'u et al., 2020; Razak & Bidin, 2019; Peredaryenko, 2019; Abdullahi, 2017; Alkhatib & Abdul-Jabbar, 2017; Adriani, 2016; Alabede, 2012). This study demonstrates the relevancy of using these theories in an LDC context, which can also be considered a theoretical contribution of the study.

Overall, the study has complemented the tax compliance literature by presenting empirical findings on the factors influencing the TCB in an LDC context, where the empirical studies are scant compared to the developed countries. Hence, the study attempts to minimize this gap between the developed countries and the LDC nations. The empirically supported tax compliance model of Bangladesh is presented in Figure 7.1

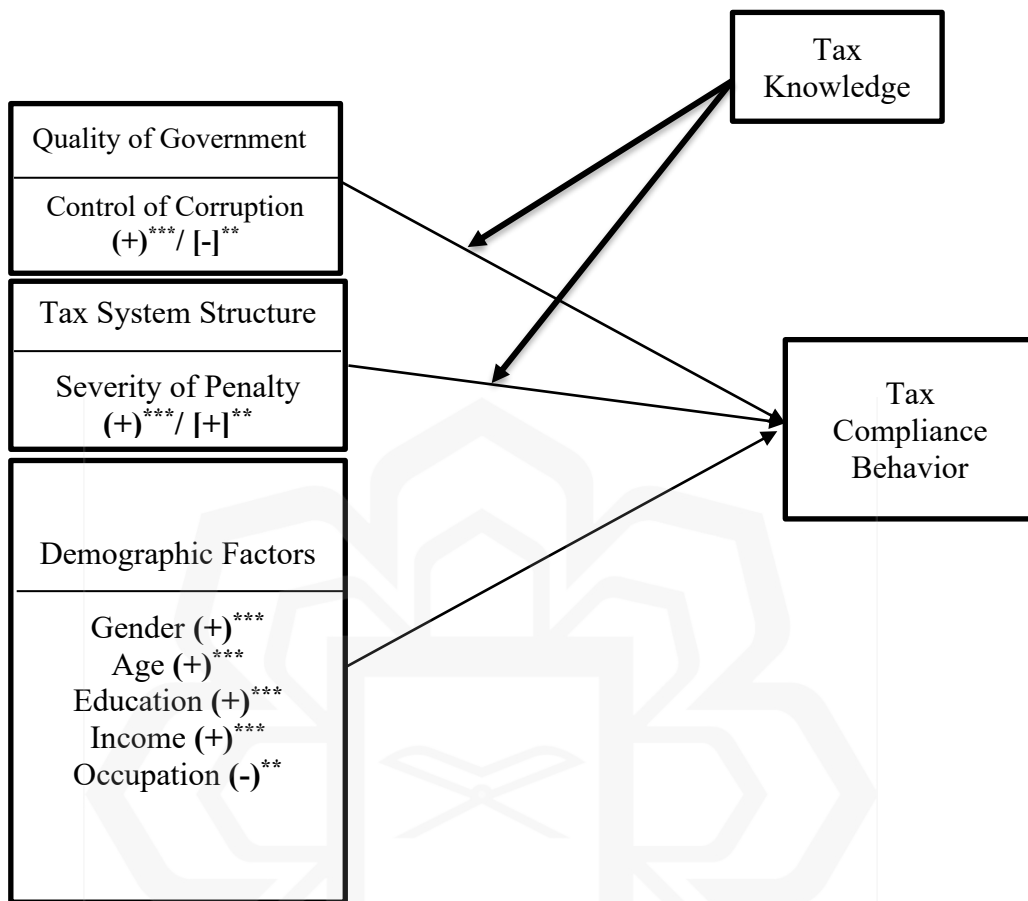


Figure 7.1 Empirically Supported Tax Compliance Model for Bangladesh

Note:

() —————> Indicates direct effect

[] —————> Indicates Moderation effect

** p<.05

*** p<.01

7.4 LIMITATIONS OF THE STUDY

This study exhibits several limitations. Firstly, the research dropped two dimensions of QoG (impartiality and PPS) and one dimension of TSS (PBD) from the regression model due to the multicollinearity issues, which limits the scope of the research. Moreover, like other prior studies (Alabede, 2012; Saad, 2011; Marshall et al., 2005; Wenzel, 2004), the study considered hypothetical scenario cases to obtain data from taxpayers regarding their compliance behavior, and taxpayers were asked to self-report their compliance decisions. However, researchers raised concerns about this approach, arguing that self-reporting on hypothetical scenario cases may not reflect the actual behavior of the taxpayers (Abdullahi, 2017; Alabede, 2012; van Djike & Verboon, 2010). Thus, caution must be maintained to report the research findings. Another limitation of the study is that this research adopted three public sectors (education, health and police) as dummies to measure the QoG as recommended by (Charron et al., 2015). However, QoG is a complex and multidimensional issue and there might be other aspects that need to be addressed to define the QoG.

In addition, this study considered individual taxpayers of Bangladesh as research respondents. However, the SMEs and business entities are not included here. Thus, the scope of generalizing the research results is limited only to the individual taxpayers of the country. Moreover, the capital city and the business capital city of Bangladesh, namely Dhaka and Chattogram, respectively, were considered to select the study's geographical area, and both cities represent the country's urban areas. Thus, this study did not capture the perceptions of taxpayers from rural areas.

Lastly, this study considered a few factors (CoC, QoTS, SP, TR and demographic factors) to examine their effect on TCB. However, there may be other factors that are relevant to understanding TCB. The variables that are included in the tax compliance model of the study has the potential to explain only 38.1% of the variance of TCB of Bangladeshi individual taxpayers (adjusted r^2 of regression model 3 was 38.1). There are other factors (around 62%) influencing TCB that have not been incorporated in the model.

7.5 SUGGESTIONS FOR FUTURE RESEARCH

The results and the limitations pointed out for this research depict some directions for future research. Specifically, future study may include the constructs impartiality, provision of public services and probability of being detected in the regression model, which had been excluded from the statistical analysis of the study to avoid multicollinearity issues. This approach may assist in examining the overall as well as individual effect of each dimension of QoG and TSS in determining TCB. Moreover, other possible ways, rather than hypothetical scenario cases and self-report strategy, might be employed in future research to gather data from the taxpayers. In addition, future research may include SMEs and business firms as research respondents and conduct a comparative analysis on the TCB of individual taxpayers, SMEs and businesses. This approach will give researchers a more comprehensive idea of the TCB of Bangladeshi taxpayers.

Moreover, future studies may widen the geographical area of research and include rural areas. That enables researchers to examine the TCB of taxpayers from rural areas. Furthermore, comparing TCB between the taxpayers residing in urban and rural regions might bring interesting outcomes.

In addition, more research should be conducted to examine the effect of other potential economic, social, psychological, and cultural factors on TCB. This recommendation is based on the call of prior studies to engage more effort in determining TCB as it is one of the underdeveloped subjects in academic research (Gangl & Torgler, 2020; Tilahun, 2019). Moreover, future research efforts should include other relevant moderators, as prior studies concluded that the relationship between TCB and its determinants may be moderated by other factors (Kirchler et al., 2007). Furthermore, future research may consider employing mixed research methods combining quantitative and qualitative approaches. This approach may assist researchers in minimizing the issue of personal biases (Ernest & Danie, 2021; Creswell, 2009).

Moreover, due to the scant empirical studies on the context of LDC, researchers call for embarking on more research on tax compliance issues to bridge the research gaps between the developed, developing and LDC economies (Abdullahi, 2017; Alabede, 2012; Chau & Leung, 2009; Torgler, 2007). In addition, highlighting the LDC

context in tax studies will enable researchers to focus more on the situational peculiarities of LDCs and provide specific policy implications.

7.6 CONCLUSION

This study primarily sought to examine the factors influencing the tax compliance behavior of Bangladeshi taxpayers. Therefore, factors from economic, social and psychological aspects, namely, dimensions of QoG, QoTS, dimensions of TSS and demographic factors, were included in the tax compliance model and empirically verified their impact on TCB. Moreover, the model also incorporated tax knowledge as a moderator and examined how it interacts with the relationship between TCB and its selected determinants (dimensions of QoG, QoTS and dimensions of TSS). Four theories from social, psychological and economic disciplines, namely, the social exchange theory, the social influence theory, the cognitive theory and the deterrence theory, were employed to explain the relationship between different variables in the model.

Therefore, a tax compliance model was presented for the individual taxpayers of Bangladesh, and several recommendations covering both theoretical and policy implementations were demonstrated. Hence, this effort will benefit the policymakers and tax authorities of LDCs, especially Bangladesh, in formulating policies and action plans to ensure economic propriety and sustainable development by enhancing tax revenue earnings.

REFERENCES

- Abdulkadir, U., & Alabede, J. (2022). Electronic tax administration and taxpayer's compliance attitude in Nigerian North-East region: empirical evidence from Taraba state. *TSU-International Journal of Accounting and Finance*, 1(3), 27-45.
- Abdu, E., & Adem, M. (2023). Tax compliance behavior of taxpayers in Ethiopia: A review paper. *Cogent Economics & Finance*, 11(1), 1-13.
- Abdullahi, U. M. (2017). *Factors influencing tax compliance behavior among the self-employed in Nigeria* (Doctoral dissertation, Universiti Utara Malaysia).
- Abiola, J., & Asiweh, M. (2012). Impact of tax administration on government revenue in a developing economy-a case study of Nigeria. *International Journal of Business and Social Science*, 3(8), 99-113.
- Abu Bakar, M. A. A., Palil, M. R., & Maelah, R. (2023). Governance quality of political stability and rule of law on tax compliance: A mediation analysis of tax morale. *Jurnal Pengurusan*, 67(1), 1-14.
- Adebiyi, O. O. (2023). Taxation in the Digital Age: An Examination of the Necessity, Feasibility, and Implications of Taxing Virtual Infrastructures. *Asian Journal of Economics, Business and Accounting*, 23(23), 13-35.
- Adeniran, A., Ekeruche, A., and Onykwena, C. (2021). The role of social influence in enforcing tax compliance: Experimental evidence from Nigeria. *ICTD Working Paper 122*. Brighton, Institute of Development Studies. <https://doi.org/10.19088/ICTD/2021.011>
- Adriani, D. E. (2016). *Factors influencing the compliance behavior of individual taxpayers in Riau Indonesia* (Doctoral dissertation, Kulliyah of Economics and Management Sciences, International Islamic University Malaysia).
- Advani, A. (2022). Who does and doesn't pay taxes?. *Fiscal Studies*, 43(1), 5-22.

- Agbetunde, L. A., Raimi, L., & Akinrinola, O. O. (2022). Moderating influence of religiosity on the causality between taxpaying attitudes and tax compliance behavior of entrepreneurial firms in Nigeria. *International Journal of Ethics and Systems*, 38(3), 402-425.
- Aguilera, R. V., & Vadera, A. K. (2008). The dark side of authority: Antecedents, mechanisms, and outcomes of organizational corruption. *Journal of Business Ethics*, 77(4), 431-449.
- Agius, S. J. (2013). Qualitative research: its value and applicability. *The Psychiatrist*, 37(6), 204–206.
- Ahamed, F. (2013). Background of history of Bangladesh and ready-made garment industry: key challenges in the RMG industry. *Middle East Journal of Business*, 8(1), 33-52.
- Ahmad, M. A. R., Mohd-Hanafah, H. M., & Mohd-Noor, M. A. (2007). The effects of knowledge on tax compliance behavior among Malaysian taxpayers. *Proceedings of International Conference on Business and Information (BAI), Tokyo, Japan, July 11-13*. retrieved January 14, 2021, from <http://ibacnet.org/bai2007/proceedings/Papers/2007bai7357.doc>.
- Ahmed, E., & Braithwaite, V. (2004). When tax collectors become collectors for child support and student loans: Jeopardizing the revenue base? *Kyklos*, 57(3), 303-326.
- Ahmed, N. (2013) 'Improving tax compliance in Bangladesh: A study of value-added tax (VAT)', *Working Paper Series No. 11/2013*, Institute of Governance Studies, BRAC University. <https://www.theigc.org/sites/default/files/2014/08/Nasiruddin-Ahmed-Bangladesh-GW2013.pdf>
- Ahmed, S. U. (2019). Taxation challenges for Bangladesh. *The cost and management*, 47(4), 13-21.
- Ahmed, S. U. (2020). Tax amnesty schemes in Bangladesh: Some observations. *The Cost and Management*, 48(3), 35-40.

- Ahmed, Z. (2021, December 16). Bangladesh at 50: 'Basket case' to a rising economic star. *DW*. <https://www.dw.com/en/bangladesh-economy-50-years-on/a-57015896>
- Akdede, S. H. (2011). Corruption and tax evasion. *Doğuş Üniversitesi Dergisi*, 7(2), 141-149.
- Akinyomi, O. J. and K. Okpala (2013), Appraisal of factors influencing tax avoidance and evasion in Nigeria', *International Journal of Research in Commerce and Management*, 4(5), 107–111.
- Akpo, U. (2009). The people as government: The importance of tax payment. *Akwa Ibom State Revenue Summit*. Uyo: Akwa Ibom State Internal Revenue Service.
- Alabede, J. O., Ariffin, Z. B. Z., & Idris, K. M. (2011). Determinants of tax compliance behavior: A proposed model for Nigeria. *International Research Journal of Finance and Economics*, 78(1), 121-136.
- Alabede, J. O. (2012). *An investigation of factors influencing taxpayers' compliance behavior: Evidence from Nigeria* (Doctoral dissertation, Universiti Utara Malaysia).
- 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.
- Al-Aali, L. (2021). The effect of human resource practices and organizational commitment on employee performance. *Annals of Contemporary Developments in Management & HR (ACDMHR)*, 3(2), 11-27.
- Alasfour, F., Samy, M., & Bampton, R. (2016). The determinants of tax morale and tax compliance: Evidence from Jordan. *Advances in taxation* 23(1), 125-171.
- Ali, M., Fjeldstad, O. H., & Sjursen, I. H. (2014). To pay or not to pay? Citizens' attitudes toward taxation in Kenya, Tanzania, Uganda, and South Africa. *World development*, 64, 828-842.

- Alkhatib, A. A., & Abdul-Jabbar, H. (2017). An economic framework for tax evasion in Palestine. *American-Eurasian Journal of Scientific Research*, 12(6), 300-304.
- Alkhatib, A. A., Abdul-Jabbar, H., Abuamria, F., & Rahhal, A. (2019). The effects of social influence factors on income tax evasion among the Palestinian SMEs. *International Journal of Advanced Science and Technology*, 28(17), 690-700.
- Allingham, M., & Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1(3-4), 323-338.
- Alm, J. (1991). A perspective on the experimental analysis of taxpayer reporting. *The Accounting Review*, 66(3), 577-593.
- Alm, J. (1999). Tax Compliance and Tax Administration, 741-768. *Handbook on Taxation*, New York, NY: Marcel Dekker, Inc.
- Alm, J. (2014). Expanding the theory of tax compliance from individual to group motivations. In *A Handbook of Alternative Theories of Public Economics* (pp. 260-277). Edward Elgar Publishing.
- Alm, J. (2019). What motivates tax compliance? *Journal of Economic Surveys*, 33(2), 353-388.
- Alm, J., Deskin, J., & McKee, M. (2004). Tax evasion and entrepreneurship: An experimental approach. *97th National Tax Association annual conference*. Minneapolis: National Tax Association.
- Alm, J., Kirchler, E., Muehlbacher, S., Gangl, K., Hofmann, E., Kogler, C., & Pollai, M. (2012). Rethinking the research paradigms for analysing tax compliance behaviour. In *CESifo forum*, 13(2), 33-40.
- Alm, J., Martinez-Vazquez, J., & McClellan, C. (2016). Corruption and firm tax evasion. *ICEPP Working Papers*. 2. retrieved February 14, 2021, from <https://scholarworks.gsu.edu/icepp/2>
- Alm, J., McClelland, G. H., & Schulze, W. D. (1992). Why do people pay taxes? *Journal of Public Economic*, 48(1), 21-38.

- Al-Rahamneh, N. M., & Bidin, Z. (2022). The effect of tax fairness, peer influence, and moral obligation on sales tax evasion among Jordanian SMEs. *Journal of Risk and Financial Management*, 15(9), 1-15.
- AL-Rashdan, M. (2020). The effect of attitude, subjective norms, perceived behavioral control on tax compliance in Jordan: The moderating effect of customs tax. *International Journal of Scientific & Technology Research*, 9(4), 233-238.
- Alshira'h, A. (2023). How can value added tax compliance be incentivized? An experimental examination of trust in government and tax compliance costs. *Journal of Money Laundering Control*, 27(1), 191-208.
- Alshira'h, A. F., & Abdul-Jabbar, H. (2020). Moderating role of patriotism on sales tax compliance among Jordanian SMEs. *International Journal of Islamic and Middle Eastern Finance and Management*, 13(3), 389-415.
- Alshira'h, A. F., Alsqour, M. D., Lutfi, A., Alsyouf, A., & Alshirah, M. (2020). A socio-economic model of sales tax compliance. *Economies*, 8(4), 88.
- Alstadsæter, A., Johannesen, N., & Zucman, G. (2019). Tax evasion and inequality. *American Economic Review*, 109(6), 2073-2103.
- Anto, L., Husin, H., Hamid, W., & Bulan, N. (2021). Taxpayer awareness, tax knowledge, tax sanctions, public service account ability and taxpayer compliance. *Accounting*, 7(1), 49-58.
- Antwi, S. K., Inusah, A. M., & Hamza, K. (2015). The effect of demographic characteristics of small and medium entrepreneurs on tax compliance in the tamale metropolis, Ghana. *International journal of Economics, commerce and Management*, 3(3), 1-20.
- Anyaduba, J. O., & Oboh, T. (2019). Determinants of Tax Compliance Behavior under the Self-Assessment Scheme in Nigeria. *Accounting and Finance Research*, 8(2), 13-31.
- Ardillah, K., & Farhanah, M. (2022). Tax rates reduction, tax understanding, and online tax services to MSME taxpayer compliance during Covid-19. In *Urbanizing the*

Regional Sector to Strengthen Economy and Business to Recover from Recession: Proceedings of the 5th International Research Conference on Economics and Business (IRCEB 2021), Malang, Indonesia, 10–11 November 2021. Taylor & Francis.

Aregbesola, O. D., Owosekun, A. O., & Salawu, R. O. (2020). Marital status and educational background as determinants of tax compliance in Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 4(8), 777-783.

Areo, O. S., Gershon, O., & Osabuohien, E. (2020). Improved public services and tax compliance of small and medium scale enterprises in Nigeria: A generalised ordered logistic regression. *Asian Economic and Financial Review*, 10(7), 833-860.

Armstrong, J., & Overton, T. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(1), 396-402.

Arogundade, J. A. (2005). *Nigerian income tax and its international dimension*. Ibadan: Spectrum Books Ltd.

Asadullah, M. N., & Chakravorty, N. T. (2019). Growth, governance and corruption in Bangladesh: a re-assessment. *Third World Quarterly*, 40(5), 947-965.

Ashby, J. S., Webley, P., & Haslam, A. S. (2009). The role of occupational taxpaying cultures in taxpaying behavior and attitudes. *Journal of Economic Psychology*, 30(2), 216-227.

Asubonteng, D., McCleary, K. L., & Swan, J. E. (1996). SERQUAL revisited: A critical review of service quality. *Journal of Service Marketing*, 10(6), 62-81.

ATO (2023). *Compliance model, Australian taxation office*, retrieved 25 October 2023, from <https://www.ato.gov.au/about-ato/managing-the-tax-and-super-system/strategic-direction/how-we-help-and-influence-taxpayers/compliance-model>

- Augustine, A. A., & Enyi, E. P. (2020). Control of corruption, trust in government, and voluntary tax compliance in South-West, Nigeria. *Management Studies*, 8(1), 84-97.
- Augustine, A. A., Folajimi, A. F., & Ayodele, A. L. (2020). Quality of tax services, Moderated by trust in State Internal Revenue service and voluntary tax compliance behaviour among Individual taxpayers in South-West, Nigeria. *Journal of Accounting, Business and Finance Research*, 8(2), 47-57.
- Baeli, J. (2021). Analysis Of Tax Compliance Based On Psychological Factors And Tax Administration. *AKADEMIK: Jurnal Mahasiswa Ekonomi & Bisnis*, 1(3), 87-94.
- Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational behavior and human decision processes*, 50(2), 248-287.
- Bangladesh Bureau of Statistics (2020), *Bangladesh statistics 2018*, retrieved March 18, 2021, from 2021-06-30-09-23-c9a2750523d19681aecfd3072922fa2c.pdf (portal.gov.bd)
- Bangladesh Bureau of Statistics (2023). *Labor force survey 2023*, retrieved October 23, 2023, from <http://data.bbs.gov.bd/index.php/catalog/LFS/about>
- Bangun, H., Ginting, Y. L., & Iskandar, R. (2017). The problems of taxpayers compliance, ethics, tax audit and tax penalty: evidence from Samarinda. In *Mulawarman International Conference on Economics and Business (MICEB 2017)*. Atlantis Press.
- Bajpai, S., & Bajpai, R.C. (2014). Goodness of measurement: reliability and validity. *International Journal of Medical Science and Public Health*, 3, 112-115.
- Bătrâncea, L. M., Nichita, R. A., Bătrâncea, I., & Moldovan, B. A. (2012). Tax compliance models: From economic to behavioral approaches. *Transylvanian Review of Administrative Sciences*, 8(36), 13-26.

- Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, 76(2), 169-217.
- Bell, E., Bryman, A., & Harley, B. (2018). *Business research methods*. Oxford University Press.
- Bello, K. B., & Danjuma, I. (2014). Review of models/theories explaining tax compliance behavior. *Sains Humanika*, 2(3), 35-38.
- Berger, I. E., Ratchford, B. T., & Haines Jr, G. H. (1994). Subjective product knowledge as a moderator of the relationship between attitudes and purchase intentions for a durable product. *Journal of Economic Psychology*, 15(2), 301-314.
- Bertinelli, L., Bourgain, A., & Léon, F. (2020). Corruption and tax compliance: evidence from small retailers in Bamako, Mali. *Applied Economics Letters*, 27(5), 366-370.
- Besley, T., & Persson, T. (2014). Why do developing countries tax so little?. *Journal of Economic Perspectives*, 28(4), 99-120.
- Bhattacharjee, A. (2012). *Social science research: principles, methods, and practices*. Global Text Project, University of South Florida, Tampa, FL, USA.
- Bhattacharjee, P. P., Adhikary, T. S. (2021, April 19). Bangladesh's extended 7-day lockdown to be stricter, *The Daily Star*. <https://www.thedailystar.net/frontpage/news/extended-lockdown-be-stricter-2079729>
- Bhuiyan, M. Z. H. (2012). Tax evasion and avoidance practices in some selected corporate firms of Bangladesh. *World Journal of Social Sciences*, 2(7), 155-156.
- Birch, A., Peters, T., & Sawyer, A. (2003). New Zealanders' attitudes towards tax evasion: A demographic analysis. *New Zealand Journal of Taxation Law and Policy*, 9(1), 65-109.
- Bird, R. M., & Zolt, E. M. (2005). The limited role of the personal income tax in developing countries. *Journal of Asian Economics*, 16(6), 928-946.

- Biru, A. M. (2020). Factors that affect tax compliance behavior of small and medium enterprises: evidence from Nekemte city. *European Journal of Business and Management*, 12(19), 29-41.
- Brown, R. E., & Mazur, M. J. (2003). IRS's comprehensive approach to compliance measurement. *National tax journal*, 56(3), 689-700.
- Bruce-Twum, E. (2014). Gift tax compliance in Ghana, an empirical study. *Journal of Finance and Accounting*, 2(1), 1-7.
- Bubbico, A., Elkind, J. A., & Okolikj, M. (2017). Quality of government and regional competition: A spatial analysis of subnational regions in the European Union. *European Journal of Political Research*, 56(4), 887-911.
- Campbell, B. R. (2023). *Understanding the tax gap: accounting strategies that may influence the tax noncompliance of small business owners* (Doctoral dissertation, Northcentral University).
- Caro, L. M., & Garcia, J. A. M. (2007). Measuring perceived service quality in urgent transport service. *Journal of Retailing and Consumer Services*, 14(1), 60-72.
- Cash Economy Task Force (1998). Improving tax compliance in the cash economy. *Report to the Commissioner of Taxation, Australian Taxation Office, Canberra, ACT*.
- Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods*. Milton: John Wiley & Sons Australia Ltd.
- Cepiku, D. (2013). Unraveling the concept of public governance: A literature review of different traditions. *Conceptualizing and researching governance in public and non-profit organizations*, 3-32.
- Chan, C. W., Troutman, C. S., & O'Bryan, D. (2000). An expanded model of taxpayer compliance: Empirical evidence from USA and Hong Kong. *Journal of International Accounting, Auditing and Taxation*, 9(2), 83-103.
- Chan, H. F., Supriyadi, M. W., & Torgler, B. (2017). *Trust and tax morale*. The Oxford handbook of social and political trust. Oxford University Press.

- Chan, S. W. C., Chien, W. T., & Tso, S. (2009). Evaluating nurses' knowledge, attitude and competency after an education programme on suicide prevention. *Nurse Education Today*, 29(7), 763-769.
- Charron, N., Dijkstra, L., & Lapuente, V. (2015). Mapping the regional divide in Europe: A measure for assessing quality of government in 206 European regions. *Social indicators research*, 122(2), 315-346.
- Chau, G., & Leung, P. (2009). A critical review of Fischer's tax compliance model: A research synthesis. *Journal of Accounting and Taxation*, 1(2), 34-40.
- Chindengwike, J., & Kira, A. R. (2022). The Effect of Tax Rate on Taxpayers' Voluntary Compliance in Tanzania. *Universal Journal of Accounting and Finance*, 10(5), 889-896.
- Chuang, S. C., Tsai, C. C., Cheng, Y. H., & Sun, Y. C. (2009). The effect of terminologies on attitudes toward advertisements and brands: Consumer product knowledge as a moderator. *Journal of Business and Psychology*, 24(4), 485-491.
- Chung, J., & Trivedi, V. U. (2003). The effect of friendly persuasion and gender on tax compliance behavior. *Journal of Business Ethics*, 47(2), 133-145.
- Cobham, A. (2005). Tax evasion, tax avoidance and development. *United Kingdom: Finance and Trade Policies Research Centre, University of Oxford*.
- Collins, K. M., Onwuegbuzie, A. J., & Jiao, Q. G. (2006). Prevalence of mixed-methods sampling designs in social science research. *Evaluation & Research in Education*, 19(2), 83-101.
- Cooper, D. R., & Schindler, P. (2014). *Business research methods*. McGraw-hill.
- Countryeconomy (2020), *National public debt of Bangladesh in 2018*, retrieved May 09, 2020, from <https://countryeconomy.com/national-debt/bangladesh>
- Countryeconomy (2023). *Bangladesh national debt*. retrieved October 10, 2023, from <https://countryeconomy.com/national-debt/bangladesh>

- Couper, M. (2000). Web surveys: A review of issues and approaches. *Public Opinion Quarterly*, 64(4), 464-494.
- CPD (2023). *An analysis of the national budget for FY 2023-24*, retrieved October 20, 2023, from <https://cpd.org.bd/resources/2023/06/CPD-Budget-Analysis-FY2024.pdf>
- Creswell, J. (2009). *Research design: Qualitative, quantitative and mixed method approaches*. United Kingdom: Sage Publication Inc.
- Crisp, J. R., & Turner, R. N. (2007). *Essential social psychology*. London: Sage Publications.
- Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic literature*, 47(2), 448-474.
- Darmawan, W., & Sari, D. (2023). How do Taxpayer Awareness and Tax Service Quality Affect Restaurant Taxpayer Compliance?: Survey in Bandung City, Indonesia. *Journal of Survey in Fisheries Sciences*, 10(3S), 929-940.
- Davis, D., & Cosenza, R. M. (1993). *Business research for decision making*. Boston, US: PWS-Kent Pub. Co.
- Deelstra, Y., Nootboom, S. G., Kohlmann, H. R., Van den Berg, J., & Innanen, S. (2003). Using knowledge for decision-making purposes in the context of large projects in The Netherlands. *Environmental Impact Assessment Review*, 23(5), 517-541.
- De Neve, J. E., Imbert, C., Spinnewijn, J., Tsankova, T., & Luts, M. (2021). How to improve tax compliance? Evidence from population-wide experiments in Belgium. *Journal of Political Economy*, 129(5), 1425-1463.
- Devos, K. (2005). The attitudes of tertiary students on tax evasion and the penalties for tax evasion: A pilot study and demographic analysis. *eJournal of Tax Research*, 3(2), 222-273.
- Devos, K. (2008). Tax evasion behavior and demographic factors: An exploratory study in Australia. *Revenue Law Journal*, 18(1), 1-23.

- Dhaka Tribune (2018), *NBR set to collect secondary data to broaden tax net*, Dhaka Tribune Business report.
<https://www.dhakatribune.com/business/economy/2018/07/22/nbr-set-to-collect-secondary-data-to-broaden-tax-net>
- Dirsehan, T., & Cankat, E. (2021). Role of mobile food-ordering applications in developing restaurants' brand satisfaction and loyalty in the pandemic period. *Journal of Retailing and Consumer Services*, 62(1), 1-8.
- Dissanayake, N., & Premaratna, S. P. (2020). The impact of income on tax compliance: The empirical evidence from small and medium taxpayers of Sri Lanka. In *Research Conference on Business Studies*.
- Dubin, J. A., Graetz, M. A., & Wilde, L. L. (1987). Are we a nation of tax cheater?: New econometric evidence on tax compliance. *American Economic Review*, 77(2), 240-245.
- Dularif, M., & Rustiarini, N. W. (2022). Tax compliance and non-deterrence approach: a systematic review. *International Journal of Sociology and Social Policy*, 42(11/12), 1080-1108.
- Dwenger, N., Kleve, H., Rasul, I., & Rincke, J. (2016). Extrinsic and intrinsic motivations for tax compliance: Evidence from a field experiment in Germany. *American Economic Journal: Economic Policy*, 8(3), 203-232.
- D'attoma, J., Volintiru, C., & Steinmo, S. (2017). Willing to share? tax compliance and gender in Europe and America. *Research & Politics*, 4(2), 1-10.
- D'attoma, J. W., Volintiru, C., & Malézieux, A. (2020). Gender, social value orientation, and tax compliance. *CESifo Economic Studies*, 66(3), 265-284.
- e-Hassan, I., Naeem, A., & Gulzar, S. (2021). Voluntary tax compliance behavior of individual taxpayers in Pakistan. *Financial Innovation*, 7(21), 1-23.
- Eckel, C. C., & Grossman, P. J. (2001). Chivalry and solidarity in ultimatum games. *Economic inquiry*, 39(2), 171-188.

- Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis. *Psychological methods*, 12(1), 1-22.
- Elbahnasawy, N. G. (2020). Democracy, political instability, and government tax effort in hydrocarbon-dependent countries. *Resources Policy*, 65(1), 1-16.
- Embaye, A. B. (2007). *Essay on tax evasion and government spending in developing countries*. Unpublished doctoral dissertation, Georgia State University, Atlanta.
- Engida, T. G., & Baisa, G. A. (2014). Factors influencing taxpayers' compliance with the tax system: An empirical study in Mekelle City, Ethiopia. *eJTR*, 12(2), 433-452.
- Eric, A., Solomon, A., Nicholas, A. K., Agyeiwaa, H., & Antwi, K. (2019). An empirical assessment of tax knowledge, socio-economic characteristics and their effects on tax compliance behavior in Sunyani municipality, Ghana. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 10(4), 148-153.
- Eriksen, K., & Fallan, L. (1996). Tax knowledge and attitudes towards taxation; a report on a quasi-experiment. *Journal of economic psychology*, 17(3), 387-402.
- Ernest, B. T., & Danie, S. (2021). Tax compliance cost: A review of methodologies of recent studies. *Academy of Accounting and Financial Studies Journal*, 25(4), 1-10.
- ESCAP (2018), Economic and social survey of Asia and the Pacific 2018, retrieved 19 January 2020, from https://www.unescap.org/sites/default/files/publications/Survey2018_Final_0.pdf
- Ete, S. N. (2023). An Overview of the Reforms of Personal Income Tax (PIT) in Bangladesh. *International Journal of Science and Business*, 21(1), 42-53.
- Everest-Phillip, M., & Sandall, R. (2009). *Linking business tax reform with governance: How to measure success*. (Working paper, Investment Climate Department,

World Bank Group).
<https://documents1.worldbank.org/curated/en/909271468154467122/pdf/483140BRI0link10Box338894B01PUBLIC1.pdf>

- Faizal, S. M., Palil, M. R., Maelah, R., & Ramli, R. (2017). Perception on justice, trust and tax compliance behavior in Malaysia. *Kasetsart Journal of Social Sciences*, 38(3), 226-232.
- Falsetta, D., Schafer, J. K., & Tsakumis, G. T. (2023). How government spending impacts tax compliance. *Journal of Business Ethics*, 182(2), 1-18.
- Faridy, N., & Sarker, T. (2011). Incidence of value added tax (Vat) in the developing countries: A case in Bangladesh. *International Journal of Trade, Economics and Finance*, 2(5), 437-442.
- 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.
- Fauziati, P., Minovia, A. F., Muslim, R. Y., & Nasrah, R. (2020). The impact of tax knowledge on tax compliance case study in Kota Padang, Indonesia. *Journal of Advanced Research in Business and Management Studies*, 2(1), 22-30.
- Febrian, Y. B., & Islami, I. N. (2020). Gender, trust, and tax compliance: the mediating effect of fairness perception. *Journal of Applied Accounting and Finance*, 4(2), 131-145.
- Feld, L. P., & Frey, B. S. (2003). Deterrence and tax morale: How tax administration and taxpayers interact. *OECD Papers*, 3(10), 1-19.
- Feld, L. P., & Frey, B. S. (2006). Tax evasion in Switzerland: The roles of deterrence and tax morale. *Tax Evasion, Trust and State Capacities*, 3(1), 123-153.
- Feld, L., & Frey, B. (2019). *Tax compliance as the result of a psychological tax contract: The role of incentives and responsive regulation*. (Working paper no. 76, Centre for Tax System Integrity (CTSI), Research School of Social Sciences, the Australian National University). <http://hdl.handle.net/1885/154894>

- Fischer, C. M. (1993). *Perceived detection probability and taxpayer compliance: A conceptual and empirical examination*. The Pennsylvania State University.
- Fischer, C. M., Wartick, M., & Mark, M. (1992). Detection probability and tax compliance: A review of the literature. *Journal of Accounting Literature*, 11(2), 1-46.
- Fjeldstad, O. H., & Semboja, J. (2001). Why people pay taxes: The case of the development levy in Tanzania. *World Development*, 29(12), 2059-2074.
- Franzon, L. (2000). *Tax evasion and tax compliance*. In B. Bouckaert, & G. DeGeest, *Encyclopedia of Law and Economics*. Cheltenham: Edward Elgar.
- Fredrick, W. W., & Peter, O. I. (2019). The influence of demographic factors on taxpayer compliance in Uganda. *International Journal of Academic Research in Business and Social Sciences*, 9(9), 537-556.
- Freire-Seren, M. J., & Panadés, J. (2013). Do higher tax rates encourage/discourage tax compliance?. *Modern Economy*, 4(12) 809-817.
- Friedland, N., Maital, S., & Rutenberg, A. (1978). A simulation study of income tax evasion. *Journal of public economics*, 10(1), 107-116.
- Gangl, K., & Torgler, B. (2020). How to achieve tax compliance by the wealthy: A review of the literature and agenda for policy. *Social Issues and Policy Review*, 14(1), 108-151.
- Gangl, K., Hofmann, E., & Kirchler, E. (2015). Tax authorities' interaction with taxpayers: A conception of compliance in social dilemmas by power and trust. *New ideas in psychology*, 37(1), 13-23.
- George, D., & Mallery, P. (2019). *IBM SPSS statistics 26 step by step: A simple guide and reference*. Routledge.
- Gilligan, G., & Richardson, G. (2005). Perceptions of tax fairness and tax compliance in Australia and Hong Kong: A preliminary study. *Journal of Financial Crime*, 12(4), 331-343.

- Gitaru, K. (2017). *The effect of taxpayer education on tax compliance in Kenya. A case study of SME's in Nairobi central business district.* (Masters dissertation, University of Nairobi).
- Guldana, B. K. (2013). Tax evasion: Criminological characteristic, problems of criminal liability application and improvement of the mechanism of crime suppression. *Middle-East Journal of Scientific Research*, 16(7), 907-912.
- Güzel, S. A., Özer, G., & Özcan, M. (2019). The effect of the variables of tax justice perception and trust in government on tax compliance: The case of Turkey. *Journal of behavioral and experimental economics*, 78(1), 80-86.
- 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. F., Money, A. H., Samouel, P., & Page, M. (2007). Research methods for business. *Education+ Training*, 49(4), 336-337.
- Hair, J. F., Bush, R. P., & Ortinau, D. J. (2008). *Marketing research.* McGraw-Hill Higher Education.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective.* New Jersey: Pearson Education, Inc.
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European business review*, 26(2), 106-121.
- Hansford, A., & Hasseldine, J. (2012). Tax compliance costs for small and medium sized enterprises: the case of the UK. *eJournal of Tax Research*, 10(2), 288-303.
- Haq, K. M. (2017). Good Governance Issues in Bangladesh: Challenges and Options. *Journal of Social Science, Rajshahi College*, 1(1), 31-68.
- Harnovinsah, H., Kansil, N. E., Nugroho, L., & Putra, Y. M. (2023). Analysis of the impact of tax knowledge and penalties on the compliance level of taxpayers with

- religion as a moderator. *International Journal of Commerce and Finance*, 9(1), 1-20.
- Hasan, B., Sultana, M., & Hasan, M. N. (2011) Good governance in Bangladesh: problems and prospects, *UITS Journal*, 3(2), 23-38.
- Hasan, R. (2014). Tax compliance behavior among prospective taxpayers in Bangladesh. *Research Journal of Economics and Business Studies*, 3(3), 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, N. S. A., Palil, M. R., Ramli, R., & Maelah, R. (2022). Enhancing tax compliance in Malaysia: does tax learning and education matter?. *International Business Education Journal*, 15(1), 18-29.
- 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.
- Helliwell, J. F., & Huang, H. (2008). How's your government? International evidence linking good government and well-being. *British journal of political science*, 38(4), 595-619.
- Helliwell, J. F., Huang, H., & Wang, S. (2020). *Happiness and the quality of government* (Working paper no. 26840, National Bureau of Economic Research).
https://www.nber.org/system/files/working_papers/w26840/w26840.pdf
- Herbison, J. D., Vierimaa, M., Côté, J., & Martin, L. J. (2019). The dynamic nature of connection and its relation to character in youth sport. *International Journal of Sport and Exercise Psychology*, 17(6), 568-577.
- Hofmann, E., Voracek, M., Bock, C., & Kirchler, E. (2017). Tax compliance across sociodemographic categories: Meta-analyzes of survey studies in 111 countries. *Journal of Economic Psychology*, 62(1), 63-71.

- Hogg, M. A., & Vaughan, G. M. (2005). *Social Psychology*, 4th ed. Harlow: Pearson Education Ltd.
- Holmberg, S., & Rothstein, B. (Eds.). (2012). *Good government: The relevance of political science*. Cheltenham, UK: Edward Elgar Publishing.
- Homan, G. C. (1974). *Social behavior: Its elementary forms*. New York: Harcourt Brace Jovanovich.
- Hossain, S. (2020, March 20), Bangladesh, GDP and corruption go hand in hand. *The Daily Prothomalo*. <https://en.prothomalo.com/opinion/op-ed/bangladesh-gdp-and-corruption-goes-hand-in-hand>
- HMRC. (2025, March 21). *Measuring tax gaps 2024 edition: Tax gap estimates for 2022 to 2023*. GOV.UK. *Measuring tax gaps 2024 edition: tax gap estimates for 2022 to 2023 - GOV.UK*
- Hu, P. J. H., Brown, S. A., Thong, J. Y., Chan, F. K., & Tam, K. Y. (2009). Determinants of service quality and continuance intention of online services: The case of eTax. *Journal of the American Society for Information Science and Technology*, 60(2), 292-306.
- Hussain, T., Maitlo, S., Raza-ul-Mustafa, A., & Mujahid, H. (2022). Corruption, governance, and government revenue. *Journal of History and Social Sciences*, 13(2), 122-133.
- Huther, J., & Shah, A. (1998). *Applying a simple measure of good governance to the debate on fiscal decentralization*. World Bank Publications.
- Ibrahim, M., Musah, A., & Abdul-Hanan, A. (2015). Beyond enforcement: what drives tax morale in Ghana? *Humanomics*, 31(4), 399-414.
- Ilmiyani, B. S. N., & Djamaluddin, S. D. (2020). Provision of public goods and services by the government and property tax compliance. *Journal of Indonesian Applied Economics*, 8(2), 35-45.

- Income Tax Ordinance (1984a), *Heads of income, the income tax ordinance, government of Bangladesh*, retrieved March 15, 2020, from <http://bdlaws.minlaw.gov.bd/act-672/section-10172.html>
- Income Tax Ordinance (1984b), *Imposition of penalty, the income tax ordinance, government of Bangladesh*, retrieved March 15, 2020, from <http://bdlaws.minlaw.gov.bd/act-672/chapter-943.html>
- Income Tax Ordinance (2015), *Amendment of income tax rate, the income tax ordinance, government of Bangladesh*, retrieved March 15, 2020, from <http://nbr.gov.bd/uploads/publications/106.pdf>
- Indrawati, V. (2019). *Pengaruh persepsi korupsi, kualitas pelayanan, sanksi perpajakan, dan sistem administrasi perpajakan modern terhadap kepatuhan wajib pajak dengan tingkat pendidikan sebagai variabel kontrol*. (Masters dissertation, Universitas Islam Indonesia, Yogyakarta).
- Inasius, F. (2019). Factors influencing SME tax compliance: Evidence from Indonesia. *International Journal of Public Administration*, 42(5), 367-379.
- Institute on Governance (2003), *Governance principles for protected areas in the 21st Century*, retrieved 20 September 2019, from https://www.files.ethz.ch/isn/122197/pa_governance2.pdf
- IRBD (2018). *Bangladesh economy in FY 2017-2018*, retrieved April 24, 2025, from https://cpd.org.bd/resources/2018/01/IRBD-FY2018-First-Reading_Paper-Final-13012017.pdf
- IRBD (2023). *State of Bangladesh Economy in FY 2022-23*, retrieved October 20, 2023, from <https://cpd.org.bd/resources/2023/05/Report-IRBD-FY23-3rd-Reading.pdf>
- IRS (2023). *Tax gap projections for tax year 2020 and 2021*, retrieved April 24, 2025, from <https://www.irs.gov/pub/irs-pdf/p5869.pdf>

- Isa, F. M. (2007). *Change management Initiatives and Change success in direct selling Industry: The moderating Effect of Attitude towards Change* (Doctoral dissertation, Universiti Sains Malaysia).
- Isa, K. (2014). Tax complexities in the Malaysian corporate tax system: minimise to maximise. *International Journal of Law and Management*, 56(1), 50-65.
- Islam, M. R. (2016). Contribution of indirect taxes on GDP of Bangladesh. *Asia Pacific Journal of Research*, 38(1), 213-217.
- Islam, M. S., Islam, M. N., & Saha, N. (2022). Challenges of Tax Assessment and Collection Procedures in Bangladesh. *The Cost and Management*, 4(1). 4-12.
- Israel, D. (2009). *Data analysis in business research: A step-by-step nonparametric approach*. Sage Publications.
- Jackson, B. R., & Milliron, V. C. (1986). Tax compliance research: Findings, problems, and prospects. *Journal of accounting literature*, 5(1), 125-165.
- James, S., & Alley, C. (2002). Tax compliance, self-assessment and tax administration. *Journal of Finance and Management in Public Services*, 2(2), 27-42.
- James, S., Murphy, K., & Reinhart, M. (2005). Taxpayers beliefs and views: A new survey. *Australian Tax Forum*, 22(2), 157-188.
- Jahnke, B. (2017). *How does petty corruption affect tax morale in sub-Saharan Africa? An empirical analysis* (WIDER Working Paper No. 2017/8). <https://www.econstor.eu/bitstream/10419/161573/1/877969116.pdf>
- Jawas, F., Diatmika, P. G., & Yasa, I. N. P. (2017). Efektivitas penerapan sistem elektronik dan pelayanan perpajakan terhadap penerimaan pajak. *Jurnal Ilmiah Mahasiswa Akuntansi SI*, 8(2), 13-19.
- 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(1), 17-26.

- Johnson, I., Beaton, R., Murphy, S., & Pike, K. (2000). Sampling bias and other methodological threats to the validity of health survey research. *International Journal of Stress Management*, 7(1), 247-267.
- Kasipillai, J., Aripin, N., & Amran, N. (2003). *The influence 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.
- Kasipillai, J., Aripin, N. and Amran, N. (2013). The influence of education on tax avoidance and tax evasion. *eJournal of Tax Research*, 1(2), 134-146.
- Kasper, M., & Alm, J. (2022). Audits, audit effectiveness, and post-audit tax compliance. *Journal of Economic Behavior & Organization*, 195(1), 87-102.
- Kassa, E. T. (2021). Factors influencing taxpayers to engage in tax evasion: evidence from Woldia City administration micro, small, and large enterprise taxpayers. *Journal of innovation and entrepreneurship*, 10(1), 1-16.
- Kastlunger, B., Kirchler, E., Mittone, L., & Pitters, J. (2009). Sequences of audits, tax compliance, and taxpaying strategies. *Journal of Economic Psychology*, 30(3), 405-418.
- 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(1), 36-45.
- Kaufmann, D. (2007). *Governance matters VI: Aggregate and individual governance indicators, 1996-2006* World Bank Publications.
- Kaufmann, D., Kraay, A., & Zoido-Obaton, P. (2002). *Governance matters II & updated indicators for 2000/01*. (World Bank Policy Research Department Working Paper No. 2772, Washington. DC. USA). <https://openknowledge.worldbank.org/entities/publication/a7a3202d-94f8-57ee-90e6-0623a16eb61e>

- Kaufmann D. and Kraay A., (2023). Worldwide governance indicators, 2023, accessed 26 October 2023, from. <https://www.worldbank.org/en/publication/worldwide-governance-indicators>
- Khan, T. I., Kamal, M., & Talukdar, F. (2019). *Potential of personal income tax in Bangladesh: An examination of survey data*. Centre for Policy Dialogue (CPD).
- Khanam, T., Begum, A. M. A., & Khanam, S. (2021). An analysis of new VAT law in Bangladesh: changes & challenges. *Beijing Law Review*, 12(1), 875-887.
- Khatun, F. (2022, October, 30), Can an IMF loan rescue Bangladesh's economy?, *The Daily Star*. <https://www.thedailystar.net/opinion/macro-mirror/news/can-imf-loan-rescue-bangladeshs-economy-3156141>
- Kim, S. (2008). Does political intention affect tax evasion?. *Journal of Policy Modeling*, 30(3), 401-415.
- Kira, A. R. (2017). An evaluation of governments' initiatives in enhancing small taxpayers' voluntary tax compliance in developing countries. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(1), 253-267.
- Kirchler, E., Muehlbacher, S., Kastlunger, B., & Wahl, I. (2007). *Why Pay Taxes? A Review of Tax Compliance Decisions*. (Working Papers No. 0730, International Center for Public Policy Working Paper Series, at AYSPS, GSU). <https://ideas.repec.org/p/aysp/ispwps/paper0730.html>
- Kirchler, E., & Maciejovsky, B. (2001). Tax compliance within the context of gain and loss situations, expected and current asset position, and profession. *Journal of Economic Psychology*, 22(2), 173-194.
- Kirchler, E. (2007). *The economic psychology of tax behaviour*. Cambridge University Press.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.

- Kumar, R. (2018). *Research methodology: A step-by-step guide for beginners*. Sage Publications Ltd. London.
- Kurauone, O., Kong, Y., Sun, H., Famba, T., & Muzamhindo, S. (2021). Tax evasion; public and political corruption and international trade: a global perspective. *Journal of Financial Economic Policy*, 13(6), 698-729.
- Kurniawan, D. (2020). The influence of tax education during higher education on tax knowledge and its effect on personal tax compliance. *Journal of Indonesian Economy and Business: JIEB.*, 35(1), 57-72.
- Kwok, B. Y. S., & Yip, R. W. Y. (2018). Is tax education good or evil for boosting tax compliance? Evidence from Hong Kong. *Asian economic journal*, 32(4), 359-386.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1999). The quality of government. *The Journal of Law, Economics, and Organization*, 15(1), 222-279.
- Lago-Peñas, I., & Lago-Peñas, S. (2010). The determinants of tax morale in comparative perspective: Evidence from European countries. *European Journal of Political Economy*, 26(4), 441-453.
- Lassen, D. D. (2003). *Ethnic division and the size of the informal sector*. (Working paper, Institute of Economics, University of Copenhagen).
- Latiff, A. R. A., Noordin, B. A. A., Omar, M. R. C., & Harjito, D. A. (2005). Tax literacy rate among taxpayers: Evidence from Malaysia. *Indonesian Journal of Accounting and Auditing*, 9(1), 1-11.
- Lawan, J., & Salisu, U. M. A. R. (2017). A review of Fischer tax compliance model: A proposal for Nigeria. *International Journal of Advanced Academic Research*, 3(7), 54-69.
- Le, H. T. D., Bui M. T. & Nguyen G. T. C. (2020). Factors affecting electronic tax compliance of SMEs in Vietnam. *Journal of Asian Finance, Economics and Business*, 8(1), 823-832.

- Lee, S. H., Gokalp, O. N., & Kim, J. (2021). Firm–government relationships: A social exchange view of corporate tax compliance. *Global Strategy Journal*, 11(2), 185-209.
- Lemmon, E. W., Huber, M. L., & McLinden, M. O. (2010). NIST standard reference database 23. *Reference fluid thermodynamic and transport properties (REFPROP), version, 9.*
- Levi, M. (1988). *Of rule and revenue.* Univ. of California Press.
- Liebe, U., Preisendörfer, P., & Meyerhoff, J. (2011). To pay or not to pay: Competing theories to explain individuals' willingness to pay for public environmental goods. *Environment and Behavior*, 43(1), 106-130.
- Loo, E. C., McKerchar, M., & Hansford, A. (2009). Understanding the compliance behaviour of Malaysian individual taxpayers using a mixed method approach. *Journal of Australasian Tax Teachers Association*, 4(1), 181-202.
- López-Luzuriaga, A., & Scartascini, C. (2023). *Willing but unable to pay?: The role of gender in tax compliance* (IDB Working Paper No. 12983, Inter-American Development Bank). <https://ideas.repec.org/p/idb/brikps/12983.html>
- Long, S., & Swingen, J. (1991). Taxpayers compliance: Setting new agendas for research. *Law and Society Review*, 25(3), 637-683.
- Lord, J., Baset, S. A. (2024, September 16). Bangladesh's civil service is plagued by corruption. *Dhaka Tribune*. <https://www.dhakatribune.com/opinion/oped/358598/bangladesh%E2%80%99s-civil-service-is-plagued-by>
- Machfuzhoh, A., & Pratiwi, R. (2021). The effect of understanding taxation regulations, tax rates, tax sanctions, tax socialization, fiscus services and online services on the level of compliance with MSME taxpayers. *Jurnal Riset Akuntansi Terpadu*, 14(1), 1-15.
- Manaf, N. A. (2004). Land tax administration and compliance attitude in Malaysia (Unpublished doctoral thesis, University of Nottingham, United Kingdom).

- Mannan, KA, Farhana, KM, & Chowdhury, GMOF (2023). The new fiscal sociology: A study of universal self-assessment taxpayers in Bangladesh. *The Cost and Management*, 51(1), 22-37.
- Mansyuri, M. I., & Mauzu, F. (2022). The influence of service quality and tax knowledge on the compliance level of individual taxpayers at the Dompu tax service, counseling and consultation office. *International Journal of Social Science*, 2(2), 1321-1328.
- Manual, V., & Xin, A. Z. (2016). Impact of tax knowledge, tax compliance cost, tax deterrent tax measures towards tax compliance behavior: A survey on self-employed taxpayers in West Malaysia. *Electronic Journal of Business and Management*, 1(1), 56-70.
- Maps of World (2020) Map of Bangladesh, retrieved February 20, 2020, from <https://www.mapsofworld.com/bangladesh/>
- Marshall, R., Smith, M., & Armstrong, R. (2005). *The impact risk, materiality and severity on ethnical decision making: An analysis of the perception of tax agents in Australia*. (Working paper, No 0504, School of Accounting, Finance and Economic, Edith Cowan University). <https://www.emerald.com/insight/content/doi/10.1108/02686900610667265/full/html>
- Martinez-Vazquez, J., & Rider, M. (2005). Multiple modes of tax evasion: Theory and evidence. *National Tax Journal*, 58(1), 51-76.
- Marti, J. P. (2000). *Essay on tax compliance*. (Doctoral thesis, International Doctorate in Economic Analysis, Spain).
- Masari, N. M. G., & Suartana, I. W. (2019). Effect of tax knowledge, service quality, tax examination, and technology of compliance regional tax mandatory. *International research journal of management, IT and social sciences*, 6(5), 175-183.

- Masud, A., Alkali, Y. M., & Aliyu, A. A. (2021). Mediating role of trust in the relationship between public governance quality and tax compliance: An African cross-sectional analysis. *Bussecon Review of Social Sciences*, 3(4), 11-22.
- Masumah, S., & Hamidi, A. L. (2022). The influence of tax rates, tax payment mechanisms, tax knowledge, service quality, and taxpayer awareness of taxpayer compliance with religiosity as intervening variables. *International Journal of Multidisciplinary Research and Analysis*, 5(4), 858-868.
- Mat Jusoh, Y. H., Mansor, F. A., Abd Razak, S. N. A., & Wan Mohamad Noor, W. N. B. (2021). The effects of tax knowledge, tax complexity and tax morale towards tax compliance behavior among salaried group in Malaysia. *Advances in Business Research International Journal*, 7(2), 250-266.
- Mauro, P. (2004). The persistence of corruption and slow economic growth. *IMF staff papers*, 51(1), 1-18.
- Mavis, M. (2022, March 21), *Bangladesh has the lowest tax GDP ratio in South Asia*, *Dhaka Tribune*. <https://www.dhakatribune.com/business/2022/03/20/nbr-bangladesh-has-the-lowest-tax-gdp-ratio>
- Maxwell, J. A. (2008). *Designing a qualitative study* (Vol. 2, pp. 214-253). The SAGE handbook of applied social research methods.
- Mazid, M. A., (2019, August, 26), “Lower tax-GDP ratio: Critical Issues”, *The Financial Express*. <https://thefinancialexpress.com.bd/views/lower-tax-gdp-ratio-critical-issues-1566832336>
- McBarnett, D. (2001). *When compliance is not the solution but the problem: From changes in law to changes in attitude*. (Working paper No. 18, Center for Tax System Integrity). <https://openresearch-repository.anu.edu.au/bitstream/1885/41635/2/WP18.pdf>
- McGill, G. A. (1988). *The CPA's role in income tax compliance: An empirical study of variability in recommending aggressive tax positions* (Doctoral dissertation, Texas Tech University).

- Merriam, S. B. (2002). Introduction to qualitative research. *Qualitative research in practice: Examples for discussion and analysis*, 1(1), 1-17.
- Ministry of Finance (2018), *Executive summary, Bangladesh economic review, finance division, government of Bangladesh*, retrieved March 20, 2023, from 07. Executive Summery.pdf
- Ministry of Finance (2019), *Fiscal policy and fiscal management, Bangladesh economic review, finance division, government of Bangladesh*, retrieved April 26, 2020, from https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/f2d8fabbb_29c1_423a_9d37_cdb500260002/Ch-04%20%28English-2019%29.pdf
- Ministry of Finance (2020), *Operating and development budget 2019-2020, national budget in FY 2019-2020*, retrieved May 09, 2020, from https://mof.gov.bd/sites/default/files/files/mof.portal.gov.bd/budget_mof/b1592c53_a018_4a3a_af32_ca45155dc662/chart_1_E.pdf
- Ministry of Finance (2023). *Fiscal policy and fiscal management, Bangladesh economic review 2023, finance division, government of Bangladesh*, retrieved July 26, 2023, from https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/f2d8fabbb_29c1_423a_9d37_cdb500260002/Chapter-4%20%28English-2023%29.pdf
- Mohajan, H. K. (2017). Two criteria for good measurements in research: Validity and reliability. *Annals of Spiru Haret University. Economic Series*, 17(4), 59-82.
- Mohdali, R., Isa, K., & Yusoff, S. H. (2014). The impact of threat of punishment on tax compliance and non-compliance attitudes in Malaysia. *Procedia-Social and Behavioral Sciences*, 164(1), 291-297.
- Mollah, M., & Hossain, A. (2014). Administrative reforms and governance in Bangladesh: How far the dream of success?. *Global Journal of Arts Humanities and Social Sciences*, 2(4), 26-52.

- Muhrjala, T. O., & Ogundeji, M. (2013). Professionals' perspective of tax evasion: Some evidence from Nigeria. *Universal Journal of Accounting and Finance*, 1(2), 35-41.
- Muhwa, G., & Omboi, B. (2023). Imposition of tax penalties and interest and its influence on tax compliance of small and medium-sized enterprises in Nairobi County, Kenya. *The University Journal*, 5(2), 40-50.
- Muringani, J., Dahl Fitjar, R., & Rodríguez-Pose, A. (2019). Decentralisation, quality of government and economic growth in the regions of the EU. *Revista de economía mundial*, 51(1), 25-50.
- Murphy, K. (2007). *Procedural justice and the regulation of tax compliance behaviour: the moderating role of personal norms* (Working Paper No. 0731, International Center for Public Policy, Andrew Young School of Policy Studies, Georgia State University).
https://www.researchgate.net/publication/255605973_Procedural_Justice_and_the_Regulation_of_Tax_Compliance_Behaviour_The_Moderating_Role_of_Personal_Norms
- Musimenta, D., Nkundabanyanga, S. K., Muhwezi, M., Akankunda, B., & Nalukenge, I. (2017). Tax compliance of small and medium enterprises: a developing country perspective. *Journal of Financial Regulation and Compliance*, 25(2), 149-175.
- Mustafa, H. H. (1996). *An evaluation of the Malaysian tax administrative system and taxpayers' perceptions towards self-assessment system, tax law fairness and tax law complexity*. (Unpublished manuscript, Universiti Utara Malaysia, Malaysia).
- Mustapha, B., & Sheikh, S. N. B. (2014). The influence of technology characteristics towards an online tax system usage: The case of Nigerian self-employed taxpayer. *International Journal of Computer Applications*, 105(14), 30-36.
- Mustafa, M. H. (2007). *Tax system, taxpayer compliance and specific tax issues*. Sintok: Universiti Utara Malaysia Press.

- Mustamim, M., El Muna, N., & Rohmah, L. M. (2021). The effectiveness of the implementation of the online tax service system on taxpayer compliance in the pandemic period. *Innovation of Economics and Management*, 1(1), 5-10.
- National Board of Revenue (2023). *Income Tax at a Glance, income tax, government of Bangladesh*, retrieved December 15, 2023, from [†gννϱ§` Ave`yj gwR` \(nbr.gov.bd\)](http://nbr.gov.bd)
- National Board of Revenue (2020a). *Income tax at a glance, income tax, government of Bangladesh*, retrieved March 19, 2020, from <http://nbr.gov.bd/uploads/publications/107.pdf>
- National Board of Revenue (2020b). *About NBR, government of Bangladesh*, retrieved March 19, 2020, from <http://nbr.gov.bd/about-us/about-us/eng>
- National Board of Revenue (2020c), *NBR organogram, government of Bangladesh*, Retrieved March 19, 2020, from <http://nbr.gov.bd/about-us/organogram/eng>
- National Budget (2023), *National Budget 2022-2023, Ministry of Finance, Royal Government of Bhutan*, retrieved 31 December 2023, from [Budget-Report-for-FY-2022-23-in-English.pdf \(mof.gov.bt\)](http://mof.gov.bt/Budget-Report-for-FY-2022-23-in-English.pdf)
- Naveed, R. T., Hameed, W. U., Albassami, A. M., & Moshfegyan, M. (2019). Online tax system (OTS) in Pakistan: The role of tax service quality (TSQ) and information communication technology (ICT). *Pacific Business Review International*, 11(12), 78-86.
- Ndlovu, M. O., & Schutte, D. P. (2022). The influence of penalties on the tax compliance behaviour of small business owners. *Southern African Business Review*, 26(1), 1-19.
- Ng'eni, F. B. (2016). Tax administration in Tanzania: An assessment of factors affecting tax morale and voluntary tax compliance towards effective tax administration. *International Journal of Finance and Accounting*, 5(2), 90-97.
- Night, S., & Bananuka, J. (2020). The mediating role of adoption of an electronic tax system in the relationship between attitude towards electronic tax system and tax

- compliance. *Journal of Economics, Finance and Administrative Science*, 25(49), 73-88.
- Nimer, K., Bani-Mustafa, A., AlQudah, A., Alameen, M., & Hassanein, A. (2022). Public perceptions of governance and tax evasion: insights from developed and developing economies. *Journal of Financial Reporting and Accounting*.
- Nkundabanyanga, S. K., Mvura, P., Nyamuyonjo, D., Opiso, J., & Nakabuye, Z. (2017). Tax compliance in a developing country: Understanding taxpayers' compliance decision by their perceptions. *Journal of Economic Studies*, 44(6), 931-957.
- Nomlala B. & Oluka A. (2021). Tax compliance costs and the use of e-filing by SMMEs. *The Journal of Accounting and Management*, 11(2), 44-56.
- Norris, P. (2012). *Making democratic governance work: How regimes shape prosperity, welfare, and peace*. Cambridge University Press.
- Obaid, M. M., Ibrahim, I., & Gurama, Z. U. (2022). Perception on Tax System Structure, Tax Compliance Costs and Tax Compliance Behaviour in Yemen. *International Journal of Business and Technopreneurship (IJBT)*, 12(3), 57-72.
- Ochiali, G., & Kalyango, F. (2023). Can tax agents support tax compliance in low-income countries? Evidence from Uganda. *Public Administration and Development*, 43(4), 269–279.
- Ochieng, P. A. (2009). An analysis of the strengths and limitation of qualitative and quantitative research paradigms. *Problems of Education in the 21st Century*, 13(1), 13-18.
- OECD (2018), *Revenue statistics 2018, tax revenue trends in OECD*, retrieved from <https://www.oecd.org/tax/tax-policy/revenue-statistics-highlights-brochure.pdf>
- Ogbeide, I. E., & Ken-Otokiti, D. (2021). A review of the impact of tax morale on tax compliance behaviour. *International Journal of Intellectual Discourse*, 4(2), 14-25.

- Okpeyo, E. T., Musah, A., & Gakpetor, E. D. (2019). Determinants of tax compliance in Ghana. *Journal of Applied Accounting and Taxation*, 4(1), 1-14.
- Oktaviani, A. A., Juang, F. T., & Kusumaningtyas, D. A. (2019). The effect of knowledge and understanding taxation, quality of tax services, and tax awareness on personal tax compliance. *Indonesian Management and Accounting Research*, 16(2), 33-45.
- Olabisi, J. (2010). An assessment of tax evasion and tax avoidance in Lagos State. *Journal of research in national development*, 8(1), 1-7.
- Oladele, R., Aribaba, F. O., Ahmodu, A. L. O., Yusuff, S. A., & Alade, M. (2019). Tax enforcement tools and tax compliance in Ondo State, Nigeria. *Academic Journal of Interdisciplinary Studies*, 8(2), 27-38.
- Oladipo, O. A., Nwanji, T. I., Eluyela, F. D., Godo, B., & Adegboyegun, A. E. (2022). Impact of tax fairness and tax knowledge on tax compliance behavior of listed manufacturing companies in Nigeria. *Problems and Perspectives in Management*, 20(1), 41-48.
- Oladipupo, A. O., & Obazee, U. (2016). Tax knowledge, penalties and tax compliance in small and medium scale enterprises in Nigeria. *IBusiness*, 8(1), 1-9.
- Olaoye, C. O., & Ekundayo, A. T. (2019). Effects of Tax Audit on Tax Compliance and Remittance of Tax Revenue in Ekiti State. *Open Journal of Accounting*, 8(1), 1-17.
- Onwuegbuzie, A. J., & Collins, K. M. (2007). A typology of mixed methods sampling designs in social science research. *Qualitative Report*, 12(2), 281-316.
- Orock, R. T. E., & Mbuagbo, O. T. (2012). 'Why government should not collect taxes': grand corruption in government and citizens' views on taxation in Cameroon. *Review of African Political Economy*, 39(133), 479-499.
- Othman, M. N., Yap, S. F., & Wee, Y. G. (2011). Examining the relationship between gender, age, education level and social cognitive factors in a health setting. *International Journal of Business and Management*, 6(9), 79-91.

- Owusu, G. M. Y., Bekoe, R. A., & Mintah, R. (2023). Predictors of tax compliance intentions among self-employed individuals: the role of trust, perceived tax complexity and antecedent-based intervention strategies. *Small Enterprise Research*, 30(1), 49-70.
- Paleka, H., Karanović, G., & Štambuk, A. (2023). The direct and moderating effect of sociodemographic variables on tax compliance behavior. *The South East European Journal of Economics and Business*, 18(2), 34-48.
- Palil, M. R. (2010). *Tax knowledge and tax compliance determinants in self assessment system in Malaysia* (Doctoral dissertation, University of Birmingham).
- Palil, M. R., Malek, M. M., Jaguli, A. R. (2016). Issues, challenges and problems with tax evasion: The institutional factors approach. *Gadjah Mada International Journal of Business*, 18(2), 187-206.
- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. McGraw-hill education (UK).
- Paleka, H., Karanović, G., & Štambuk, A. (2023). The direct and moderating effect of sociodemographic variables on tax compliance behaviour. *South East European Journal of Economics and Business*, 18(2), 34-48.
- Park, C. G., & Hyun, J. K. (2003). Examining the determinants of tax compliance by experimental data: A case of Korea. *Journal of Policy Modeling*, 25(8), 673-684.
- Peredaryenko, M. (2019). Gold dinar as a consumer product: Modified version of the theory of planned behavior. *International Journal of Economics, Management and Accounting*, 27(2), 353-372.
- Pham, T. M. L., Le, T. T., Truong, T. H. L., & Tran, M. D. (2020). Determinants influencing tax compliance: The case of Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(2), 65-73.
- Picur, R. D., & Riahi-Belkaoui, A. (2006). The impact of bureaucracy, corruption and tax compliance. *Review of Accounting and Finance*, 5(2), 174-180.

- Pinheiro, J. M., Diogo, T. A., & Samagaio, A. (2021). Tax compliance: Factors that influence taxpayer invoice requests in Portugal. *Revista Brasileira de Gestão de Negócios*, 23(4), 619-634.
- Prasetyo, D. Y., Adi, P. H., & Damayanti, T. W. (2020). Overconfidence, gender and tax compliance: The Indonesian evidence. *Montenegrin Journal of Economics*, 16(4), 135-143.
- Prichard, W., Custers, A. L., Dom, R., Davenport, S. R., & Roscitt, M. A. (2019). Innovations in tax compliance: Conceptual framework. *World Bank Policy Research Working Paper*, (9032).
- Rabiu, S., & Mustafa, D. (2020). Empirical investigation of tax compliance determinants in Katsina State, Nigeria. *Journal DOI*, 6(10), 247-268.
- Rachmawan, R., Subekti, I., & Abid, N. (2020). The effect of tax knowledge on relationship of procedural justice perception towards voluntary tax compliance mediated by trust. *International Journal of Research in Business and Social Science*, 9(4), 207-213.
- Rahayu, Y. N. (2022). Procedure easy analysis, effective verification, good service on taxpayer awareness and compliance. *European Journal of Economic and Financial Research*, 6(3), 51-67.
- Rahman, A. M., & Yasmin, S. (2008). *Estimating revenue losses evolve from tax evasions in Bangladesh: A formal model under direct taxation* (Working Paper No. 2008-19, AIUB Bus Econ Working Paper Series). <https://core.ac.uk/download/pdf/6505611.pdf>
- Rahman, M. T., Habibullah, M., & Masum, M. A. (2017). Readymade garment industry in Bangladesh: growth, contribution and challenges. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 8(3), 01-07.
- Ramadhani, S., & Sitorus, R. R. (2022). Tax digitalization and tax service quality's effects on taxpayer obligation during the pandemic era. *Interdisciplinary Social Studies*, 1(4), 443-450.

- 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.
- Rashid, M. H. U., & Ahmad, A. (2020). Business students' perceptions of tax evasion: a study in Bangladesh. *International Journal of Accounting and Finance*, 10(4), 233-247.
- Razak, R. A., & Bidin, Z. (2019). Factors influencing tax compliance intention among sole proprietors: a proposed model. *Indian-Pacific Journal of Accounting and Finance*, 3(3), 14-26.
- Remali, A. M., Satar, A. N. S. A., Mamad, F. N. A., Abidin, N. F. Z., & Zainuddin, S. Z. (2018). Tax knowledge, tax penalty and tax rate on tax compliance among small medium enterprise in Selangor. *Global Business and Management Research*, 10(3), 12.
- Rohmah, N. S. I., & Ashlihah, A. (2021). Pengaruh digital marketing training terhadap kemandirian dan entrepreneurship knowledge curiosity dikalangan mahasiswa unwaha. *JoEMS (Journal of Education and Management Studies)*, 4(2), 41-48.
- Rosid, A., Evans, C., & Tran-Nam, B. (2018). Tax non-compliance and perceptions of corruption: Policy implications for developing countries. *Bulletin of Indonesian Economic Studies*, 54(1), 25-60.
- Prasetyo, D. Y., Adi, P. H., & Damayanti, T. W. (2020). Overconfidence, gender and tax compliance: The Indonesian evidence. *Montenegrin Journal of Economics*, 16(4), 135-143.
- Rashid, H. E. (2019). *Geography of Bangladesh*. Routledge.
- Rashid, M. H. U., & Ahmad, A. (2020). Business students' perceptions of tax evasion: a study in Bangladesh. *International Journal of Accounting and Finance*, 10(4), 233-247.
- Raven, B. H. (1993). The bases of power: Origins and recent developments. *Journal of social issues*, 49(4), 227-251.

- Riaz, M. N., & Khalili, M. T. (2014). Transformational, transactional leadership and rational decision making in services providing organizations: Moderating role of knowledge management processes. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 8(2), 355-364.
- Richardson, G. (2006). Determinants of tax evasion: A cross-country investigation. *Journal of international Accounting, Auditing and taxation*, 15(2), 150-169.
- Richardson, Maryann, & Sawyer, A. J. (2001). Taxonomy of the tax compliance literature: further findings, problems and prospects. *Australian Tax Forum*, 16(1), 137-322.
- Robbi, R., Putra, W., Elyta, E., & Mahdi, I. (2024). The influence of services, tax sanctions, participation strategies, and the role of religion on regional taxpayer compliance. *International Journal of Business and Quality Research*, 2(01), 39-61.
- Rodriguez-Justicia, D., & Theilen, B. (2018). Education and tax morale. *Journal of Economic Psychology*, 64(1), 18-48.
- Rohwer, A. (2009). Measuring corruption: a comparison between the transparency international's corruption perceptions index and the World Bank's worldwide governance indicators. *CESifo DICE Report*, 7(3), 42-52.
- Rosid, A., Evans, C., & Tran-Nam, B. (2019). Perceptions of corruption and tax non-compliance behavior: policy implications for developing countries. *Bulletin of Indonesian Economic Studies*. 1-44.
- Rotberg, R. I. (2005). Strengthening governance: Ranking countries would help. *The Washington Quarterly*, 28(1), 71-81.
- Roth, J. A., Scholz, J.T. & Dry-Witte, J. T. (1989). *Taxpayer compliance: An agenda for research*, (Vol.1), Philadelphia: University of Pennsylvania Press.
- Rothstein, B., & Teorell, J. (2008). What is quality of government? A theory of impartial government institutions. *Governance*, 21(2), 165–190.

- Saad, Y. (2011). *Numerical methods for large eigenvalue problems: revised edition*. Society for Industrial and Applied Mathematics.
- Sapiei, N. S., & Kasipillai, J. (2013). External tax professionals' views on compliance behaviour of corporation. *American Journal of Economics*, 3(2), 82-89.
- Samanni, M., & Holmberg, S. (2010). *Quality of government makes people happy*. (QoG Working Paper Series 2010:1, the Quality of Government Institute, University of Gothenburg, Sweden). https://www.gu.se/sites/default/files/2020-05/2010_1_Samanni_Holmberg.pdf
- Sandmo, A. (2005). The theory of tax evasion: A retrospective view. *National Tax Journal*, 53(4), 643-648.
- Sanusi, S., Abdullah, N., Chin, L., Rastam, F., & Rozzani, N. (2021). Tax awareness among students from higher learning institutions in Malaysia: education area as a moderator. *International Journal of Economics and Management*, 15(1), 89-102.
- Saleh, A., & Bista, K. (2017). Examining factors impacting online survey response rates in educational research: Perceptions of graduate students. *Journal of MultiDisciplinary Evaluation* 13(29), 63-74.
- Sari, V. A. P., & Fidiana, F. (2017). Pengaruh tax amnesty, pengetahuan perpajakan, dan pelayanan fiskus terhadap kepatuhan wajib pajak. *Jurnal Ilmu dan Riset Akuntansi (JIRA)*, 6(2), 744-760.
- Sarker, T. K. (2016). The role of fiscal sustainability in enhancing sustainable economic growth in South Asia: the case of Bangladesh. *Asia-Pacific Development Journal*, 22(1), 143-164.
- Schahn, J., & Holzer, E. (1990). Studies of individual environmental concern: The role of knowledge, gender, and background variables. *Environment and Behavior*, 22(6), 767-786.
- Schenkel, M. T., Farmer, S., & Maslyn, J. M. (2019). Process improvement in SMEs: The impact of harmonious passion for entrepreneurship, employee creative self-

- efficacy, and time spent innovating. *Journal of Small Business Strategy*, 29(1), 71-84.
- Sebele-Mpofu, F. Y. (2020). Governance quality and tax morale and compliance in Zimbabwe's informal sector. *Cogent Business & Management*, 7(1), 1-21.
- Sekeran, G. (2003). *Scientific qualitative research*. New Jersey: Prentice-Hall. Print.
- Sekaran, U., & Bougie, R. (2010). *Research for business—a skill building approach*. John-Wiley and Sons, New York, NY.
- Senaviratna, N. A. M. R., & Cooray, T. M. J. A. (2019). Diagnosing multicollinearity of logistic regression model. *Asian Journal of Probability and Statistics*, 5(2), 1-9.
- Septyana, K. P., & Suprasto, H. B. (2019). Effect of taxation knowledge, fiscus service, and tax sanctions on tax obligation compliance with tax amnesty as moderated variables. *International Research Journal of Management, IT and Social Sciences*, 6(6), 111-117.
- Shafaruddin, A. D., Hamid, N. A., & Norizan, S. (2022). The influence of tax fairness dimensions on tax compliance behavior of the middle-income group. *Management & Accounting Review*, 21(3), 209-226.
- Shagari, S. L., & Saad, N. (2017). Critical success factors to tax administration efficiency in Nigeria: Evidence from Bauchi state board of internal revenue. *Malaysian Management Journal*, 21(1), 1-34.
- Sharma, S., Durand, R. M., and Gur-Arie, O. (1981). Identification and analysis of moderator. *Journal of Marketing Research*, 18(1) 291-300.
- Shiferaw, N., & Tesfaye, B. (2020). Determinants of voluntary tax compliance (The case category A and B taxpayers in Dire Dawa Administration). *International Journal of Scientific and Research Publications*, 10(6), 982-996.
- Shukla S. & Kumar R. (2019). The role of trust in adoption of online good service tax filing in India. *Journal for Decision Makers*, 44 (3), 99-114.

- Siddiquee, N.A., & Saleheen, A.M. (2021). Taxation and governance in Bangladesh: A study of the value-added tax. *International Journal of Public Administration*, 44(1), 674 - 684.
- Sinnasamy, P., & Bidin, Z. (2017). The relationship between tax rate, penalty rate, tax fairness and excise duty non-compliance. *SHS web of conferences* 34(1), 1-7.
- Sinnasamy, P., Bidin, Z., & Ismail, S. S. S. (2015). A proposed model of non-compliance behavior on excise duty: A moderating effects of tax agents. *Procedia-Social and Behavioral Sciences* 211(1), 299-305.
- Singh, R., Kumar, N., & Puri, S. (2017). Thought self-leadership strategies and sales performance: integrating selling skills and adaptive selling behavior as missing links. *Journal of Business & Industrial Marketing*, 32(5), 652-663.
- Slemrod, J. (2019). Tax compliance and enforcement. *Journal of Economic Literature*, 57(4), 904-54.
- Slemrod, J. (2010). Old George Orwell got it backward: some thoughts on behavioral tax economics. *FinanzArchiv/Public Finance Analysis*, 66(1), 15-33.
- Slemrod, J., Blumenthal, M., & Christian, K. W. (2001). Taxpayer response to increased probability of audit: Evidence from a controlled experiment in Minnesota. *Journal of Public Economic*, 79(3), 455-483.
- Soos, P. (1990). Self-employed evasion and tax withholding: a comparative study and analysis of the issues. *UC Davis Law Review*, 24(107), 107-193.
- Sritharan, N., & Salawati, S. (2019). Economic factors impact on individual taxpayers' tax compliance behaviour in Malaysia. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 9(2), 172-182.
- Subramaniam, M. (2019). The impact of social factors on individual tax compliance. *Asia Proceedings of Social Sciences*, 4(3), 26-28.
- Susanto, Y. K., Adrienne, S., & Pirzada, K. (2019). Is tax aggressiveness an indicator of earnings management?. *Polish Journal of Management Studies*, 20(2), 516-527.

- Susuawu, D., Ofori-Boateng, K., & Amoh, J. K. (2020). Does service quality influence tax compliance behavior of SMEs? A new perspective from Ghana. *International Journal of Economics and Financial Issues*, 10(6), 50-56.
- Susyanti, J., & Askandar, N. S. (2019). Why is Tax Knowledge and Tax Understanding Important?. *JEMA: Jurnal Ilmiah Bidang Akuntansi Dan Manajemen*, 16(2), 187-194.
- Swistak, A. (2016). Tax penalties in SME tax compliance. *Financial theory and practice*, 40(1), 129-147.
- Tabachnick, B., & Fidell, L. (2007). *Using multivariate statistics (5th ed.)*. New York: Pearson Education Inc.
- Taing, H. B., & Chang, Y. (2021). Determinants of tax compliance intention: Focus on the theory of planned behavior. *International journal of public administration*, 44(1), 62-73.
- Talukder, A. (2017). Factors associated with malnutrition among under-five children: illustration using Bangladesh demographic and health survey, 2014 data. *Children*, 4(10), 1-8.
- Tayib, B.M. (1998). *The determinants of assessment tax collection: the Malaysian local authority experience* (Doctoral dissertation, University of Glamorgan).
- Teddle, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of mixed methods research*, 1(1), 77-100.
- Tehulu, T. A., & Dinberu, Y. D. (2014). Determinants of tax compliance behavior in Ethiopia: The case of Bahir Dar city taxpayers. *Journal of Economics and Sustainable Development*, 5(15), 268-280.
- Terkper, S. (2003). Managing small and medium-size taxpayers in developing economies. *Tax notes international*, 29(2), 211-229.
- The Daily Star (2021, October 22). *Access to public services: As marginalized as discriminated*. <https://www.thedailystar.net/news/bangladesh/news/access-public-services-marginalised-discriminated-2203371>

- The Daily Star (2019a, July 31) *Majority don't pay income tax: NBR, Star business report*. <https://www.thedailystar.net/business/economy/income-tax-return-in-bangladesh-majority-dont-pay-1779688>
- The Daily Star (2019b, March 20). *Per capita income hits \$1,909, Star business report*. <https://www.thedailystar.net/business/news/capita-income-hits-1909-1717606>
- The United Nation. (2007). *Public governance indicators: A literature*. Washington D.C: UN. <https://digitallibrary.un.org/record/745453>
- Tilahun, M. (2019). Determinants of Tax Compliance: A Systematic Review. *Economics*, 8 (1), 1-7.
- Tishar, A., & Hasanuzzaman. (2019). Examining different factors of income tax non-compliance in a small sample in Bangladesh, *Economics and Business*, 33(1), 35-49.
- Torgler, B. (2003). *Tax morale: Theory and analysis of tax compliance*. (Unpublished doctoral dissertation, University of Zurich, Switzerland).
- Torgler, B. (2005). Tax morale and direct democracy. *European Journal of Political Economy*, 21(2), 525-531.
- Torgler, B. (2007). *Tax compliance and tax morale: A theoretical and empirical analysis*. Edward Elgar Publishing, USA.
- Torgler, B. (2012). Attitudes toward paying taxes in the USA: An empirical analysis. In *The Ethics of Tax Evasion*, Springer, New York, pp. 269-283.
- Transparency International (2023). *Corruption Perception Index-2022*, accessed on 26 October 2023, From <https://www.transparency.org/en/cpi/2022/index/bgd>
- Uddin, J. (2023, May 6). NBR plans to send private agents for tax collection, *The Business Standard*, <https://www.tbsnews.net/economy/nbr-plans-send-private-agents-tax-collection-627310>

- Umar, M. A., & Masud, A. (2020). Why information technology is constrained in tackling tax noncompliance in developing countries: Nigerian tax administrators' perspectives. *Accounting Research Journal*, 33(2), 307-322.
- UN (2024). Least Developed countries, retrieved from <https://www.un.org/development/desa/dpad/least-developed-country-category.html>
- Uslaner, E. M. (2007). *Tax evasion, corruption and the social contract in transition*. Andrew Young School of Policy Studies. Atlanta: Georgia State University.
- Usman, M., Ahmad, A., & Rehman, R. Z. U. (2024). Tax Audit, Tax Penalty and Tax Compliance: A Case Study of Pakistan. *Journal of Asian Development Studies*, 13(2), 267-281.
- Usman, A. (2018). *The determinants of tax compliance behavior among individual taxpayers in Gombe State, Nigeria* (Doctoral dissertation, University Utara Malaysia).
- 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(1), 80-91.
- Veenhoven, R. (2002). Why social policy needs subjective indicators. *Social indicators research*, 58(1), 33-46.
- Veenhoven, R. (2010). Greater happiness for a greater number. *Journal of Happiness Studies*, 11(5), 605–629.
- Verboon, P., & van Dijke, M. (2011). When do severe sanction enhance compliance? The role of procedural fairness. *Journal of Economic Psychology*, 32(1), 120-130.
- Vincent, O., Stevenson, A., & Owolabi, A. (2023). Do sociodemographic characteristics of SME entrepreneurs influence their tax (non) compliance behaviour?. *Journal of Economic Criminology*, 1(1), 1-10.

- Vymětal, P. (2007). *Governance: defining the concept*. (Working Papers No. 1/2007, Fakulty mezinárodních vztahů).
https://www.researchgate.net/publication/40345960_Governance_defining_the_concept
- Vythelingum, P., Soondram, H., & Jugurnath, B. (2017). An assessment of tax morale among Mauritian taxpayers. *Journal of Accounting and Taxation*, 9(1), 1-10.
- Wagner, W. E. (2009). *Using SPSS for social statistics and research methods*. Pine Forge Press.
- Wahlund, R. (1992). Tax changes and economic behavior: The case of tax evasion. *Journal of Economic Psychology*, 13(4), 657-677.
- Wallshutzky, I. G. (1984). Possible causes of tax evasion. *Journal of Economic Psychology*, 5(1), 371-384.
- Wallshutzky, I. G. (1985). Reforming the Australian income tax system to prevent tax avoidance and evasion. *Economic and Policy*, 15(2), 164-180.
- Walpole, M. (2009). *Ethics and integrity in tax administration*. UNSW Law Research Paper, 2009-33. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1474100
- Wärneryd, K. E., & Walerud, B. (1982). Taxes and economic behavior: Some interview data on tax evasion in Sweden. *Journal of Economic Psychology*, 2(3), 187-211.
- Wearing, A., & Headey, B. (1997). The would-be tax evader: A profile. *Austl. Tax F.*, 13, 3.
- Weigel, R. H., Hessing, D. J., & Elffers, H. (1987). Tax evasion research: A critical appraisal and theoretical model. *Journal of economic psychology*, 8(2), 215-235.
- Wenzel, M. (2004). The social side of sanctions: Personal and social norms as moderators of deterrence. *Law and Human Behavior*, 28(5), 547-567.
- Wibowo, S., & Ali, H. (2022). Literature Review Tax Compliance and Tax Revenue: Analysis of Understanding Tax Regulations and Quality of Service. *Dinasti International Journal of Economics, Finance & Accounting*, 3(2), 173-181.

- Widuri, R., Devina, D., Marta, F., & Wati, Y. (2019). The influence of penalties, the trust on authorities, and the tax audit toward tax compliance. *Journal of Economics and Business*, 2(2), 218-229.
- Williams, C. (2020). Evaluating public administration approaches towards tax non-compliance in Europe. *Administrative Sciences*, 10(3), 1-15.
- 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.
- Worldmeters. (2023). *Bangladesh Population (2023)*, retrieved October 16, 2023, from <https://www.worldometers.info/world-population/bangladesh-population/>
- Ya'u, A., Saad, N., & Mas' ud, A. (2020). Effects of economic deterrence variables and royalty rates on petroleum profit tax compliance in Nigeria: An empirical analysis. *International Journal of Energy Sector Management*, 14(6), 1275-1296.
- Yee, C. P., Moorthy, K., & Soon, W. C. K. (2017). Taxpayers' perceptions on tax evasion behaviour: An empirical study in Malaysia. *International Journal of Law and Management*, 59(3), 413-429.
- Yimam, S., & Asmare, F. (2020). *Gender and Tax Compliance: Firm Level Evidence from Ethiopia* (Working paper No. 113, Institute of Development Studies, International Centre for Tax and Development). [PDF] Gender and Tax Compliance: Firm Level Evidence from Ethiopia | Semantic Scholar
- Yusoff, S. N., & Mohd, S. (2017). Individual tax compliance decision. *Pertanika Journal of Social Sciences and Humanities*, 25(1), 97-108.
- Zaidi, S. K. R., Henderson, C. D., & Gupta, G. (2017). The moderating effect of culture on e-filing taxes: evidence from India. *Journal of Accounting in Emerging Economies*, 7(1), 134-152.
- Zhang N, Andrighetto G, Ottone S, Ponzano F, Steinmo S (2016) "Willing to Pay?" Tax Compliance in Britain and Italy: An Experimental Analysis. *PLoS ONE* 11(2):

e0150277.

[https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0150277
&type=printable](https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0150277&type=printable)

Zikmund, W. G. (2003). *Exploring Marketing Research*. Thomson. South-Western, Mason (OH).

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods*. Cengage learning.



APPENDICES

APPENDIX A: COVER LETTER AND THE QUESTIONNAIRE

A SURVEY ON FACTORS INFLUENCING TAX COMPLIANCE BEHAVIOR IN BANGLADESH

Dear valued participants I am a Ph.D. student of the Department of Accounting in International Islamic University Malaysia (IIUM). As a part of my study, I am conducting a survey on the factors influencing tax compliance behavior in Bangladesh. This survey will not take more than 20 minutes of your valuable time. I do appreciate the way you will invest your precious time and sincere effort in completing the enclosed questionnaire. I believe your active participation in this survey will definitely contribute in widening the arena of knowledge, which helps the concerned authorities to formulate policies to strengthen the country's main revenue-earning sector.

Thanks in advance for your cooperation and assistance.

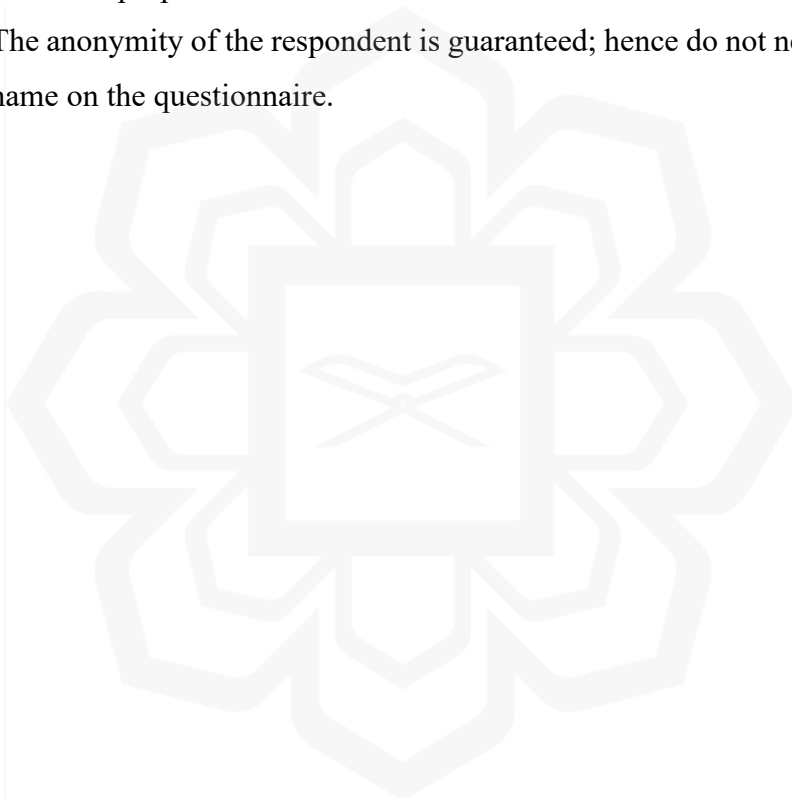
Best regards,

A M M Masrur Hossain,
Ph.D. candidate,
International Islamic University Malaysia
Kuala Lumpur, Malaysia
+60183848096
masrur.iium@gmail.com

Instructions

The following instructions will be helpful in completing this survey.

1. The study is to obtain information on your perception and opinion of the Bangladeshi personal income tax system. Hence, there is no wrong or right answer to the questions asked.
2. Please tick (✓) the box you consider the most appropriate for each question.
3. Only one tick is to be made against each question, as more than one tick will render the answer invalid.
4. The response will be treated with the ultimate confidence and used strictly for academic purposes.
5. The anonymity of the respondent is guaranteed; hence do not need to write your name on the questionnaire.



বাংলাদেশে কর প্রদান আচরণকে প্রভাবিত করে এমন কারণগুলির উপর
একটি জরিপ।

সম্মানীয়,

আমি আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় মালয়েশিয়া (IIUM) এ হিসাববিজ্ঞান বিভাগের একজন পিএইচডি শিক্ষার্থী। আমার গবেষণার অংশ হিসেবে আমি বাংলাদেশে কর প্রদান আচরণকে প্রভাবিত করে এমন বিষয়গুলো নিয়ে একটি জরিপ পরিচালনা করছি। এই জরিপে অংশ নিলে আপনার মূল্যবান সময়ের মাত্র ২০ মিনিট ব্যয় হবে।

আপনার আন্তরিকতা ও সময় দান সত্যিই প্রশংসার দাবী রাখে। আমি বিশ্বাস করি, এই জরিপে আপনাদের সক্রিয় অংশগ্রহণ বাংলাদেশের কর আদায় সংক্রান্ত জ্ঞানের পরিধি বৃদ্ধিতে নিঃসন্দেহে অবদান রাখবে। এই জরিপের ফলাফল সংশ্লিষ্ট কর্তৃপক্ষকে দেশের প্রধান রাজস্ব আয়ের খাতকে শক্তিশালী করতে নীতিমালা প্রণয়নে সহায়তা করবে বলে আমি বিশ্বাস করি।

আপনার আন্তরিকতা ও সহযোগিতার জন্য আবারো ধন্যবাদ জানাচ্ছি।

বিনীত

আ ম ম মাসরুর হোসাইন
পিএইচডি শিক্ষার্থী
আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় মালয়েশিয়া
যোগাযোগঃ +60183848096
masrur.iium@gmail.com

নির্দেশনাঃ

নিম্নলিখিত নির্দেশাবলী এই সমীক্ষাটি সম্পূর্ণ করতে সহায়ক হবে।

১। গবেষণাটি মূল উদ্দেশ্য বাংলাদেশের ব্যক্তিগত আয়কর ব্যবস্থা সম্পর্কে আপনার উপলব্ধি এবং মতামত সম্পর্কে তথ্য সংগ্রহ করা। অতএব, জিজ্ঞাসিত প্রশ্নগুলির কোনও ভুল বা সঠিক উত্তর নেই।

২। আপনি প্রতিটি প্রশ্নের জন্য সবচেয়ে উপযুক্ত বলে মনে করেন এমন বাক্সে টিক (✓) দিন।

৩। প্রতিটি প্রশ্নের বিপরীতে কেবল একটি উত্তর দিতে হবে, কারণ একটি প্রশ্নের একাধিক উত্তর গ্রহণযোগ্য বলে বিবেচিত হবে না।

৪। জরিপে আপনার অংশগ্রহণ সম্পূর্ণ গোপন থাকবে এবং এটা শুধুমাত্র গবেষণার উদ্দেশ্যে ব্যবহৃত হবে।

৫। জরিপে অংশগ্রহণকারীর পরিচয় গোপন রাখার স্বার্থে আপনার নাম লেখার দরকার নেই।

SECTION 1

PART-I: TAX COMPLIANCE BEHAVIOR

HYPOTHETICAL TAX SCENARIO-1

Mr. Asad is currently working in a private firm and gets BDT 30000 as a monthly salary. In Financial Year (FY) 2018-2019, the total amount that he received from his employer was BDT 450000, which includes monthly salary, yearly bonus, and medical allowance.

Apart from these, he has some additional earnings, which he earned in cash, and has not maintained any written documentation. He also contributed to the Liberation War Museum as a charitable donation and presented a laptop to his sister-in-law as a gift, and kept both receipts to claim a tax rebate.

Rental income	BDT 40000
Income from lectures and training	BDT 60000
Donation*	BDT 50000
Gift*	BDT 60000

*Donation refers to any financial contribution to the National Board of Revenue (NBR) enlisted institutions.

*Gift to sister-in-law refers to the personal expense.

The personal income tax law of Bangladesh stipulates that tax must be paid for each financial year ranging from 1 July of each year to 30 June of the subsequent year, and the tax return of a completed financial year along with the payable tax amount must be submitted to the tax authority before the 'Tax Day'. 30 November, which is 150 days from the commencement of the new financial year, is considered as the Tax Day in Bangladesh.

প্রথম অংশ

পার্ট-১ কর প্রদান সংক্রান্ত আচরণ

কাল্পনিক ঘটনা-১

জনাব আসাদ একটি বেসরকারী প্রতিষ্ঠানে কর্মরত আছেন। ২০১৮-২০১৯ অর্থবছরে তিনি নিয়োগকারী প্রতিষ্ঠান থেকে করযোগ্য সর্বমোট ৪৫০০০০ টাকা আয় করেছেন। এর পাশাপাশি তার আরো কিছু আয় ছিল যা তিনি নগদে গ্রহন করেছেন এবং যার কোন লিখিত হিসাব সংরক্ষণ করেন নি। একই অর্থবছরে তিনি সঞ্চয়পত্র ক্রয়ে বিনিয়োগ করেছিলেন এবং নিজ গ্রামের একটি দাতব্য হাসপাতালে আর্থিক অনুদান প্রদান করেছেন, এবং কর রেয়াত গ্রহনের জন্য উভয় রশিদ/প্রমানপত্র সংরক্ষণ করেছেন। জনাব আসাদ যেই দাতব্য হাসপাতালে দান করেছিলেন সেটি একটি নতুন প্রতিষ্ঠান এবং যার জাতীয় রাজস্ব বোর্ড কতৃক স্বীকৃতি পাওয়ার আবেদন এখনো গৃহীত হয়নি। বিদ্যমান কর আইন অনুসারে সঞ্চয়পত্রে বিনিয়োগ এবং জাতীয় রাজস্ব বোর্ড অনুমোদিত দাতব্য প্রতিষ্ঠানে দান কর রেয়াতযোগ্য।

উল্লেখ	কর	হলো
সাবলেট	থেকে ভাড়া বাবদ আয়	৪০০০০টাকা
লেকচার	ও ট্রেনিং থেকে আয়	৬০০০০টাকা
সঞ্চয়পত্রে	বিনিয়োগ	৫০০০০টাকা
দাতব্য	হাসপাতালে দান	৬০০০০টাকা

বাংলাদেশের আয়কর আইন অনুসারে কর বছর গণনা করা হয় ১লা জুলাই থেকে পরবর্তী বছরের ৩০শে জুন পর্যন্ত সময়কে এবং কর দিবস পালন করা হয় কর বছর সমাপ্তের ১৫০ দিন পর অর্থাৎ ৩০শে নভেম্বর। কর বছর সমাপ্ত হওয়ার পর থেকে কর দিবস এর দিন পর্যন্ত সময়ের মধ্যে প্রত্যেক করযোগ্য ব্যক্তি ও প্রতিষ্ঠানকে কর রিটার্ন জমা ও ধার্যকৃত কর পরিশোধ করতে হয়।

Q1. If you were in the position of Mr. Asad, indicate (✓) the sources of income that would you include in your tax return. আপনি যদি জনাব আসাদের স্থলে থাকতেন তাহলে ২০১৮-২০১৯ করবছরে কোন কোন খাতের উপার্জিত অর্থ আয় হিসেবে কর রিটার্নে প্রদর্শন করতেন?)

a. Income from employment [] b. Income from employment + Income from the rental []

c. Income from employment + Income from the rental + Income from training and workshop []

ক। বেতন হতে আয়। খ। বেতন + ভাড়া হতে আয়। গ। বেতন + ভাড়া + প্রশিক্ষক সম্মানী বাবদ আয়।

Q2. If you were in the position of Mr. Asad, indicate (✓) the sources of expenses that would you include in your tax return. আপনি যদি জনাব আসাদের স্থলে থাকতেন তাহলে উক্ত কর বছরে কোন কোন খাতের ব্যয় সমূহ কর রেয়াত পাওয়ার জন্য রিটার্নে প্রদর্শন করতেন?)

a. Donation and Gift [] b. Gift only [] c. Donation only []

ক। অনুদান ও উপহার খ। উপহার গ। অনুদান।

Q3. If you were in the position of Mr. Asad, indicate (✓) the dates by which you would file your income tax return for FY 2018-2019. (আপনি যদি জনাব আসাদের স্থলে থাকতেন তাহলে ২০১৮-২০১৯ করবছরে আয়কর রিটার্ন কোন তারিখে জমা দিতেন?)

a. 31 January 2020 [] b. 31 December 2019 [] c. 30 November 2019 []

ক। ৩১শে জানুয়ারী ২০২০ইং খ। ৩১শে ডিসেম্বর ২০১৯ইং গ। ৩০ নভেম্বর ২০১৯ইং

Q4. If you were Mr. Asad, indicate (✓) how many days you will take after completing FY 2018-2019 to pay the income tax to avoid the penalty? (আপনি যদি জনাব আসাদের স্থলে থাকতেন তাহলে যেকোন ধরনের শাস্তি পরিহার করার জন্য ২০১৮-২০১৯ করবছরের প্রদেয় আয়কর করবছর সমাপ্তের কতদিন পরে পরিশোধ করতেন?)

a. 210 days [] b. 180 days [] c. 150 days []

ক। ২১০ দিন খ। ১৮০ দিন গ। ১৫০ দিন।

HYPOTHETICAL TAX SCENARIO-2

Mrs. Fathima is a full-time teacher. She had a taxable income of BDT 400000 from her employer at the FY 2018-2019. She has a hobby to make handicraft items during leisure time and selling these to her friends, neighbors, and colleagues. During that year, she made a net profit of BDT 120000 from handicraft activity. She did not declare the profit from handicraft in her tax return as that amount had been raised from her hobby instead of her profession. Although it is the law to submit a tax return before the Tax Day, which is 30 November 2019, she submitted her tax return on 15 February 2020 due to her extreme workload regarding evaluating papers and publishing final results at that time.

(মিসেস ফাতিমা পেশায় একজন ফুল টাইম শিক্ষক। তিনি ২০১৮-২০১৯ অর্থবছরে তার কর্মস্থল থেকে ৪০০০০০ টাকা করযোগ্য আয় করেছেন। তিনি অবসর সময়ে হস্তশিল্প পণ্য তৈরি করে তার বন্ধুমহল, প্রতিবেশী ও সহকর্মীদের মাঝে বিক্রয় করেন। উক্ত বছরে তিনি হস্তশিল্প পণ্য বিক্রয় করে মুনাফা করেছিলেন ১২০০০০ টাকা। যেহেতু উক্ত আয়টি তার কোন পেশা থেকে নয় বরং তার অবসর সময়ের কাজ থেকে এসেছে তাই তিনি আয়কর রিটার্নে এই সংক্রান্ত আয় ১২০০০০ টাকা প্রদর্শন করেননি। তিনি ২০১৮-২০১৯ অর্থ বছরের আয়কর রিটার্ন জমা দিয়েছেন ১৫ ফেব্রুয়ারী ২০২০। কর আইন অনুসারে রিটার্ন জমা দেয়ার বিধান হচ্ছে কর দিবস অর্থাৎ ৩০ নভেম্বরের মধ্যে কিন্তু মিসেস ফাতিমা অত্যধিক ব্যস্ত থাকায় নির্ধারিত সময়ে আয়কর রিটার্ন জমা দিতে পারেননি এবং সময় বাড়ানোর আবেদন ও করেন নি।)

Q5. If you were in the position of Mrs. Fathima indicate (✓) the amount of income that would you include in your tax return. (আপনি যদি মিসেস ফাতিমার স্থলে থাকতেন তাহলে ২০১৮-২০১৯ করবছরে সর্বমোট কতটাকা আয় হিসেবে আয়কর রিটার্নে প্রদর্শন করতেন?)

a. BDT 400000 [] b. BDT 120000 [] c. BDT 520000 []

ক। ৪০০,০০০ টাকা খ। ১২০,০০০ টাকা গ। ৫২০,০০০ টাকা

Q6. If you were in the position of Mrs. Fathima, indicate (✓) the dates by which you would submit your income tax return for FY 2018-2019. (আপনি যদি মিসেস ফাতিমার স্থলে থাকতেন তাহলে ২০১৮-২০১৯ করবছরে আয়কর রিটার্ন কোন তারিখে জমা দিতেন?)

a. 15 February 2020 [] b. 15 January 2020 [] c. 30 November 2019 []

ক। ১৫ ফেব্রুয়ারী ২০২০ইং খ। ১৫ জানুয়ারী ২০২০ইং গ। ৩০ নভেম্বর ২০১৯ইং

PART-II: THE QUALITY OF GOVERNMENT

The questions below are for you to express your perception about the quality of government.

(A). Please indicate your agreement or disagreement with regards to the following statements about the quality of government in terms of being impartial in conduct. Impartial in conduct refers to such an approach of the government where all citizens are considered equal and be treated equally regardless of considering their gender, age, ethnicity, or religion. [‘1’ represents ‘Strongly Disagree’ (SD), and ‘5’ represents ‘Strongly Agree’ (SA)]

(নিরপেক্ষতার নীতি অনুসারে সরকারের মান সম্পর্কিত নিম্নের উদ্ভিগুলোর সাথে আপনার অবস্থান (একমত অথবা দ্বিমত) অনুগ্রহ করে প্রকাশ করুন। নিরপেক্ষতা বলতে বুঝানো হচ্ছে যে সরকার সকল নাগরিককে সমানভাবে বিবেচনা করবে (‘১’ দৃঢ়তার সাথে অসম্মত ও ‘৫’ দৃঢ়তার সাথে ঐক্যমত প্রকাশ করে।)

	Description	SD-----SA				
Q7.	As the representative of the people and the legitimate body to run the country, the government conducts all of its activities impartially. (জনগনের প্রতিনিধি ও আইনসম্মত কতৃপক্ষ হিসেবে সরকার তার সকল কর্মকান্ড নিরপেক্ষতার সাথে পরিচালনা করে।)					
Q8.	Our government is consistently trying to retain and increase the support of the people by providing impartial public services. (নিরপেক্ষতার সাথে সরকারী সেবাসমূহ প্রদানের মাধ্যমে আমাদের সরকার জনগনের আস্থা ও সমর্থন ধরে রাখা ও বৃদ্ধি করার জন্য ধারাবাহিকভাবে প্রচেষ্টা চালিয়ে যাচ্ছে।)					
Q9.	Public education sectors in my country provide impartial opportunities to all citizens regardless of considering people’s political, social, and or any other					

	identity. (আমার দেশের সরকারি শিক্ষা প্রতিষ্ঠানগুলি রাজনৈতিক, সামাজিক এবং অন্য কোনও পরিচয় বিবেচনা না করে সকল নাগরিককে নিরপেক্ষভাবে সুযোগ-সুবিধা দেয়।)					
Q10.	In my country, people have confidence and trust that they are getting better and impartial treatment from the public health sectors (দেশের জনগনের আস্থা ও বিশ্বাস আছে যে তারা সরকারী স্বাস্থ্য খাত থেকে ভাল এবং পক্ষপাতহীন চিকিৎসা সেবা গ্রহন করছে।)					
Q11.	In any issues related to safety and security, I consider going first to the police due to their professional and bias-free services. (পুলিশের পক্ষপাতহীন সেবা প্রদানের কারণে নিরাপত্তা ও সুরক্ষা সম্পর্কিত যে কোন ইস্যুতে আমি প্রথমেই তাদের নিকট যাওয়ার বিষয়টি বিবেচনা করি)					
Q12.	Considering political, social, or any other identity, certain individuals are given special preference in the public health sectors in my country. (রাজনৈতিক, সামাজিক অথবা অন্য পরিচয় বিবেচনায় নিয়ে নির্দিষ্ট কিছু ব্যক্তিকে আমার দেশের সরকারী স্বাস্থ্যখাতে সেবা প্রদানে বিশেষ অগ্রাধিকার দেয়া হয়)					
Q13.	Our government closely monitors the public sectors to ensure impartial service to the people and takes immediate action against those who are responsible for violating this principle. (জনগনকে নিরপেক্ষভাবে সেবা প্রদানের লক্ষ্যে আমাদের সরকার সকল সরকারী সেবা দানকারী প্রতিষ্ঠান সমূহকে নিবিড়ভাবে পর্যবেক্ষন করে)					

Q14.	Overall, it can be said that the public sectors of the country performing well in providing impartial services to the people of our country. (সামগ্রিকভাবে এটি বলা যেতে পারে যে সরকার নিরপেক্ষভাবে মানসম্মত সেবা প্রদানের ক্ষেত্রে ভালো ভূমিকা রাখছে)					
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(B). Please indicate your agreement or disagreement with the following statements about the quality of government in terms of the provision of public services to its citizens. (নাগরিকদের সেবা প্রদানের ক্ষেত্রে সরকারের গুণমান সম্পর্কে নিম্নের বিবৃতিগুলোর সাথে আপনার অবস্থান অনুগ্রহ করে প্রকাশ করুন।)

	Description	SD-----SA				
Q15.	I am satisfied with the quality of public education in my country. (আমার দেশের সরকারী শিক্ষা ব্যবস্থার মান নিয়ে আমি সন্তুষ্ট)					
Q16.	I am satisfied with the quality of public health service in my country. (আমার দেশের সরকারী চিকিৎসা ব্যবস্থার মান নিয়ে আমি সন্তুষ্ট)					
Q17.	I am satisfied with the quality of the police force in my country. (আমার দেশের পুলিশ বাহীনির মান নিয়ে আমি সন্তুষ্ট)					
Q18.	The measures that our government has taken to enhance the quality of the police force are effective. (পুলিশ বাহীনির গুণগত মান বৃদ্ধির লক্ষ্যে আমাদের সরকার কার্যকর পদক্ষেপ গ্রহন করেছে)					
Q19.	The measures that our government has taken to enhance the quality of the public education system are effective.					

	(সরকারী শিক্ষাব্যবস্থার গুণগত মান বৃদ্ধির লক্ষ্যে আমাদের সরকার কার্যকর পদক্ষেপ গ্রহণ করেছে)					
Q20.	The measures that our government has taken to enhance the quality of public health sectors are effective. (সরকারী চিকিৎসা সেবার মান বৃদ্ধির লক্ষ্যে আমাদের সরকার কার্যকর উদ্যোগ গ্রহণ করেছে)					
Q21.	Overall, it can be said that our government is performing very well in terms of providing quality services to the people. (সামগ্রিকভাবে বলা যেতে পারে যে জনগনের নিকট মানসম্মত সেবা পৌঁছে দিতে সরকার চমৎকার কাজ করে যাচ্ছে)					

(C). Please indicate your agreement or disagreement with the following statements about the quality of government in terms of combating corruption in the country.) (দেশে দুর্নীতি দমনে সরকারের মান সম্পর্কিত নিম্নের বিবৃতিগুলোর ক্ষেত্রে আপনার অবস্থান অনুগ্রহ করে প্রকাশ করুন)

	Description	SD-----SA				
Q22.	Our government is committed to combating corruption in the public health sectors. (সরকারী চিকিৎসা খাতের দুর্নীতি রোধে আমাদের সরকার বদ্ধপরিকর)					
Q23.	Our government is committed to combating corruption in the public education sector. (সরকারী শিক্ষা খাতের দুর্নীতি রোধে আমাদের সরকার বদ্ধপরিকর)					
Q24.	Our government is committed to combating corruption in the police force. (পুলিশ বাহিনীর দুর্নীতি রোধে আমাদের সরকার বদ্ধপরিকর)					

Q25.	People have to pay extra money to get their due services from the public health sector. (সরকারী চিকিৎসা খাত থেকে প্রাপ্য পরিসেবাগুলো পেতে আমার দেশের জনগনকে অতিরিক্ত অর্থ প্রদান করতে হয়)					
Q26.	The measures that our government has taken to combat corruption in the public education sectors are working effectively. (সরকারী শিক্ষা খাতের দুর্নীতি রোধে আমাদের সরকার যে পদক্ষেপ নিয়েছে তা কার্যকর হচ্ছে)					
Q27.	The measures that our government has taken to combat corruption in the public health sectors are working effectively. (সরকারী চিকিৎসা খাতের দুর্নীতি রোধে আমাদের সরকার যে পদক্ষেপ নিয়েছে তা কার্যকর হচ্ছে)					
Q28.	The measures that our government has taken to combat corruption in the police force are working effectively. (পুলিশ বাহিনীর দুর্নীতি রোধে আমাদের সরকার যে পদক্ষেপ নিয়েছে তা কার্যকর হচ্ছে)					
Q29.	The Anti-Corruption Commission (ACC) of our country is performing very well to make the country corruption-free. (আমাদের দেশে দুর্নীতি রোধে 'দুর্নীতি দমন কমিশন' খুব ভাল কাজ করছে)					

PART-III: THE QUALITY ONLINE OF TAX SERVICES

The questions below are for you to express your feeling on the quality of online tax services provided by the NBR to the taxpayers in Bangladesh. (নিম্নের প্রশ্নসমূহ বাংলাদেশ রাজস্ব বোর্ড কতৃক প্রদত্ত অনলাইন সেবা সমূহের ব্যাপারে আপনার অভিজ্ঞতা প্রকাশের জন্য করা হয়েছে)

The questions below are for you to express your feeling on the quality of online tax services provided by the NBR to the taxpayers in Bangladesh in the course of discharging their tax obligations. Please indicate whether you agree or disagree with the following statements. (নিম্নের প্রশ্নসমূহ বাংলাদেশ রাজস্ব বোর্ড কতৃক প্রদত্ত অনলাইন সেবা সমূহের ব্যাপারে আপনার অভিজ্ঞতা প্রকাশের জন্য করা হয়েছে। দয়াকরে আপনি সম্মত বা অসম্মত কিন তা প্রকাশ করুন)

	Description	SD-----SA				
Q30.	The NBR has a very useful and informative website. (জাতীয় রাজস্ব বোর্ডের একটি উপযোগী এবং তথ্য সমৃদ্ধ ওয়েবসাইট আছে।)					
Q31.	I can get the necessary and updated information from the NBR's website. (জাতীয় রাজস্ব বোর্ডের ওয়েবসাইট থেকে আমি যে কোন প্রয়োজনীয় তথ্য পেতে পারি।)					
Q32.	I can easily submit my tax return through e-filing of NBR. (আমি খুব সহজে আয়কর রিটার্ন ই-ফাইলিং এর মাধ্যমে জমা দিতে পারি)					
Q33.	I can easily pay the tax amount through e-payment of NBR. (আমি খুব সহজে ই-ফাইলিং এর মাধ্যমে আয়কর পরিশোধ করতে পারি)					

Q34.	The NBR provides user-friendly online services. (জাতীয় রাজস্ব বোর্ড ব্যবহারকারী বান্ধব অনলাইন সেবা প্রদান করে।)					
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PART-IV: TAX SYSTEM STRUCTURE

The questions below ask about your perceptions regarding the impact of tax system structure to influence your tax compliance behavior. (কর আইন মেনে চলার আচরণকে প্রভাবিত করে এমন সব অর্থনৈতিক উপাদান সম্পর্কে আপনার অভিমত জানার উদ্দেশ্যে নিম্নের প্রশ্ন সমূহ করা হয়েছে।)

(A). *Imagine Mr. 'A' has been paid some amounts in cash for work that he has done outside his regular job. He did not declare it on his income tax return. Besides, Mr. 'A' has claimed some amount as work deductions, which had nothing to do with work. Indicate the extent of your agreement or disagreement with the statements below.*
(কল্পনা করুন জনাব 'এ' তার নিয়মিত চাকুরির বাহিরে অতিরিক্ত কাজের জন্য কিছু টাকা নগদে পেয়েছেন যা তিনি নিজের আয়কর রিটার্নে প্রদর্শন করেন নি। এর পাশাপাশি তিনি কর রেয়াত এর উদ্দেশ্যে এমন ব্যয় দেখিয়েছেন যা সত্যিকারে তার কাজের সাথে সম্পর্কিত নয়। এই প্রেক্ষিতে নিম্নের বিবৃতিগুলোর সাথে আপনার অবস্থান প্রকাশ করুন।)

	Description	SD-----SA				
Q35.	There is a high chance that the tax authority would catch Mr. 'A' if he did not include his extra income in the tax return. (জনাব 'এ' যদি তার চাকুরির বাহিরে অতিরিক্ত উপার্জিত টাকা আয়কর রিটার্নে প্রদর্শন না করেন তাহলে কর কতৃপক্ষ তাকে ধরে ফেলার সমূহ সম্ভাবনা রয়েছে)					
Q36.	There is a high chance that the tax authority would catch Mr. 'A' if he had claimed the amount as a					

	deduction. (জনাব 'এ' যদি তার সাথে সম্পর্কিত নয় এমন ব্যয় কর রেয়াতের উদ্দেশ্যে আয়কর রিটার্নে প্রদর্শন করেন তাহলে কর কর্তৃপক্ষ তাকে ধরে ফেলার সমূহ সম্ভাবনা রয়েছে।)					
Q37.	The tax authority has enough workforce in its audit team to catch Mr. 'A'. (কর কর্তৃপক্ষের অডিট টীমে যথেষ্ট জনবল আছে যারা জনাব 'এ'র কর ফাকি দেয়ার উদ্দেশ্যে উপরুক্ত কাজ সমূহ ধরতে পারবেন)					

(B) Assuming Mr. 'A' did get caught for not declaring the extra income and claiming the deduction stated in Q50 and Q51, respectively, indicate your agreement or disagreement with the following legal consequences that Mr. 'A' would face. (কল্পনা করুন জনাব 'এ'র কর ফাকি দেয়ার উদ্দেশ্যে কৃত কাজ সমূহ (৫০ ও ৫১ নং প্রশ্নে উল্লিখিত) কর কর্তৃপক্ষ ধরে ফেলেছেন, তাহলে কোন ধরনের আইনী পদক্ষেপের মুখোমুখি তাকে হতে হবে বলে আপনি মনে করেন? নিম্নের বিবৃতিগুলোর সাথে আপনার অবস্থান প্রকাশ করুন।)

	Description	SD-----SA				
Q38.	Mr. 'A' needs to pay the tax that he owes, together with interest on it. (জনাব 'এ' কে তার অপ্রদত্ত কর সুদ সহ প্রদান করতে হবে।)					
Q39.	Mr. 'A' has to give a larger amount of penalty compared to the amount of tax saving due to not complying with the tax law. (জনাব 'এ'কে তার অপ্রদত্ত করার চেয়েও বেশি পরিমাণ আর্থিক দণ্ড পরিশোধ করতে হবে।)					

Q40.	Mr. 'A' has to face legal charges in the relevant court. (জনাব 'এ' কে সংশ্লিষ্ট আদালতে মামলার মুখোমুখি হতে হবে।)					
Q41.	The tax authority practices serious enforcement and the larger amount of penalty to deter tax non-compliance. (কর ফাঁকি রোধে আমার দেশের কর কতৃপক্ষ বড় পরিমানের আর্থিক দণ্ড প্রদান করে থাকে।)					

(C). Indicate your agreement or disagreement on the following statements concerning tax rates in Bangladesh. (বাংলাদেশের কর হারের ন্যায্যতা সম্পর্কিত নিম্নের বিবৃতিগুলোর সাথে আপনার অবস্থান প্রকাশ করুন।)

	Description	SD-----SA				
Q42.	Under the existing tax laws of the country, I believe the burden of income tax is fairly distributed. (দেশের বিদ্যমান কর আইনে আয়করের চাপ সকলের উপর ন্যায্যতার সাথে বন্টিত হয়।)					
Q43.	Wealthy classes in my country are not paying fair amount of tax in against their income. (আমাদের দেশে উচ্চ-আয়ের লোকেরা ন্যায্য হারে কর প্রদান করে না।)					
Q44.	The NBR practices a progressive tax rate. (জাতীয় রাজস্ব বোর্ড প্রোগ্রেসিভ কর হার অনুসরণ করে।)					
Q45.	Tax rebate has not been allocated fairly in the tax system of my country. (আমাদের দেশে কর ব্যবস্থায় কর রেয়াত সঠিকভাবে বন্টন করা হয় না।)					

PART-V: TAX KNOWLEDGE

Based on your knowledge please indicate your agreement or disagreement on the following statements. (কর সম্পর্কিত জ্ঞানের আলোকে নিম্নের বিবৃতিগুলোর সাথে আপনার অবস্থান প্রকাশ করুন)

	Description	SD-----SA				
Q46.	The interest accrued on the savings account is a taxable income under the Bangladesh Income Tax Law. (সঞ্চয়ী হিসাবের বকেয়া সুদ বিদ্যমান কর আইনের অধীনে একটি কর যোগ্য আয়)					
Q47.	A medical allowance from the employer for heart surgery is a taxable income under the Bangladesh Income Tax Law. (হৃদরোগের অপরাশনের জন্য নিয়োগকর্তা প্রদত্ত চিকিৎসা ভাতা বিদ্যমান কর আইনের অধীনে একটি কর যোগ্য আয়)					
Q48.	Prize money from the employer is a taxable income under the Bangladesh Income Tax Law. (নিয়োগকর্তা প্রদত্ত প্রাইজ মানি বিদ্যমান কর আইনের অধীনে একটি কর যোগ্য আয়)					
Q49.	A donation to the Ahsania Mission Cancer Hospital can be deducted as a tax rebate under the Bangladesh Income Tax Law. (আহসানিয়া মিশন ক্যান্সার হাসপাতালে অনুদান বিদ্যমান কর আইনের অধীনে একটি কর রেয়াতযোগ্য ব্যয়)					
Q50.	The deposit of installment to a pension scheme can be deducted as tax rebate under the Bangladesh Income Tax Law. (পেনশন স্কিমে প্রদত্ত কিস্তি					

	বিদ্যমান কর আইনের অধীনে একটি কর রেয়াতযোগ্য ব্যয়)					
Q51.	The holding tax on a house/property can be deducted as a tax rebate under the Bangladesh Income Tax Law. (গৃহ সম্পদের উপর হোল্ডিং ট্যাক্স বিদ্যমান কর আইনের অধীনে একটি কর রেয়াতযোগ্য ব্যয়)					



SECTION-2

DEMOGRAPHIC INFORMATION

(জনসংখ্যাতাত্ত্বিক তথ্য)

Instruction: Please (✓) beside the suitable answer.

(i) Gender (লিংগ)

Male Female

(ii) Marital status (বৈবাহিক অবস্থান)

Single Married Divorced/ Widowed

(iii) Age group (বয়স)

18-30 years 31-50 years Above 50 years

(iv) What is your highest level of education completed? (সর্বোচ্চ শিক্ষাগত যোগ্যতা)

HSC/ Diploma Bachelor degree Master's degree Other (Please state).....

(v) Occupation (পেশা)

Government service Private sector Self-employed Other (Please specify).....

(vi) Gross Monthly income (BDT) (মোট মাসিক আয়)

25,000-50,000 50,001-100,000 >100,000

(vii) Location

Dhaka

Chittagong



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Ref. :

Date : 03/03/2021

TO WHOM IT MAY CONCERN

This is to certify that we have translated a questionnaire "A survey on factors influencing tax compliance behaviour in Bangladesh" from English to Bengali, presented before us by A M M Masrur Hossain, a Ph.D candidate of International Islamic University Malaysia (IIUM).



**APPENDIX B: KREJCIE AND MORGAN'S DETERMINING
SAMPLE SIZE FOR A GIVEN POPULATION**

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

APPENDIX C: MULTIPLE REGRESSION ANALYSES (SPSS OUTPUT)

1. Multiple regression analyses results of model 1.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig.	F Change
1	.619 ^a	.384	.369	.79441054	.384	26.201	9	379	<.001	1.734

^a Predictors: (Constant), Income level, Education, Gender, Tax Rate, Occupation, Age, QOTS, Control of Corruption, Severity of Penalty

^b Dependent Variable: TCB

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148.818	9	16.535	26.201	<.001 ^b
	Residual	239.182	379	.631		
	Total	388.000	388			

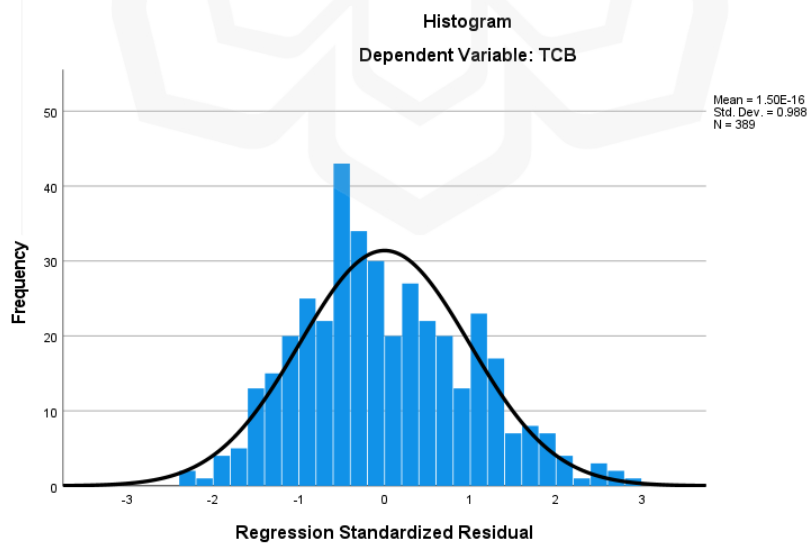
^a Dependent Variable: TCB

^b Predictors: (Constant), Income level, Education, Gender, Tax Rate, Occupation, Age, QOTS, Control of Corruption, Severity of Penalty

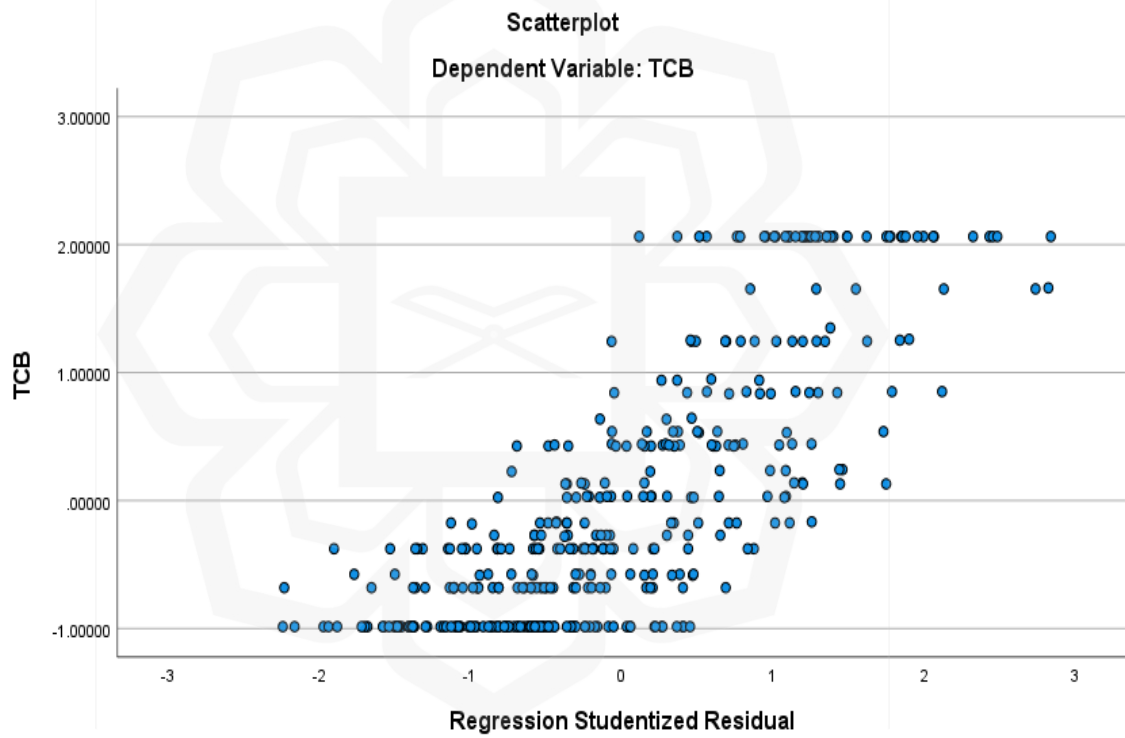
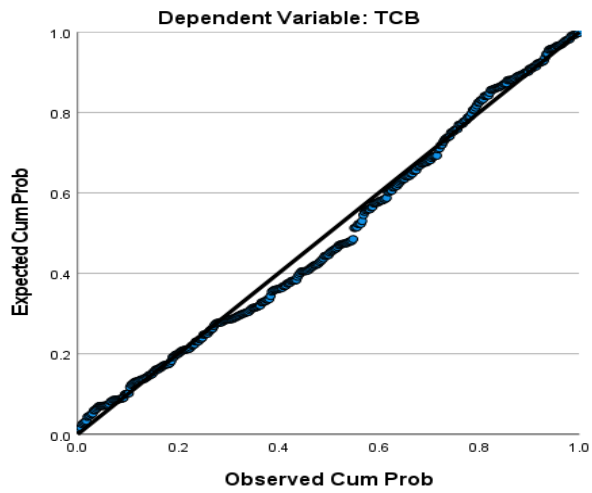
Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Coefficients			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-1.831	.257		-7.132	<.001					
	Control of Corruption	.131	.051	.131	2.543	.011	.307	.130	.103	.615	1.625
	QOTS	-.007	.058	-.007	-.114	.909	.313	-.006	-.005	.478	2.094
	Severity of Penalty	.316	.056	.316	5.638	<.001	.424	.278	.227	.517	1.933
	Tax Rate	-.024	.047	-.024	-.514	.608	.193	-.026	-.021	.728	1.373
	Gender	.595	.093	.263	6.411	<.001	.313	.313	.259	.969	1.033
	Age	.244	.078	.132	3.124	.002	.236	.158	.126	.905	1.105
	Education	.168	.052	.135	3.216	.001	.213	.163	.130	.929	1.077
	Occupation	-.102	.054	-.078	-1.896	.059	-.126	-.097	-.076	.961	1.041
	Income level	.324	.076	.185	4.253	<.001	.346	.213	.172	.858	1.166

^a Dependent Variable: TCB



Normal P-P Plot of Regression Standardized Residual



2. Multiple regression analyses results of model 2.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig F Change	Durbin-Watson
1	.620 ^a	.384	.368	.79519728	.384	23.560	10	378	<.001	1.734

^a Predictors: (Constant), Income level, TK, Education, Tax Rate, Occupation, Gender, Age, QOTS, Control of Corruption, Severity of Penalty

^b Dependent Variable: TCB

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148.976	10	14.898	23.560	<.001 ^b
	Residual	239.024	378	.632		
	Total	388.000	388			

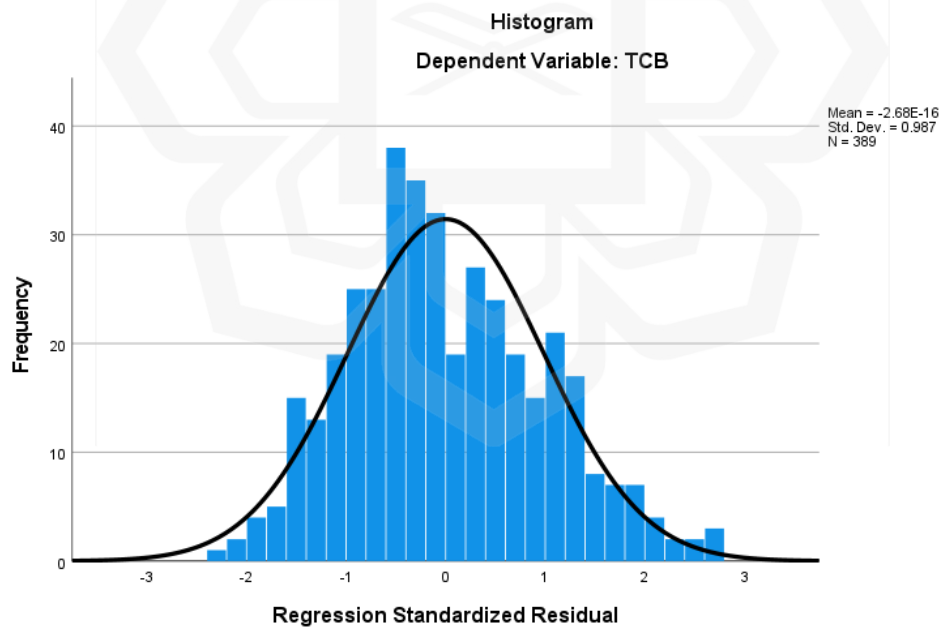
^a Dependent Variable: TCB

^b Predictors: (Constant), Income level, TK, Education, Tax Rate, Occupation, Gender, Age, QOTS, Control of Corruption, Severity of Penalty

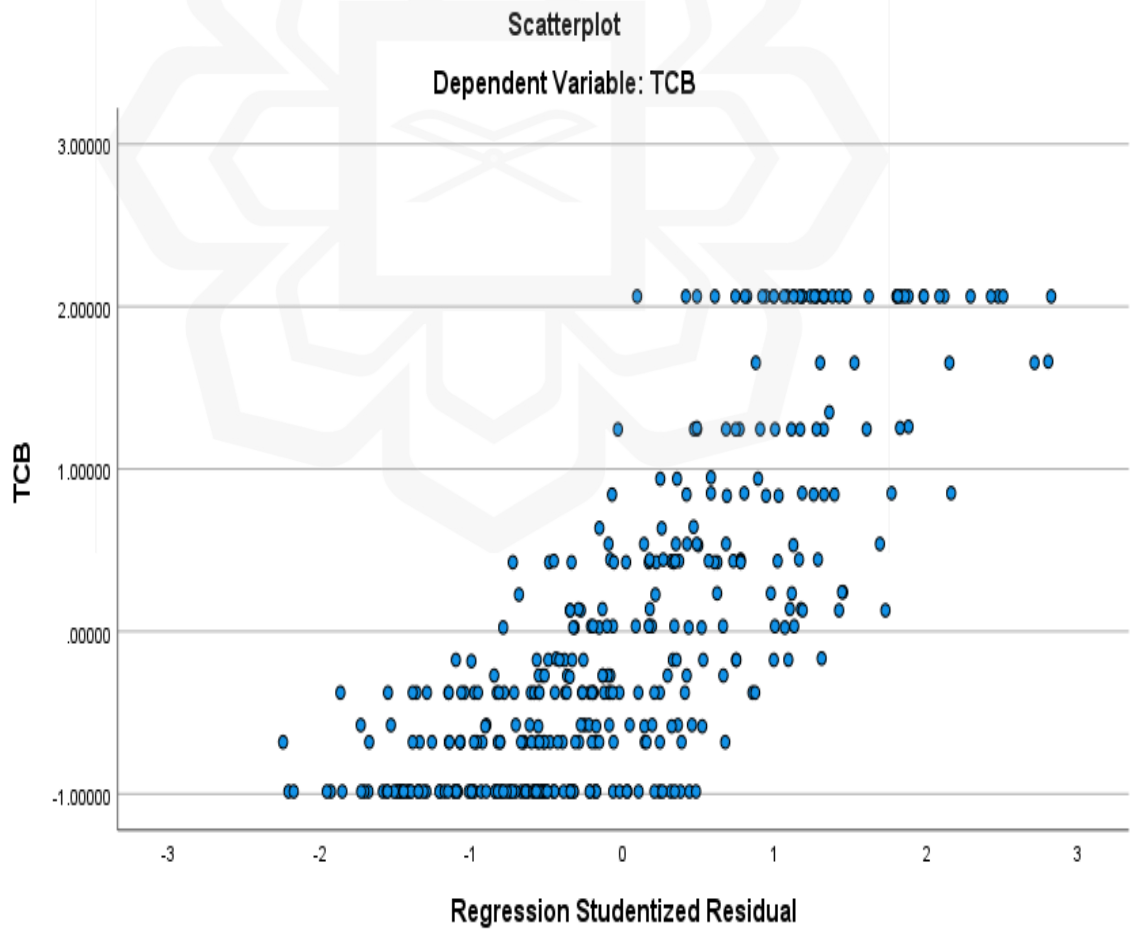
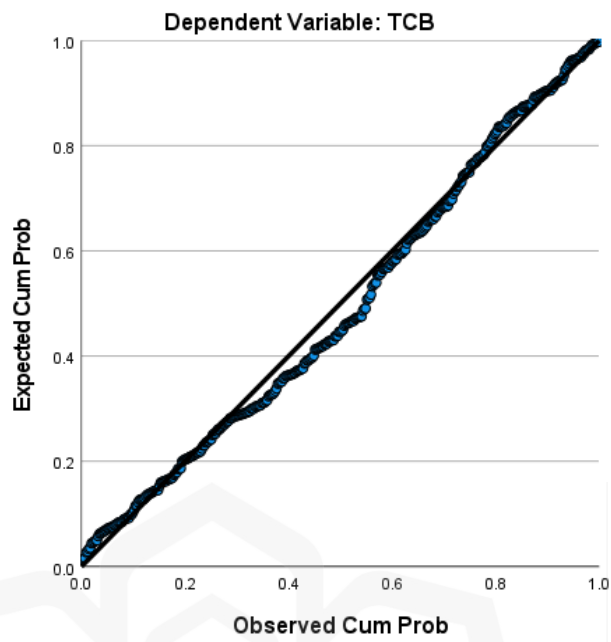
Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-1.844	.258		-7.139	<.001					
	Control of Corruption	.130	.052	.130	2.518	.012	.307	.128	.102	.614	1.628
	QOTS	-.008	.059	-.008	-.143	.886	.313	-.007	-.006	.476	2.101
	Severity of Penalty	.316	.056	.316	5.633	<.001	.424	.278	.227	.517	1.933
	Tax Rate	-.024	.047	-.024	-.503	.615	.193	-.026	-.020	.728	1.374
	TK	-.021	.041	-.021	-.500	.617	-.008	-.026	-.020	.967	1.034
	Gender	.600	.093	.265	6.421	<.001	.313	.314	.259	.957	1.045
	Age	.248	.079	.135	3.155	.002	.236	.160	.127	.897	1.115
	Education	.167	.052	.134	3.190	.002	.213	.162	.129	.927	1.078
	Occupation	-.101	.054	-.077	-1.878	.061	-.126	-.096	-.076	.960	1.041
	Income level	.324	.076	.185	4.252	<.001	.346	.214	.172	.857	1.166

^a. Dependent Variable: TCB



Normal P-P Plot of Regression Standardized Residual



3. Multiple regression analyses results of model 3.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.635 ^a	.404	.381	.78648497	.404	18.090	14	374	<.001	1.752

^a Predictors: (Constant), Income level, TK, Mod_TK_COC, Education, Occupation, Tax Rate, Gender, Age, Mod_TK_TR, QOTS, Mod_TK_SP, Control of Corruption, Severity of Penalty, Mod_TK_QoTS

^b Dependent Variable: TCB

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	156.659	14	11.190	18.090	<.001 ^b
	Residual	231.341	374	.619		
	Total	388.000	388			

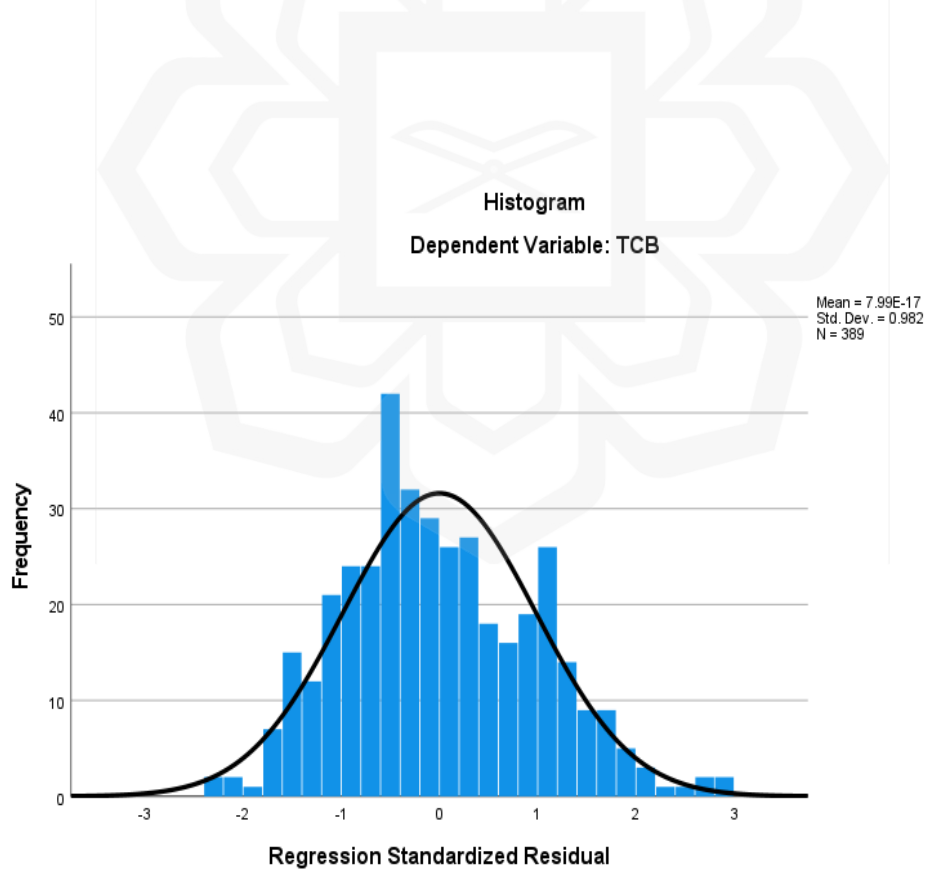
^a Dependent Variable: TCB

^b Predictors: (Constant), Income level, TK, Mod_TK_COC, Education, Occupation, Tax Rate, Gender, Age, Mod_TK_TR, QOTS, Mod_TK_SP, Control of Corruption, Severity of Penalty, Mod_TK_QoTS

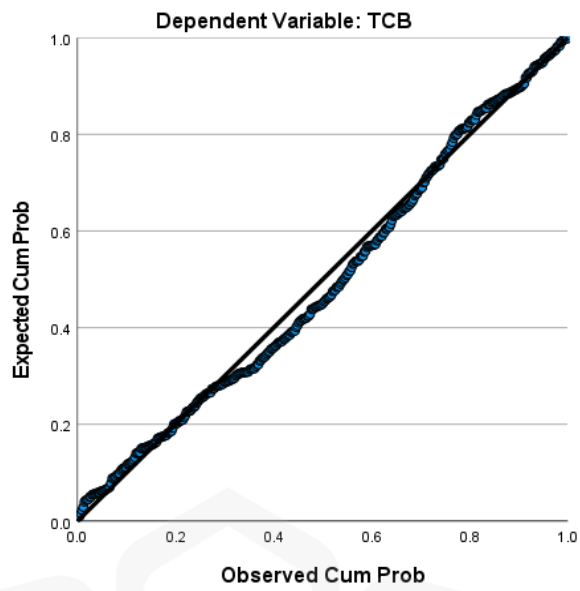
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-1.873	.256		-7.308	<.001					
	Control of Corruption	.120	.051	.120	2.332	.020	.307	.120	.093	.606	1.650
	QOTS	.004	.058	.004	.076	.939	.313	.004	.003	.472	2.118
	Severity of Penalty	.308	.056	.308	5.542	<.001	.424	.275	.221	.516	1.938
	Tax Rate	-.034	.047	-.034	-7.729	.466	.193	-.038	-.029	.720	1.388
	TK	-.014	.041	-.014	-.333	.739	-.008	-.017	-.013	.958	1.044
	Mod_TK_COC	-.152	.049	-.154	-3.066	.002	-.163	-.157	-.122	.632	1.582
	Mod_TK_SP	.109	.055	.114	1.978	.049	-.017	.102	.079	.484	2.066
	Mod_TK_TR	-.004	.045	-.004	-.093	.926	-.072	-.005	-.004	.727	1.376
	Mod_TK_QoTS	-.007	.059	-.007	-.110	.912	-.071	-.006	-.004	.441	2.266
	Gender	.592	.093	.262	6.356	<.001	.313	.312	.254	.940	1.064
	Age	.233	.078	.126	2.990	.003	.236	.153	.119	.892	1.121
	Education	.176	.052	.141	3.380	<.001	.213	.172	.135	.921	1.086
	Occupation	-.090	.053	-.069	-1.698	.090	-.126	-.087	-.068	.952	1.050
	Income level	.339	.076	.194	4.460	<.001	.346	.225	.178	.845	1.184

^a. Dependent Variable: TCB



Normal P-P Plot of Regression Standardized Residual



Scatterplot
Dependent Variable: TCB

