The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.

CORRUPTION AND TAX NON-COMPLIANCE MODEL: AN INVESTIGATION ON INDIVIDUAL TAXPAYERS IN YEMEN

BY

MOHAMMED MAHDI ABD OBAID

Universiti Utara Malaysia

MASTER OF SCIENCE (INTERNATIONAL ACCOUNTING)
UNIVERSITI UTARA MALAYSIA
MAY 2017

CORRUPTION AND TAX NON-COMPLIANCE MODEL: AN INVESTIGATION ON INDIVIDUAL TAXPAYERS IN YEMEN

By

MOHAMMED MAHDI ABD OBAID

Universiti Utara Malaysia

Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
in Partial Fulfillment of the Requirement for the Degree Master of Science (International Accounting)

Pusat Pengajian Perakaunan
Tunku Puteri Intan Safinaz
TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PENYELIDIKAN
(Certification of Research Paper)

Saya, mengaku bertandatangan, memperakukan bahawa
(I, the undersigned, certified that)
MOHAMMED MAHDI ABD OBAID (817190)

Calon untuk Ijazah Sarjana
(Candidate for the degree of)
MASTER OF SCIENCE (INTERNATIONAL ACCOUNTING)

telah mengemukakan kertas penyelidikan yang bertajuk
(has presented his/her research paper of the following title)

CORRUPTION AND TAX NON-COMPLIANCE MODEL: AN INVESTIGATION ON INDIVIDUAL TAXPAYERS IN YEMEN

Seperti yang tercatat di muka surat tajuk dan kulit kertas penyelidikan
(as it appears on the title page and front cover of the research paper)

Bahawa kertas penyelidikan tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan.
(that the research paper acceptable in the form and content and that a satisfactory knowledge of the field is covered by the research paper).

Nama Penyelia : DR. NORAZA MAT UDIN
(Name of Supervisor)

Tandatangan :
(Signature)

DR. NORAZA MAT UDIN
Senior Lecturer
School of Accountancy
UUM College of Business
Universiti Utara Malaysia

Tarikh : 5.6.2017
(Date)

Universiti Utara Malaysia

PERMISSION TO USE

In presenting this project paper in partial fulfillment of the requirements for a Post Graduate degree from the Universiti Utara Malaysia (UUM), I agree that the Library of this University may make it freely available for inspection. I further agree that permission for copying of this project paper in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor or, in her absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my project paper. It is understood that any copying or publication or use of this project paper parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my project paper.

Request for permission to copy or to make other use of materials in this project paper, in whole or in part should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman

Universiti Utara Malaysia

ABSTRACT

Governments around the world continuously attempt to improve the level of tax compliance especially those in countries which face a high level of tax non-compliance. Yemen is one of these countries in which tax non-compliance has been reported to be at a high level during the last few decades. This study empirically investigates the influence of perception of corruption in the government, tax rate, penalty rate, income level and education level on individual taxpayer's non-compliance behaviour in Yemen. This study is underpinned by the social influence theory, and further supported by the deterrence theory and cognitive learning theory. The data, which were collected through survey questionnaires, were analysed using multiple regression analysis and other statistical techniques. A total of 400 questionnaires were distributed that yielded 264 usable questionnaires. The results reveal that there is a positively significant relationship between perception of corruption in the government, tax rate and penalty rate and tax non-compliance, whereas the relationship between income level and tax non-compliance is negatively significant and the relationship between education level and tax non-compliance is insignificant. This study concludes with the theoretical implications and practical recommendations for the Yemeni Government in order to improve tax collection such as to develop and implement more stringent enforcement strategies to combat corruption in the administration and improve the tax system in terms of penalty rate and tax rates. In addition, the Yemen Tax Authority should play a more proactive role to encourage and educate individual taxpayers by enhancing their knowledge on taxation. This study also highlights several limitations and suggests future studies that can be conducted in this area.

Keywords: taxation, non-compliance, corruption, individual taxpayers, Yemen

Universiti Utara Malaysia

ABSTRAK

Kerajaan di seluruh dunia secara berterusan cuba untuk meningkatkan tahap pematuhan cukai terutamanya di negara-negara yang menghadapi tahap ketidakpatuhan cukai yang tinggi. Yaman adalah salah sebuah daripada negara-negara di mana ketidakpatuhan cukai telah dilaporkan berada pada tahap yang tinggi dalam tempoh beberapa dekad yang lalu. Kajian ini secara empirikal menyiasat pengaruh persepsi rasuah dalam kerajaan, kadar cukai, kadar penalti, tahap pendapatan dan tahap pendidikan ke atas tingkah laku ketidakpatuhan pembayar cukai individu di Yaman. Kajian ini disokong oleh teori pengaruh sosial, dan turut disokong oleh teori pencegahan dan teori pembelajaran kognitif. Data yang dikumpulkan melalui soal selidik dianalisa menggunakan analisis regresi berganda dan teknik-teknik statistik yang lain. Sebanyak 400 soal selidik telah diedarkan yang menghasilkan 264 soal selidik yang boleh digunapakai. Dapatan menunjukkan bahawa terdapat hubungan positif yang signifikan di antara persepsi rasuah dalam kerajaan, kadar cukai dan kadar penalti dan ketidakpatuhan cukai, manakala hubungan antara tahap pendapatan dan ketidakpatuhan cukai adalah negatif yang signifikan dan hubungan antara tahap pendidikan dan ketidakpatuhan cukai adalah tidak signifikan. Kajian ini merumuskan implikasi teori dan cadangan praktikal untuk Kerajaan Yaman bagi meningkatkan kutipan cukai seperti membangunkan dan melaksanakan strategi penguatkuasaan yang lebih ketat untuk memerangi rasuah dalam pentadbiran dan memperbaiki sistem cukai dari segi kadar penalti dan kadar cukai. Di samping itu, pihak berkuasa cukai Yaman perlu memainkan peranan yang lebih proaktif untuk menggalakkan dan mendidik pembayar cukai individu bagi meningkatkan pengetahuan mereka mengenai percukaian. Kajian ini juga menjelaskan beberapa batasan dan mencadangkan kajian pada masa depan yang boleh dijalankan dalam bidang ini.

Kata kunci: cukai, ketidakpatuhan, rasuah, pembayar cukai individu, Yaman

ACKNOWLEDGEMENT

I am grateful to the Almighty Allah for giving me the opportunity to complete my master thesis. May peace and blessing of Allah be upon His beloved Prophet Muhammad (SAW), his family and his companions. It is impossible to name all the people who have contributed over the years of this study with support, encouragement, advice, data and facilities. Without their contributions the thesis could not have been completed.

I would like to express my special appreciation and thanks to my supervisor Dr. Noraza Bt Mat Udin for being a tremendous mentor for me. She had provided continuous guidance, encouragement, support and advice in assisting me to complete this research paper. Without her support, I would not be here today. May Allah reward her abundantly and continue guiding her for future endeavours.

I would not end this appreciation without acknowledging my family, especially my parents, my siblings and my wife for their encouragement, prayers, motivation, understanding, and support to make sure this study become successful.

Finally, I am so thankful to Hadhramout University for granting me the opportunity to pursue this higher degree of learning. My sincere gratitude to all who have been involved directly and indirectly in helping me finish this thesis. May Allah bless all of you.

Mohammed Mahdi Abd Obaid

TABLE OF CONTENTS

Universiti Utara Malaysia

Universiti Utara Malaysia

Universiti Utara Malaysia

LIST OF TABLES

Universiti Utara Malaysia

LIST OF FIGURES

Universiti Utara Malaysia

LIST OF APPENDICES

Universiti Utara Malaysia

LIST OF ABBREVIATIONS

CLT	Cognitive Learning Theory
COAC	Central Organization of Audit &Control
GDP	Gross Domestic Product
GST	General Sales Tax
KMO	Kaser-Meyer-Olkin
MPIC	Ministry of Planning & International Cooperation
PD	Presidential Decree
SAS	Self-Assessment System
SPSS	Statistical Package for Social Sciences
TIQN	Transparency International's Quarterly Newsletter
UNDP	United Nations Development Program
USD	United States Dollar
VIF	Variance Inflation Factor
YER	Yemeni Rial
YTA	Yemen Tax Authority

Universiti Utara Malaysia

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Tax is considered as a crucial instrument and primary source of revenue for most governments. Specifically, tax revenue is needed to finance critical programmes (e.g., health care, education); services (e.g., law enforcement, public utilities); and infrastructure (e.g., road construction, environmental protection), which are beneficial to the society (Worlu & Nkoro, 2012). It is worth mentioning that tax revenues are considered to be an important source of Yemen's national income after oil (Al-Faseel, 2014).

Tax revenue is clearly stated in the final accounts of the State's General Budget for each fiscal year. Figure 1.1 shows Yemen's tax revenue, specifically during the period of 2008 to 2013. It is noted that the total tax revenue shows a steady increase, reaching the amount of USD 1.7 billion in 2008 and increasing to USD 1.9 billion and USD 2.1 billion in 2009 and 2010, respectively. In 2011, it shows a decrease to USD 1.8 billion because of street protests (Arab spring). Tax revenue totalled USD 2.6 billion and USD 2.9 billion in 2012 and 2013, respectively (Ministry of Finance, 2008-2013).

Universiti Utara Malaysia

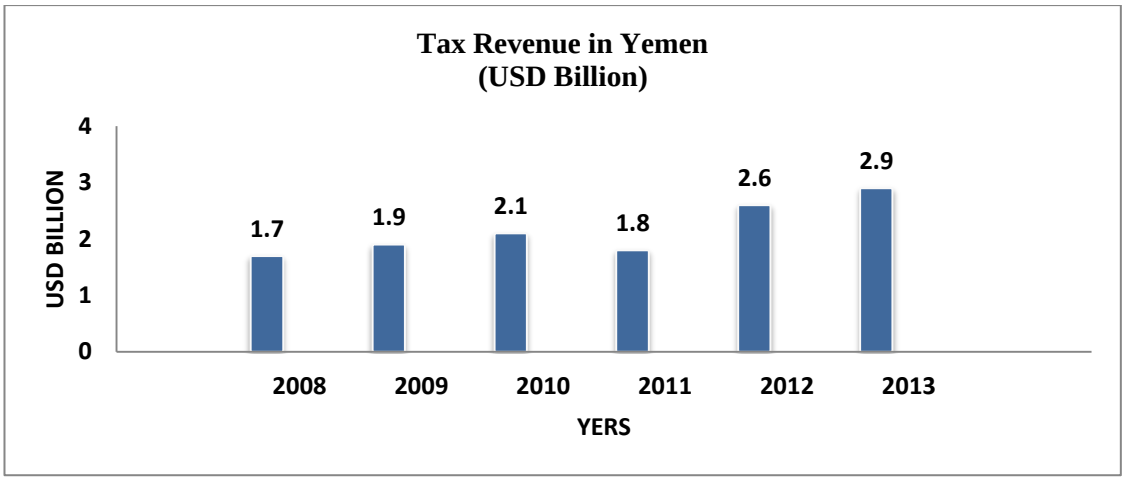


Figure 1.1
Tax Revenue in Yemen from 2008-2013 (USD Billion)
Source: Ministry of Finance, 2008-2013

Unfortunately, non-compliance problem prevents the government from generating sufficient revenue, thus adversely affecting the financing of the activities. Therefore, the tax non-compliance issue has attracted the attention of researchers in the area, such as James and Alley (2002); McGee and Lingle (2006); Kirchler (2007); and Khan and Ahmad (2014). The problem of tax non-compliance is considered an important and significant phenomenon that affects both developed and developing economies (Hindriks, Peralta & Weber, 2008).

Internationally, the issue of tax non-compliance has been examined in different countries, such as the United States, Malaysia, New Zealand, Australia, Nigeria and Sweden, which have focused on the legal and economic perspectives. Various studies have been carried out to investigate this issue, such as Nordblom, Jager and Hammar (2005); McGee and Rossi (2006); Feldman and Slemrod (2007); Kasipillai & Abdul Jabbar (2006); Gaventa and McGee (2010); McGee, Benk, Yıldırım and Kayıkçı (2011); Alabede, Ariffin and Idris (2011); McGee, Petrides and Ross (2012); and Saad (2012). However, the related literature has reported that most studies conducted

on tax non-compliance have focused on the classic model of tax compliance, which is based on the economic perspective of the deterrence theory. The lack of empirical research on other aspects can be attributed to the reality that social effects are extremely difficult to identify (Gupta & McGee, 2010).

McGee and Lingle (2006) investigated tax non-compliance in selected countries from the developed world, including in North America, South America and Europe and Australia and New Zealand. They found that due to their level of education and awareness as well as the stringent and appropriate measures put in place by tax authorities, the non-compliance attitude was less or minimal compared to developing countries. Furthermore, Yusof, Ling and Wah (2014) examined tax non-compliance in the context of Malaysia. The study found that peripheral tax rate, firm size and types of industry exerted significant effects on tax non-compliance. However, there is a lack of studies that have been conducted in the Middle East, such as in countries like Yemen and Jordan with respect to tax non-compliance (Al-Ttaffi, 2009 & Slehat, 2009).

Universiti Utara Malaysia

The Middle East is an important area that has contributed to the growth of the global economy (Carapico, 1998). Therefore, it is important to outline the perspectives of these countries towards international economic problems, such as tax non-compliance. Yemen, a Middle Eastern country, is categorised as one of the least developing countries suffering from a magnitude of financial and administrative problems, including the tax non-compliance problem (Transparency International's Quarterly Newsletter [TIQN], 2016; Al-Ttaffi, Abdul Manaf, Al-Jaaidi & McGee, 2011).

Of these problems, corruption continues to plague the Yemeni economy. Indeed, corruption was one of the major reasons for the street protests in 2011 which led to the fall of the government (World Bank, 2014). Not many anti-corruption efforts have been taken to address this problem. The government has not been able to combat corruption and it is still rampant and growing (Dbwan, 2014). Corruption is very pervasive and poses huge challenges. The government must initiate action to tackle this problem, especially considering that Yemen has been ranked 14th on Transparency International's 2014 Corruption Index. In addition, it is the most corrupt country in the Arabian Gulf region (Dbwan, 2014). In terms of world ranking, Yemen is at 170th position out of 174 countries (TIQN, 2016).

Corruption is considered as a social factor that greatly influences the behaviour of taxpayers, as individuals tend to be affected by the behaviour of others in their surroundings. However, literature has shown that no study has investigated the influence of corruption on tax non-compliance in Yemen because such issues are sensitive to be investigated in the Yemeni society where the political regimes before 2011 (Arab Spring) were very much against such studies (Sarker, 2014). Although the tax authority in Yemen has regulated new tax laws and codes to overcome the weaknesses in the tax system, such as the self-assessment system (SAS), which requires the taxpayers to assess and submit their taxes (Aljamaree & Algaylee, 2007), still, the issue of tax non-compliance exists perpetually (United Nations Development Programme [UNDP], 2005).

Normally, a positive perception of tax payment leads to a reduction in tax non-compliance (Al-Jaaidi, Manaf & Karlinsky, 2011). The social influence theory stipulates that a person is affected by the environment that surrounds him or her. In

Universiti Utara Malaysia

other words, an individual's behaviour is intentionally or unintentionally influenced by others in the surrounding area. Many studies have been done on the perception of taxpayers towards tax non-compliance, but most studies on tax non-compliance have looked at the issue from a public finance or economic perspective, such as studies that applied the Fischer model (Palil & Mustapha, 2011). It has been found that compliance with tax regulations is not always fully achieved even in developed nations (McGee, López Paláu & Polanco, 2007). Thus, it is crucial to investigate the perception of Yemeni taxpayers as they act according to their own perception, be it positive or negative.

During the year 2000 to 2010, the Yemenis tax authority enacted several new tax laws and reforms to minimize the weaknesses in the tax system and to enhance revenue generation by way of increasing tax compliance. However, the challenges of tax non-compliance has remained a major concern for the Yemeni tax authority. Furthermore, during the year 2004 to 2013, it was proven that the amount of tax non-compliance increased from USD164 million in 2004 to USD2 billion in 2009. In 2012, 2013 and 2014, the amounts of tax non-compliance were reported to reach USD2.5 billion, USD3 billion and USD4 billion, respectively (Ministry of Planning & International Cooperation [MPIC], 2009; Central Organisation of Audit & Control [COCA], 2012; COCA, 2014; Al-Saadi, 2014; Al-Sharabi &Al-Slehi, 2015; Al-Ttaffi & Abdul-Jabbar, 2016).This shows that tax non-compliance in Yemen continuously increased by significant percentages between the period of 2004 to 2014, as shown in Figure 1.2.

Universiti Utara Malaysia

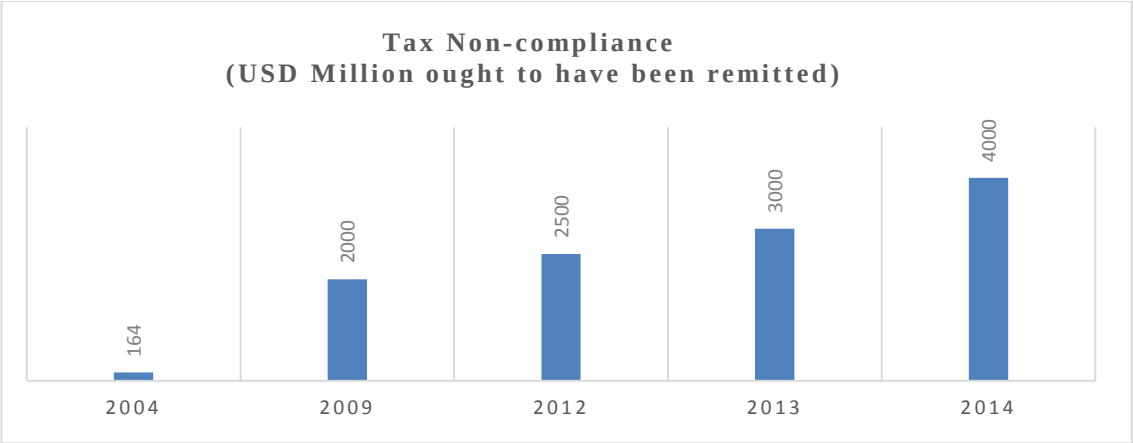


Figure 1.2
Tax Non-compliance in Yemen (USD Million)
Source: (MPIC, 2009; COCA, 2012; COCA, 2014; Al-Saadi, 2014; Al-Ttaffi &Abdul-Jabbar, 2016; Al-Sharabi &Al-Slehi, 2015)

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

Universiti Utara Malaysia

1.2 Problem Statement

Tax revenues are considered to be an important source of Yemen's national income after oil. About 23.9% of the Yemeni budget was financed by tax revenue during the period from 2004 to 2013 (Al-Faseel, 2014). In this regard and especially since tax revenue is extremely important, tax non-compliance is a serious problem faced by the Yemeni Government. Despite the introduction of the SAS in 2004 to avoid weaknesses in the tax regulations and the enforcement of Presidential Decree (PD)17 in 2010, the problem is still massive (MPIC, 2009; COCA, 2012; COCA, 2014; Al-Saadi, 2014; Al-Sharabi &Al-Slehi, 2015; Al-Ttaffi & Abdul-Jabbar, 2016).

The existence of tax non-compliance under the SAS can be attributed to the fact that the taxpayers refuse to obey the tax laws under SAS because they have to assess and pay their taxes honestly and voluntarily (Karlinsky, 2004; Abdul Manaf & Abdul Jabbar, 2006). Various factors could influence the willingness of taxpayers to comply with the tax laws, including their perception of the government. Taxpayers should be fully satisfied with the government; only then will it result in a positive perception of and behaviour towards paying tax. The social influence theory points out that individuals are usually affected by their surroundings (Snavely, 1990). Thus, in order to reduce the non-compliance level, taxpayers should have a positive perception of the government, which in turn, will influence their behaviour. In other words, a clear and transparent government is considered as an important factor that could positively influence the behaviour of taxpayers. On the other hand, a corrupt government may lead to a high level of rejection of the laws among the people and may lead to tax non-compliance.

Universiti Utara Malaysia

Imam and Jacobs (2007) explained that corruption has also affected many of the Middle East countries, which has driven the countries into many economic problems. In Yemen, it has been reported that the country is suffering from a high level of corruption (TIQN, 2016). Since people are affected by their surroundings, the perception of high level of corruption in the government might affect taxpayers and they will not pay their taxes (Sutinen & Kuperan, 1999). Akedede (2011) pointed out that the relationship between corruption and tax non-compliance is an issue which needs to be investigated empirically. Dbwan (2014) argued that the corruption in the government is considered to be the main reason for several economic problems, such as tax non-compliance in Yemen. Consequently, this study investigates the influence

of perception of corruption in the government as a major factor affecting the phenomenon of tax non-compliance in Yemen.

Other relevant factors are also investigated in the current study. Particularly, most taxpayers in developing countries consider two criteria: tax rate and penalty rate, if they intend to evade tax (Umar, Kasim & Martin, 2012). Further, Abiola, and Asiweh (2012) argued that taxpayers use the high tax rate as an opportunity to not only evade taxes but also to under-report their earnings when filing their taxes. Freire-Serén and Panadés (2013) found that a higher tax rate discourages tax compliance. However, Doran (2009) explained that tax penalties always motivate taxpayers to comply with tax laws. Additionally, previous studies on tax non-compliance have reported that the low level of income influences tax non-compliance in Yemen, such as TIQN (2016); Al-Jaaidi et al. (2011); and Al-Ttaffi (2009). Also, McGee & Bose (2007) established that the level of education has a strong impact on reducing the level of tax non-compliance. Therefore, all these factors are relevant to be examined in the context of Yemen's individual taxpayers.

Accordingly, this study examines taxpayers' non-compliance in Yemen and the relationship of several variables with tax non-compliance. In particular, this study incorporates perception of corruption in the government in the tax non-compliance model in Yemen as a new variable which has not been investigated in the Yemeni context. Furthermore, the current study also investigates the influence of tax rate, penalty rate, income level and education level on tax non-compliance in Yemen as a developing country in the Middle East region.

Universiti Utara Malaysia

1.3 Research Questions

This study attempts to examine the factors that might influence tax non-compliance behaviour in Yemen, by attempting to answer the following questions:

1. What is the relationship between perception of corruption in the government and tax non-compliance behaviour in Yemen?
2. What is the relationship between tax rate and tax non-compliance behaviour in Yemen?
3. What is the relationship between penalty rate and tax non-compliance behaviour in Yemen?
4. What is the relationship between income level and tax non-compliance behaviour in Yemen?
5. What is the relationship between education level and tax non-compliance behaviour in Yemen?

Universiti Utara Malaysia

1.4 Research Objectives

The main objective of this study is to explain the level of non-compliance among individual taxpayers in Yemen. Based on the research questions highlighted in the previous section specifically, this study aims to achieve the following objectives:

1. To investigate the relationship between perception of corruption in the government and tax non-compliance behaviour in Yemen.
2. To investigate the relationship between tax rate and tax non-compliance behaviour in Yemen.
3. To investigate the relationship between penalty rate and tax non-compliance behaviour in Yemen.

4. To investigate the relationship between income level and tax non-compliance behaviour in Yemen.
5. To investigate the relationship between education level and tax non-compliance behaviour in Yemen.

1.5 Scope of the Study

This research aims to examine tax non-compliance behaviour in Yemen and its determinant factors. However, it is difficult for the researcher to consider the whole country because of security challenges in the northern areas. Therefore, this study only focuses on the southern region, especially the Hadhramout Governorate. Therefore, the Hadhramout Governorate was chosen because the area is considered as one of the best business areas in Yemen. The study will focus on the individual salaried and self-employed taxpayers.

Universiti Utara Malaysia

1.6 Significance of the Study

This study has contributed significantly from the theoretical and practical perspectives as follows:

1.6.1 Theoretical Contributions

The theoretical contribution of this study is by incorporating social influence theory to study tax noncompliance and its determinant factors from Yemen. This is because according to the social influence theory, individuals are affected by their surrounding environment which influences their behaviour towards tax non-compliance. In other words, an individual's behaviour is intentionally or unintentionally influenced by others in his or her immediate environment. Also, this study would be the first to examine the significant of corruption as a factor influencing the tax non-compliance

behaviour in Yemen using social influence theory. Due to high corruption in the Yemeni Government, perception of corruption in the government may influence the taxpayers in fulfilling their obligations, especially after the implementation of the SAS This study integrates perception of corruption in the government as a new and key variable to investigate the tax non-compliance problem in the Yemeni context. Furthermore, tax rate, penalty rate, income level and education level, are also covered.

1.6.2 Practical Contributions

This study contributed practically to the literature of the tax non-compliance by studying the effects of corruption to non-compliance behaviours of Yemenis taxpayers in Hadhramout Governorate area. Therefore, the finding of the study would be useful to Yemen tax authority in general and Hadhramout Governorate in specific in their effort to reduce tax non-compliance and increase revenue generation to the government coffers. Also, the findings of the study would be useful to Yemenis government, tax practitioners, students, standard setters and other stakeholders from tax revenues generation agencies. This study will beneficial to them significantly as it's provided empirical evidence from the Hadhramout Governorate taxpayer's perspective. This study focuses on economic and social perspectives towards tax non-compliance to enable the tax authority in Yemen to take corrective measures to ensure that the SAS functions effectively in line with the objective of providing efficient and effective services to taxpayers to meet their obligations.

1.7 Organization of the Thesis

The thesis is divided into five chapters: Chapter One contains an introduction under which the following are covered: background of the study, problem statement, research questions and objectives, significance and the scope of the study. The next chapter which is Chapter Two provides an overview of the tax system in Yemen and features the relevant literature review in the area of tax non-compliance. It also includes empirical studies and other related theories. The relationship between tax non-compliance and some selected variables are also discussed. Chapter Three emphasizes on the research methodology, which begins with the research framework and hypotheses development and continues with the research design, method of data collection, population and sample of the study, questionnaire design and variables measurement, pilot test and data analysis technique. This is then followed by Chapter Four which presents the data analysis and findings of the study, which begins with the response rate, respondents' profile, data screening, descriptive statistics, reliability and factor analysis, pearson correlation and multiple regression analysis. The chapter also presents the hypotheses testing of this study. Finally, Chapter Five summarizes the research findings and discusses the theoretical and practical implications of the research results. It also includes limitations of the study and recommendations for future studies.

Universiti Utara Malaysia

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on tax non-compliance and presents the factors that might influence tax non-compliance behaviour of taxpayers in Yemen. The chapter starts with an overview of the tax system in Yemen, defines the concept of tax non-compliance and reviews the existing studies related to tax non-compliance. It is then followed by the relevant literature related to the factors that might influence tax non-compliance behaviour of taxpayers in Yemen. The factors are perception of corruption in the government, tax rate, penalty rate, income level and education level. Finally, this chapter discusses theories related to tax non-compliance.

2.2 Overview of the Tax System in Yemen

The overview of the tax system in Yemen is presented in this chapter by reviewing the background of the Yemen tax authority and the country tax system. This section explains the nature of Yemen tax laws concerning non-compliance behaviours in personal income tax, tax returns, self-assessment system, tax treaties and penalties. Also, the consequences for delay in filling and in submission of tax returns to the tax authorities in the country are presented.

Yemen Tax Authority (YTA): This is an important department in the Ministry of Finance that serves as a major source of generating revenue for the government. The main role of the YTA is as consultant to the Minister of Finance and they propose and implement policies and tax laws. The head office is based in the capital of Sana'a and there are offices and branches in Sana'a and the governorates and administrative

units in all of states in the country. The aim is to propose and implement tax policies in accordance with the financial policy of the state and the tax laws. The YTA also contributes effectively to the implementation of economic and social development plans. It enforces the application and implementation of the tax laws by imposing direct and indirect taxes, making taxation plans and collecting taxes and other fees or penalties.

Tax System in Yemen: The tax system in Yemen is complex if compared to other Middle Eastern tax jurisdictions. The tax system is governed by two principal laws namely: The Income Tax Law and The General Sales Tax (GST) Law. Yemenis authority passed a new tax law on 29 August 2010 via Presidential Decree1 No. 17/2010 (PD 17) that superseded the Income Tax Law No. 31 of 1991 and its amendments. The PD 17 which made comprehensive amendments to the 1991 law, took effect for the tax year ending 31 December 2010 for business income and income from real estate, and for salaries, wages and property tax (YTA, 2010).

Universiti Utara Malaysia

Direct Tax: The main sources of direct taxes in Yemen are personal income tax, commercial and industrial tax (corporate tax) and non-commercial and non-industrial professions tax (Al-Rubaidi, 2012; Al-Asaly, 2003). The general corporate tax rate was reduced from 35% to 20% on 31 December 2010. Investment projects are taxed at 15% (previously 20%) also with effect from 31 December 2010. However, projects that were registered under the Investment Law before the enactment of the PD 17 (2010) generally will remain exempt from tax until the expiration of the tax holiday period (generally between five to seven years). Mobile phone service

[1] Presidential Decree (PD) is a rule of law usually issued by a Head of State.

providers are taxed at 50% and international telecommunications service providers and small firms are subject to progressive rates ranging from 10% to 20%, depending on the type of activities (YTA, 2010).

Individuals are taxed under the new tax laws at a progressive rates ranging from 10% to 15% (previously, 10% to 35%) with effect from 31 December 2010. For resident salaried individuals, the highest rate is 15% (previously, 20%). Non-residents are taxed at a flat rate of 20% (previously non-residents were subject to progressive rates) from 1991 to December 2010. The exempt of annual income tax ceiling has been increased from YER 36,000 to YER 120,000. Benefits, privileges and rewards, regardless of what they are called, are taxable at a flat rate of 15% (YTA, 2010).

Indirect Tax: The only indirect tax collected in Yemen is general sales tax (GST). The standard of GST rate from 2006 until 2016 was 5%, and the average rate mostly collected is 4.7% (YTA, 2010). GST is charged on consumers based on the purchase price of a certain goods and services such as consumption of Khat[2] at a rate of 40%, cigarette manufacturers/importers at 35% and tax on consumption of petroleum products ranging from five Fils to 25 Fils per liter (Al-Rubaidi, 2012; Al-Asaly, 2003). Revenue from GST is an important source of income to the government of Yemen, besides direct taxes.

Tax returns: Individual taxpayers receiving salary income must file to the tax authority within the first 10 days of the following month after the end of the tax base period. In case of an employee working for a non-resident employer, the responsibility of presenting tax return falls on employee. According to the new tax

[2] Khat is a kind of tree which leaves are consumed by the people of Yemen.

laws, a foreign employee is obliged to furnish tax clearance certificate to the immigration authority before leaving the country on completion of job or when leaving the country on permanent exit.

Tax returns for corporate taxpayers shall be filed within 120 days from the end of the tax year with a tax declaration showing their profits or losses accompanied by all supporting documents and audited financial reports. Large corporate taxpayers' tax returns must be certified by the local registered chartered accountants (YTA, 2010).

Self-Assessment System (SAS): In 2015, SAS was mandated for all individual taxpayers in Yemen (Al-Batly, 2015). This system is meant to improve the tax administration, by focusing more on tax audits and investigation (as compared to processing and assessing tax returns submission). SAS is also expected to reduce costs and time if properly implemented (Kasipillai, Baldry & Rao, 2000; Shanmugam, 2003).

Universiti Utara Malaysia

Tax Treaties: The Government of Yemen has entered into an agreement with the following governments for the avoidance of double taxation on income specified in the respective treaties. The countries in which the Yemen has bilateral tax treaties includes Algeria, Egypt, Lebanon, Sudan, Tunisia, Syria, Kuwait, the United Arab Emirates (UAE), Qatar, Bahrain, Oman, Iraq, Jordon and Ethiopia.

Penalties: Penalties for a delay in the submission of tax returns both for individual and corporate taxpayers are clarified by including specific provisions for entities incurring losses or that are exempt from tax. In such cases, penalties range from YER 200,000 (USD 930) to YER 5,000,000 (USD 23,250), depending on the type of

corporate entity. The penalty for tax evasion has been increased from 50% to 150% on the amount of tax evaded to 100% to 150% (YTA, 2010).

2.3 Tax Non-compliance

Tax non-compliance is an issue that is subject to much debate. Several studies have been conducted in both developing and developed nations around the world. There is no standard definition of tax non-compliance (Yusof et al., 2014). Different authors have different perspectives of tax non-compliance. Researchers, like Long and Swingen (1991); Hasseldine and Li (1999); and Devos (2006) defined tax compliance as taxpayers filing their tax returns at the right time and accurately in accordance with the relevant laws and regulations as well as any decision of the court which is applicable at the time the tax returns are filed. This definition is based on the definition of Roth et al. (1989). Thus, tax non-compliance occurs through failure to file tax returns, misreporting income or misreporting allowable subtractions from taxable income or tax due. Khan and Ahmad (2014) stated that non-compliance is a process in which a taxpayer does not pay tax to the tax authorities. Thus, tax non-compliance is referred to as any difference between the actual amount of taxes paid and the amount of taxes due (Kamleitner, Korunka & Kirchler, 2012). Some researchers are of the view that non-compliance can take several forms; these include failure to submit tax returns within the specified time, not submitting at all; understating the income; overstating deductions; and not paying the assessed taxes on or before the due date.

Tax non-compliance can be both intentional or unintentional failure of taxpayers to fulfil their tax obligations (James & Alley, 2002). Nevertheless, arguments have been put forward that since the magnitude of compliance differs, certain non-compliance

Universiti Utara Malaysia

might not infringe the law (Kirchler, 2007). Roth et al. (1989) are of the view that tax non-compliance happens through failure of a taxpayer to file profit, misreport income or overstate allowable deductions from chargeable income or tax due (exceptions, subtractions, adjustment, tax credit, etc.). Soos (1991) and James & Alley (2002) categorised tax non-compliance into four: failure to file tax returns; lack of understating of taxable revenue; over-reporting of tax reliefs, such as tax exemptions and expenditures; and the inability to pay tax liability when due.

According to Alabede, Zainol Ariffin, and Idris (2011), tax non-compliance can take various forms. It could be deliberate non-compliance in which the taxpayer intentionally takes advantage of the tax rules and regulations for his/her own gain. It could also be unintentional, which could be due to lack of awareness or knowledge or due to the common mistakes encountered in the process of applying the tax law.

Nwachukwu (2006) expressed that non-compliance is the general term for action by an individual, firms, trusts and different entities to dodge taxes by unlawful means. In this way, tax non-compliance usually is a purposeful demonstration by taxpayers to distort or conceal reality and reasonable position of their pay issues to the particular tax authority, keeping in mind the end goal to minimise their tax obligations. Also, it is an act of dishonesty by not filing and reporting income, such as profit, bonuses and gains as they were actually earned and/or overstating deduction.

Soyode and Kojola (2006) characterised tax non-compliance as a purposeful and cognizant practice of not uncovering full assessable income. It is an infringement of tax laws in which the tax rate due by an assessable individual is unpaid after the

Universiti Utara Malaysia

required base period (Fagbemi, Uadiale & Noah, 2010). Tax non-compliance is a clear evidence of a situation where taxpayers make false statements about their tax liabilities by not complying with the tax laws and regulations with the aim of evading taxes.

Specifically, the meaning of tax non-compliance can be combined into two classifications, particularly, from the economic perspective and from the social perspective. This study concentrates on the issue of tax non-compliance from both perspectives because the combination of the factors based on social and economic theories could reasonably explain the issue of tax non-compliance in Yemen. The social side of tax non-compliance has a tangible effect which has not been sufficiently studied in Yemen (Al-Ttaffi & Abdul-Jabbar, 2015). The subsequent sections provide explanation of economic and social viewpoints of tax non-compliance.

Universiti Utara Malaysia

2.3.1 Tax Non-compliance from the Economic Point of View

According to Webley, Robben, Elffers and Hessing (1991), the explanations behind tax non-compliance are eagerness, the principle reason individuals take part in this demonstration is that they need to expand their benefit. Becker (1968) believed that the main reason that motivates people to commit a crime is almost the same, what make them vary are the cost and the benefits objective. In the perspective of tax non-compliance, individuals are dealt with as objective untrustworthy choice takers that arrange in different regions to boost their advantage.

An established model of tax non-compliance by Allignham and Sandmo (1972) recommends that the disposition and the conduct of individuals are affected by numerous factors, which include tax rate, the consequences of committing fraud and the possibility of detection. Accordingly, individuals have a decision on the amount of salary they report for taxes; some may state nothing while others behave differently.

Allignham and Sandmo (1972) found that unreasonable and greedy taxpayers may choose to under-report their income, or rather avoid tax on the off chance that they know about non-detection. Their model views that possibility of detection would have an impact on tax non-compliance. It is believed that an individual will be more agreeable to the tax authorities if there is a viable tax requirement and the likelihood of identification of non-compliance. This is explained in an interactive model proposed by Benjamini and Maital (1985). This model is based on the recognition that taxpayers do not make decisions alone as there are other people involved. The tax authorities can change the possibility of being detected and the penalty that will be imposed.

In this circumstance, tax authorities have two options: either to investigate the taxpayer or overlook the enquiry. In another situation, the taxpayers have an opportunity to comply with tax laws voluntarily or decide not to comply. For this model, it is obvious that there are no simple balances if the taxpayer decides to comply voluntarily. This will ease the task of the authorities and hence reduce the cost of the investigation. So, the taxpayers may not go along in the event that they realise that there are no moves made by the authorities against the decision they had made. Legitimising a choice taken in a two-way process (taxpayers and authorities)

Universiti Utara Malaysia

has similarly been found in methodologies that have utilised the theories of some constraints of rationality. Kahneman and Tversky (1979, 1984) provided an approach that was developed to tackle the problems under the standard utility theory.

The significance of tax non-compliance has been studied in various nations, including by well-known researchers, such as Jackson and Milliron (1986); Schadewald (1989); and Smith & Kinsey (1987). When framing an individual tax decision, a number of factors are considered, such as whether or not the tax that is to be paid has a greater benefit compared to the tax due and evaded (withheld). In a few nations, it has been noted that taxpayers appear to be picking additionally withholding rather than strictly necessary. This means that where the tax system involves withholding by the authorities, the taxpayer expects a refund and perceives it as a gain to avoid the risk related to tax non-compliance.

2.3.2 Tax Non-compliance from the Social Point of View

Universiti Utara Malaysia

Social scientists and legislators have started to realise that tax non-compliance is a behavioural problem that modern day economic models cannot address completely. Therefore, perceptions from the behavioural perspective are valuable in decreasing revenue lost through non-compliance and in upholding compliance by people. Studies have been conducted which have adopted the behavioural approach to examine the attitudes and beliefs of taxpayers to predict their actual behaviour.

Studies on the behavioural approach to tax compliance and tax non-compliance from sociological and psychological viewpoints, have stressed on the consequences of social standards and individual attitude to explain compliance (or non-compliance). Findings from this perspective suggest that demographic factors (such as age, gender,

ethnicity). Also education as a demographic variable, relates to a taxpayer's ability to comprehend and comply or not comply with the tax laws (Jackson & Milliron, 1986). Social norms have an important influence on tax compliance (as exemplified in the studies of Alm, Sanchez & Juan, 1995; Hite, 1997; Hasseldine & Hite, 2003; Rothengatter, 2005). Furthermore, tax compliance depends on the support between both the taxpayers and the tax authority (Feld & Frey, 2006; Frey & Torgler, 2007).

In the context of this study, tax non-compliance refers to taxpayers intentionally or unintentionally failing to fulfil their tax obligations. The focal point of this study is tax non-compliance in the context of the Yemeni tax system, and to ascertain how this phenomenon affects tax revenue, both economically and socially.

Universiti Utara Malaysia

2.4 Prior Studies on Tax Non-compliance

Different reasons and factors have been viewed in the literature to explain the factors that affect tax non-compliance. Among the studies in this area are the works of Allignham and Sandmo (1972); Spicer and Becker (1980); Clotfelter (1983); Roth et al. (1989); Feintein (1991); Kirchler (1997); Frey and Feld (2002); Torgler (2003); Yalama and Gumus (2013); Yusof et al. (2014); Sapiei, Kaipillai and Eze (2014); Gurama (2015); and Teng and Manual (2016). The most common factors affect tax non-compliance examined in these studies, include tax burden, income level, the source of income, corruption, tax penalties, tax rate, inflation and public expenses. In addition, tax audit, marital status, educational level, tax administration, tax system, tax morale, the public services and tax mentality have also been studied.

Several studies have shown vividly that an increase in the tax rate will cause an increase in the act of tax non-compliance (Clotfelter, 1983; Alm & Mckee, 1992; Saracaghu, 2008; James & Moses, 2012; Adebisi & Gbegi, 2013; Blank, 2014; Yusof et al., 2014, Gurama, 2015; Teng & Manual, 2016). Similarly, a positive relationship has been identified in the literature between tax non-compliance and income level, i.e., when an individual's income level increases, the attitude of tax non-compliance will also increase (Crane & Nourzaid, 1990; Nor Ghani, Mansor, Mohd & Razieh, 2012; Davos, 2006; Nor Aziah, Stewart & Khaled, 2011; Teng & Manual, 2016). Accordingly, it has been shown that a strong relationship exists between income per capita and taxes reported.

On the other hand, Alm and Mckee (1992) concluded that a higher income will lead to low compliance for paying taxes. John and Slemrod (2007) indicated that the number of underreported taxes vis-à-vis the exact tax is higher among the low-income taxpayers. This implies lower pay workers have low compliance to the tax laws. It shows that lower pay taxpayers will probably avoid taxes than the higher earning taxpayers. Teng and Manual (2016), in examining the relationship between tax non-compliance and income level, found that income level is insignificant to tax non-compliance behaviour in Malaysia.

Past studies have shown that researchers do have some common variables in discovering the elements that affect tax non-compliance. Studies regarding income level in other countries have shown mixed results. Notwithstanding salary level, there are additionally a few other determinant factors of tax non-compliance which have been focused on and have led to mixed or conflicting results. These factors are

Universiti Utara Malaysia

corruption, tax rate, penalties and education level (Alm, McClelland & Schulze, 1992).

Corruption, for example, was tested in Nigeria and the results show both a positive (Akinyomi & Okpala, 2013; Gurama, 2015) and negative relationship (Tijani & Mathias, 2013) with tax non-compliance. Penalty rate, as well as tax rate, were also tested and the findings showed inconsistent results (Hellal & Ahmed, 2014; Pommerehne & Wech-Hannemann, 1996). Education level, when tested, also showed a negative relationship (Peter, Ibadin & Eiya., 2013; Al-Ttaffi, 2009); inconclusive result (Gupta & McGee, 2009) and positive relationship (Olowookere & Fasina, 2013; Peter et al., 2013) with tax non-compliance. Therefore, in this study, five variables are included as factors that influence tax non-compliance, they are perception of corruption in the government, tax rate, income level, penalty rate and education level). The variables selected for this study are relevant in the context of Yemen because of the inconsistent results found as mentioned above (positive, negative and inconclusive), while corruption has not been tested prior to this study. The following sections discuss these variables specifically in relation to tax non-compliance.

Universiti Utara Malaysia

2.5 Perception of Corruption in the Government

Although corruption has not been studied in Yemen, studies in other countries have found that it has a positive relationship with tax non-compliance. Such studies include Alm et al. (1992); John and Slemrod (2008); Nor Ghani et al. (2012); Alm, Martinez-Vazquez, and McClellan (2016); Gurama (2015); Mancharoen (2015); and Oladipupo and Obazee (2016).

Corruption is a complex social, political and economic phenomenon that is prevalent in all countries to varying degrees (Rohwer, 2009). Corruption is defined as the abuse of power for private gain (Aguilera & Vadera, 2008). Currently, corruption among government officials and tax non-compliance is a common occurrence in many countries. However, tax evasion is a factor which has badly affected developing countries. Evidence from various developing countries indicates that huge amounts of tax that should have been paid cannot be detected and this is attributed to corruption and tax non-compliance (Muhrtala, 2013; Fjeldstad, 2006).

Numerous studies have documented the negative impact of corruption on economic development (Campos, Lien & Pradhan 1999; Mauro, 1995). According to Alm et al. (2016), corruption and tax non-compliance are not new problems but both are significant problems facing today's economies. While these issues are distinct and can exist without each other, they can easily become intertwined and reinforcing. A society that is more corrupt may enable more tax non-compliance as corrupt officials seek more income via bribes; conversely, higher levels of tax evasion may lead to corruption by offering more opportunities for bribes.

In the Middle East, Imam and Jacobs (2014) studied corruption and its impact on the capacity of the various tax categories to generate revenue during the time before the Global Crisis and the Arab Spring. Their findings revealed low revenue collection in terms of its share to the Gross Domestic Product (GDP) in the Middle East, in comparison to other middle-income regions. They found that this was partly due to corruption, with some taxes being more affected than others.

Universiti Utara Malaysia

Generally, it is known that corruption and bribery can drive people to evade taxes. Many studies have shown the substantial influence of corruption and bribery in inducing people towards tax non-compliance. The review of literature has shown that there is a positive relationship between tax non-compliance and corruption. For instance, Okpala (2013) assessed the factors that lead to tax evasion and avoidance in Nigeria through a survey using questionnaire. The finding pointed out the level of corruption has a positive and significant relationship with tax evasion. Similarity, Akdede (2011) reported that the level of corruption increases the level of tax non-compliance. It is clearly portrayed that an increase in corruption level will automatically result in a corresponding increase in tax non-compliance (Alm et al., 2016). In other words, a higher level of corruption and bribery correspondingly leads to higher levels of non-compliance, concurring with the argument that the level of tax compliance depends largely on the quality and the honesty of the tax enforcers. To summarise, if there is corruption, having audits and higher penalty rates (the conventional preventive measures used to increase the level of compliance) cannot prevent tax non-compliance.

Furthermore, economies that have greater levels of corruption perception are linked to a higher level of non-compliant behaviour (Tanzi & Davoodi, 2001). In relation to this, Picur and Riahi-Bleckaoui (2006) revealed that tax evasion on a global scale is positively linked to the institutional bureaucracy levels and negatively linked to successful corruption eradication. Similarly, Pasheve (2005) found the same results when he focused on examined Bulgarian tax non-compliance and corruption probability. Meanwhile, Gupta (2008) found a strong and significant impact of corruption when they studied the income tax compliance among corporations in India. Sanyal and Goswami (2000) established that tax revenue may drop with the

low-income rate with the existence of corrupt tax officials. A number of studies have found that there is a positive relationship between the level of tax non-compliance and corruption (Hindriks & Muthoo, 1999; Pirttila, 1999; Gupta, 2008; Cerqueti & Coppier, 2009; Escobari, 2012; DeBacker, Heim & Tran, 2012; Kafkalas, Kalaitzidakis & Tzouvelekas, 2014).

On the other hand, some studies have indicated a negative relationship between tax non-compliance and corruption. For instance, in their study on tax non-compliance in Nigeria, Tijani and Mathias (2013) posited there is a negative relationship between corruption and tax non-compliance. Their respondents were tax agent, tax lawyers, tax practitioners and tax accountants.

In view of all these mixed findings, there is a need to explore the issue of corruption and tax non-compliance behaviour. The findings of this study may help to identify the reasons for non-compliance behaviour among taxpayers in Yemen, particularly from the taxpayers' perspective, including why they do not conform to tax rules and regulations. To the best knowledge of the researcher, there is no study that has examined the relationship between corruption and tax non-compliance in Yemen. Hence, this study is justified.

Universiti Utara Malaysia

2.6 Tax Rate

Tax rate plays a significant role in influencing investment and financing decisions of organisations. A tax rate which is below marginal personal income tax rates can provide incentives for the self-employed to incorporate their business (King, 1977). Tax rate refers to the quantum of tax that a taxpayer has to pay in accordance with the taxable items and tax law. Several studies in both developed and developing

countries have been undertaken on the relationship between tax rate and tax non-compliance behaviour, whereby their findings show there is a positive relationship (Guldana, 2013; Malkawi & Haloush, 2008; Freire-Serén & Panadés, 2013; Jayeole, 2010; Cebula, 2013; Abiola & Asiweh 2012; Mughal & Akram, 2012; Muhrtala & Ogundeji, 2013; Gurama 2015). Overall, these studies have shown that the tax rate is directly related to the taxpayers' ability to behave positively or negatively based on their perception of tax non-compliance.

Taxpayers use the high tax rate as an excuse to evade taxes and/or under-report their income to the tax authorities. James and Moses (2012) posited that there is a positive relationship between tax rate and tax non-compliance. Maria and Judith (2013) found that a higher tax rate can discourage tax compliance. Mughal and Akram (2012); Jayeola (2010); Adebisi and Gbegi (2013); and Gurama (2015) pointed out that there is a positive and significant relationship between tax rate and tax non-compliance in Nigeria. These studies are in line with previous studies which have shown that there is a positive relationship between tax rate and tax non-compliance. The studies conclude that high tax rate attracts non-compliance and encourages tax non-compliance.

Yusof et al. (2014), in their study on tax non-compliance in Malaysia, found that there is a direct relationship between tax rate and tax non-compliance. Also, Teng and Manual (2016), in their study on economic factors influencing taxpayers' non-compliance behaviour in Malaysia, found the same relationship. However; Olowookare and Fasina (2013); and Adebisi and Gbegi (2013), did not find a positive relationship between tax rate and tax non-compliance. Ibadin and Eiya (2013) studied the behaviour of self-employed Nigerians and tax non-compliance.

Universiti Utara Malaysia

They found that there is no relationship, either negative or positive, between tax non-compliance and tax rate.

The studies in Yemen, in particular, are extremely limited with only a few studies which have offered possible explanations for the influence of tax rate (Al-Ttaffi & Abdul-Jabbar, 2016). Al-Ttaffi, (2009) examined the influence of tax rate on tax evasion and found a positive relationship between tax rate and tax evasion. Al-Jaaidi et al. (2011) conducted a study to find out the perception of Yemenis towards tax evasion. The study was concerned with whether or not tax evasion is considered to be a crime and found a positive relationship.

Based on the above discussion on the relationship between tax rate and tax non-compliance, it is found that there is inconsistency in all the studies reviewed. In addition, studies on tax rate have received scant attention in Yemen. Therefore, this study investigates the effect of tax rate on tax non-compliance.

Universiti Utara Malaysia

2.7 Penalty Rate

Tax authorities face the problem of non-compliance, but the level of non-compliance different between one country to another. Only when the level of non-compliance is alarmingly high, the authorities will study the policies which can assist in reducing non-compliance. Several studies have discussed this issue (Allingham & Sandmo, 1972; Witte & Woodbury, 1985; Alm et al., 1992; Devos, 2005; Yaniv, 2009; Kirchler, 2009; Cummings, Martinez-Vazquez, McKee & Torgler 2009; Doran, 2009; Twum, 2014; Oladipup & Obazee, 2016). These studies have shown the substantial influence of penalty rate in inducing people towards tax non-compliance. The literature has indicated a positive relationship between tax non-compliance and

penalty rate. For instance, Allingham and Sandmo (1972) observed that a penalty is levied on the amount of tax evaded. They found that the amount of tax evasion will decrease with an increase in the penalty rate. They also mentioned that when the penalty rate increases, taxpayers will not hide their actual revenue. Twum (2014) clarified that penalties have a significantly positive relationship with tax compliance.

A study carried out by Oladipup and Obazee (2016) to examine the relationship between penalties and tax compliance supports the hypothesis that the relationship is positively significant. Doran (2009) argued that penalties always motivate taxpayers to comply with tax laws, especially when these penalties are costlier than compliance. Blank (2014) stated that non-compliance with the tax law can lead to tax penalties. Furthermore, compliance is a result of punishment and threat of detection (Becker, 1968).

On the other hand, Crane and Nourzad (1990) found that there is a negative relationship between penalty rate and non-compliance, and this result is supported by Twum (2014). Furthermore, Castro and Scartascini (2015) revealed that increasing the rate of penalties affects significantly tax compliance behaviour. Witte and Woodbury (1985) studied whether or not penalty has a relationship with tax compliance among middle-income wage earners and the upper-income self-employed and found that the relationship is not significant. Other studies have found that there is no significant relationship between penalty rate and tax non-compliance (Kuria, Ngumi & Rugami, 2013; Kamdar, 1997; Pommerehne & Wech-Hannemann, 1996).

The studies in Yemen, in particular, are extremely limited, with only a few studies offering possible explanations of the relationship between penalty rate and tax non-

Universiti Utara Malaysia

compliance among Yemenis. Al-Ttaffi, (2009) examined the influence of penalty rate on tax evasion and he found a negative relationship between penalty rate and tax evasion. Furthermore, Al-Jaaidi et al. (2011); and Helhel and Ahmed (2014) examined the influence of penalty rate on tax evasion and found a positive relationship between penalty rate and tax evasion. Based on the above discussion of the relationship between penalty rate and tax non-compliance, it is found that there is inconsistency in all the literature reviewed. In addition, studies on the penalty rate has received little attention in Yemen. Therefore, this study also, investigates the relationship between penalty rate and tax non-compliance in Yemen.

2.8 Income Level

Taxpayers must pay taxes to finance public services. Various modes are utilised to decide how much tax a person must pay according to his or her earnings. There is evidence in the literature that low-salary workers are very prone to tax avoidance (John & Slemrod, 2008). In their study, they showed that several cases of underreported taxes are by low-income earners. Alm et al. (1992) posited that high-income earners do not evade taxes as much as low-salary workers. In other words, high income is positively related to increased compliance.

Alm et al. (1992) reported that higher income leads to higher reported income. They found that there is a positive relationship between income level of taxpayers and tax non-compliance. Furthermore, Seren and Panades (2007) reported a positive relationship between income level and tax non-compliance. As the income level increase, there should be a corresponding increase in the tax rate. This may in turn encourage taxpayers to avoid the high tax bracket by hiding some of their income to shift to a lower income bracket.

Other studies have shown the existence of a relationship between income level and tax non-compliance, including the work of Nor Ghani et al. (2012) in Malaysia; Malkawi and Haloush (2008) in Jordan; and Devos (2006) in Australia & New Zealand. They found that income level and tax non-compliance have a significant relationship. Many factors are responsible for tax compliance, including the way a taxpayer thinks when reporting and complying with the tax authorities, and not just his or her income level. Also, Engida and Baisa (2014) found that the relationship between income level and tax non-compliance is positive and significant. It shows that the income of the taxpayer decides the level of his or her compliance.

On the other hand, Baldry (1987), in his study, found that income level and tax non-compliance do not have a significant relationship, implying that there is no impact of high or low income on the decision of a taxpayer to evade taxes. This is in tandem with the findings of Christian (1994); and Fishlow & Friedman (1994) while others have reported a negative relationship (Collins & Plumlee, 1991; Slemrod, 1985) or no relationship (Feinstein, 1991; Kirchler et al., 2010). Furthermore, Jackson and Milliron (1986) found that income level has a mixed and unclear impact on compliance, and some later research has agreed with that statement.

Moreover, in the Yemeni context, only a few studies have examined the relationship between income level and tax non-compliance. For example, Helhel and Ahmed (2014) examined the influence of income level on tax evasion and found a positive relationship between income level and tax evasion, while Al-Ttaffi (2009) found a negative relationship.

Universiti Utara Malaysia

Based on the above discussion on the relationship between income level and tax non-compliance, it is found that there is inconsistency in all the literature reviewed. Also, the study on income level has received scant attention in Yemen. Therefore, this study also, investigates the influence of income level on tax non-compliance of taxpayers in Yemen.

2.9 Education Level

Taxpayers' education means educating the individuals about all the procedures of taxation and why they should pay tax (Richardson, 2006). Education level has been used by different researchers to discuss the relationship between tax evasion and taxpayers' attitude. The majority of prior researches such as Chan, Troutman and Bryan (2000); Richardson (2006) and McGee and Bose (2007) have established that the level of education has a strong impact on reducing the level of tax non-compliance. Palil and Mustapha (2011), who studied tax evasion and avoidance performance of the self-employed, found that education level has a significant influence on increasing tax compliance among taxpayers, according to the various levels of education among the respondents. Richardson (2006) found that the higher the level of general education, the lower the level of tax non-compliance.

Chan et al. (2000) compared tax compliance attitude between Hong Kong and the USA. They established that the decision of respondents in the USA to comply with tax laws is mainly driven by their education levels, moral development and behaviour. On the other hand, Hong Kong respondents established an indirect and negative relationship between education level and tax evasion. Although Hong Kong taxpayers perceive the tax system as generally fair, such a negative finding in the survey could have been probably generated by lower levels of education and moral

development, both of which contribute indirectly to a less favourable tax compliance. A research by Palil, Akir and Ahmad (2013) in Malaysia on the perception of taxpayers on tax knowledge and education level confirmed the same result as previous studies. This indicates that there is a significant and negative relationship between education level and tax non-compliance. Yalama and Gumus (2013) indicated that the level of education has a strong impact on tax non-compliance. The result shows that the taxpayers who have a lower level of education tend to not comply less than taxpayers who have a higher education level.

McGee and Noronha (2008) pointed out that China, Korea and Japan have a lower level of tax non-compliance cases due to the high level of education and understanding of the importance of taxation among their taxpayers. In addition, tax non-compliance will decrease when the level of education of taxpayers is high because a good education enables taxpayers to recognise, search for and understand all the benefits that accrue from paying tax. Olowookere and Fasina (2013), in their study on taxpayers' education as a key approach to achieving intended obedience in Lagos state, Nigeria, pointed out that education level of taxpayers is one of the key determinants of tax non-compliance.

McGee and Tyler (2006) mentioned that people with less education tend to object more to tax non-compliance than people who have higher education. Eriksen and Fallan (1996) attempted to explain the relationship between tax non-compliance and the level of education. According to their studies, the rate of tax non-compliance will decrease when the level of education increases, they concluded that the level of education is one of the factors that can minimise the level of tax non-compliance among taxpayers.

Universiti Utara Malaysia

On the contrary, there are a number of researchers who have found that there is a positive and significant relationship between tax non-compliance and level of education. Dubin and Wilde (1988); and Ross and McGee (2011) mentioned that highly educated people comply more with paying than people with lower education levels. On the other hand, Gupta and McGee (2009), when conducting a study on tax non-compliance in New Zealand, did not find any conclusive relationship between education level and tax non-compliance. Taxpayers' knowledge, therefore, influences them to comply voluntarily or otherwise. However, other studies in this area conducted in Yemen, such as Al-Ttaffi (2009), have concluded a negative relationship between education level and tax evasion. Therefore, education level is selected in this study because of the inconsistencies in the prior studies on the impact of education level on tax non-compliance.

The comprehensive discussion on this study's topic and the literature review, it is justified for this study to be carried out in the Yemeni context. The variables are perception of corruption in the government, tax rate, penalty rate, income level and educational level. This will help in understanding the factors that determine tax non-compliance from the Yemeni taxpayers' point of view.

Universiti Utara Malaysia

2.10 Theories Related to Tax Non-compliance

Tax non-compliance studies cut across many disciplines and can be investigated from different perspectives. Therefore, theories of tax non-compliance are from various sources such as economic theories and social theories. Alm (1999) suggested that theories from the socio-psychological approach could also be useful in explaining tax non-compliance behaviour along with economic theories. As such,

this study investigates the behaviour of taxpayers using the economic deterrence theory**,** social influence theory and cognitive learning theory.

2.10.1 Economic Deterrence Theory

The early tax non-compliance studies have focused on the traditional theory based on the economics of crime approach by Becker (1968) which focuses on the effects of extrinsic factors, such as sanction and threat of punishment in curbing unwanted tax non-compliance behaviour. The model by Allingham and Sandmo (1972) is premised on the same assumptions. The emphasis in this model is on taxpayers making the choice of whether or not and to what extent they should understate their earnings.

The Economic Deterrence Model of tax compliance regards taxpayers as rational individuals who will maximise their expected utility of evading taxes (Alm, 2012). Alm (2012) continued that taxpayers will weigh the benefits to be accrued from successful tax non-compliance against the possibility of being detected and punished. In other words, if taxpayers do not want to be detected and punished, they will report all income earned.

The economic deterrence theory is often viewed at best as a complementary theory to tax rate, more specifically with regards to the non-compliance behaviour of taxpayers when the tax rate is extremely high. On the other hand, the economic deterrence theory is also linked to the penalty rate. This is because the key concept is deterrence, which is often split into two sub-concepts: the probability that tax evasion is detected; and the severity of sanctions. The economic deterrence theory is also linked to the income level; this is because demographic variables, such as income level

Universiti Utara Malaysia

found in the social and psychology models of taxpayer compliance, play an important role in the compliance behaviour of taxpayers.

Some researchers have not agreed with the model on the basis that it does not recognize certain aspects of taxpayers' behaviour. For example, Cullis and Lewis (1997); and Alm (1999) argued that non-compliance is not only influenced by deterrence factors but rather, it is also affected by other essential motivating factors that inspire the taxpayer to submit voluntarily. Leonardo (2012) stated that certain taxpayers are humbly eager to comply with tax laws for the reason of personal norms, influence by their peers or religious beliefs. The threat of chastisement does not considerably affect these types of taxpayers because irrespective of the penalties, they will lawfully comply.

McKerchar (2001) pinpointed numerous weaknesses in using the Economic Deterrence Models. These include not adequately addressing the issue of haphazardness (or improbability of the valuation of taxable income by an auditor) which needs quantification, and the assumption that all taxpayers react identically to the same level of haphazardness. McKerchar (2001) further added although a modified Economic Deterrence Model has been introduced, the results and limitations remain largely the same, i.e., "they are theoretical in nature, sometimes conflicting, based on generally unrealistic assumptions, and appear to be without empirical validation" (McKerchar, 2001, p. 231). These limitations in the Economic Deterrence Model have been acknowledged and have led researchers to incorporate other factors that can lead to non-compliance behaviour, to better understand this phenomenon (Cowell, 1990; Wallschutzky, 1993; Alm, 2012).

Universiti Utara Malaysia

2.10.2 Social Influence Theory

The social influence theory has a connection with the social learning theory, which is attributed to Albert Bandura, the emphasis of which is on the impact of the environment. The theory postulates that human behaviour is intentionally or unintentionally influenced by others in the environment. It reflects that individuals learn from one another as well as via such means as surveillance, imitation and modeling, and clarifies human behaviour in connection to the non-stop reciprocal collaboration between mental and behavioural environmental influences. Bandura (1977) said that individuals not only learn the conduct of others via observation of their attitude but are swayed by the results of those behaviours.

With regards to tax non-compliance, the social influence theory identifies peers' ideas and the degree of social influence an individual comes across during socialization, as the main variables determining non-compliance (Sutinen & Kuperan, 1999). Similarly, Jackson and Millron (1986) encompassed social influence in 14 main variables of tax compliance. According to Crisp and Turner (2007), social influence is concerned with, "how our thoughts, feelings and behaviour change when in the presence of others" (p.132). Social influence refers to a sociological concept, and its links within and between social networks. It is one of the links between a country's development and awareness. It is believed that the open distance awareness can affect quality and quantity of social influence in a country. A focus on social influence allows for a closer examination of the capacity of individuals and groups to have connections among themselves and with local or national level organisations.

Under the social influence theory, tax compliance behaviour and attitude are affected by the behaviour and social norms of a taxpayer's reference group (Snavely, 1990).

Universiti Utara Malaysia

Compliance behaviour and attitudes towards the tax system may be affected by the behaviour of an individual's reference group, such as relatives, neighbours and friends. Therefore, corruption being an unlawful or unauthorized act perpetrated by a public official by means of his or her position to collect a bribe, directly or via a family member or comrade, in exchange for making benefits obtainable to a member of the public (e.g., a taxpayer) (Imam and Jacobs, 2007), can affect compliance behaviour.

Corruption can increase when the tax structure is complex; for instance, corruption could increase if the law gives tax officials excessive freedom of choice (Banerjee, 1992; Sah, 1991) One of the most consistent findings about people's attitude and behaviour in Western countries is that those who report high level of corruption are always peers and friends of the corrupt officials (Yankelovich et al., 1984). Accordingly, the social influence theory can be used to explain how perception of corruption in the government, which is one of the variables of this study, may affect the behaviour of taxpayers. The theory also identifies some key modes of faulty intuition and mental shortcuts that are most likely to influence corrupt behaviour (Yankelovich et al., 1984).

In terms of taxation, the attitude of taxpayers toward payment of tax is the function of their belief in paying tax. If a taxpayer has a positive belief in terms of its importance as one of major sources of government revenue and also how the revenue is being judiciously used to provide social amenities, he or she may in turn have a positive attitude towards tax payment and will have favourable tax compliance behaviour. The social theory has been applied in a number of studies on tax compliance (Bidin, Idris & Faridahwati, 2009; Bobek, 1997; Bobek & Hatified, 2003; Manaf, 2004; Song &Yarbrough, 1987).

Universiti Utara Malaysia

2.10.3 Cognitive Learning Theory

The cognitive learning theory (CLT) was developed by Edward Chance Tolman (1886-1959). Tolman was of the view that learning happens through complex mental processes, not through simple mechanical conditioning processes. The CLT clarifies why the brain is the most amazing network of information processing and interpretation in the body as we learn things. The CLT indicates the effect of socialisation on compliance and is useful for tax compliance research (Jackson & Millron, 1986; Sutinen & Kuperan, 1999). According to Explorable.com (2011), the word, "learning", usually means, "to think using the brain". This basic principle of learning is the main standpoint in the CLT. The theory has been used to elucidate mental processes as they are influenced by both intrinsic and extrinsic factors, which ultimately bring about learning in an individual in the form of education.

Education level has a strong connection with the CLT. Therefore, education, as a demographic variable, relates to a taxpayer's ability to comprehend and comply or not comply with the tax laws (Jackson & Milliron, 1986). The findings of the effects of education remain mixed in tax compliance behaviour research (Ross & McGee, 2012). A higher education is assumed to include an increased level of taxpayer's knowledge about tax law. As better educated taxpayers learn more about tax laws and fiscal matters, awareness of the benefits and services provided by the government to citizens from the revenues collected should increase (Lewis, 1982). However, these taxpayers may also become more critical regarding how collected revenues are spent (Torgler & Schneider, 2007; Ross & McGee, 2012). Additionally, higher educated taxpayers may now be in a position to understand opportunities for evasion and avoidance (Torgler & Schneider, 2007).

Universiti Utara Malaysia

2.11 Summary

This chapter provides the literature review of this study's topic. It begins with an introduction and continues by providing an overview of the tax system in Yemen, the different types of tax imposed and the factors that may lead to tax non-compliance, including corruption in the government. It ends by explaining the underpinning theories and a summary.

Universiti Utara Malaysia

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the methods and procedures that the study used to derive its data. The chapter specifically consists of research design, research framework, hypothesis development, sources of data, collection of data, population and sample selection, variables measurement, pilot test, and finally, conclusion.

3.2 Research Framework

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

Universiti Utara Malaysia

This study investigates the effects of perception of corruption in the government, tax rate, penalty rate, income level and education level as independent variables on tax non-compliance as the dependent variable. The research framework was developed based on the assumptions of the social influence theory that provide underlying predictions and justification toward the aims of this study. It also investigates the relationship between perception of corruption in the government and tax non-compliance. The economic deterrence theory is also used as it affords explanation and justification for the objectives of this study, which include the investigation of the relationship between tax rate, penalty rate and income level and tax non-compliance. Moreover, the CLT is included to justify and support the relationship

between education level and tax non-compliance in Yemen. Therefore, the research framework is as illustrated in Figure 3.1

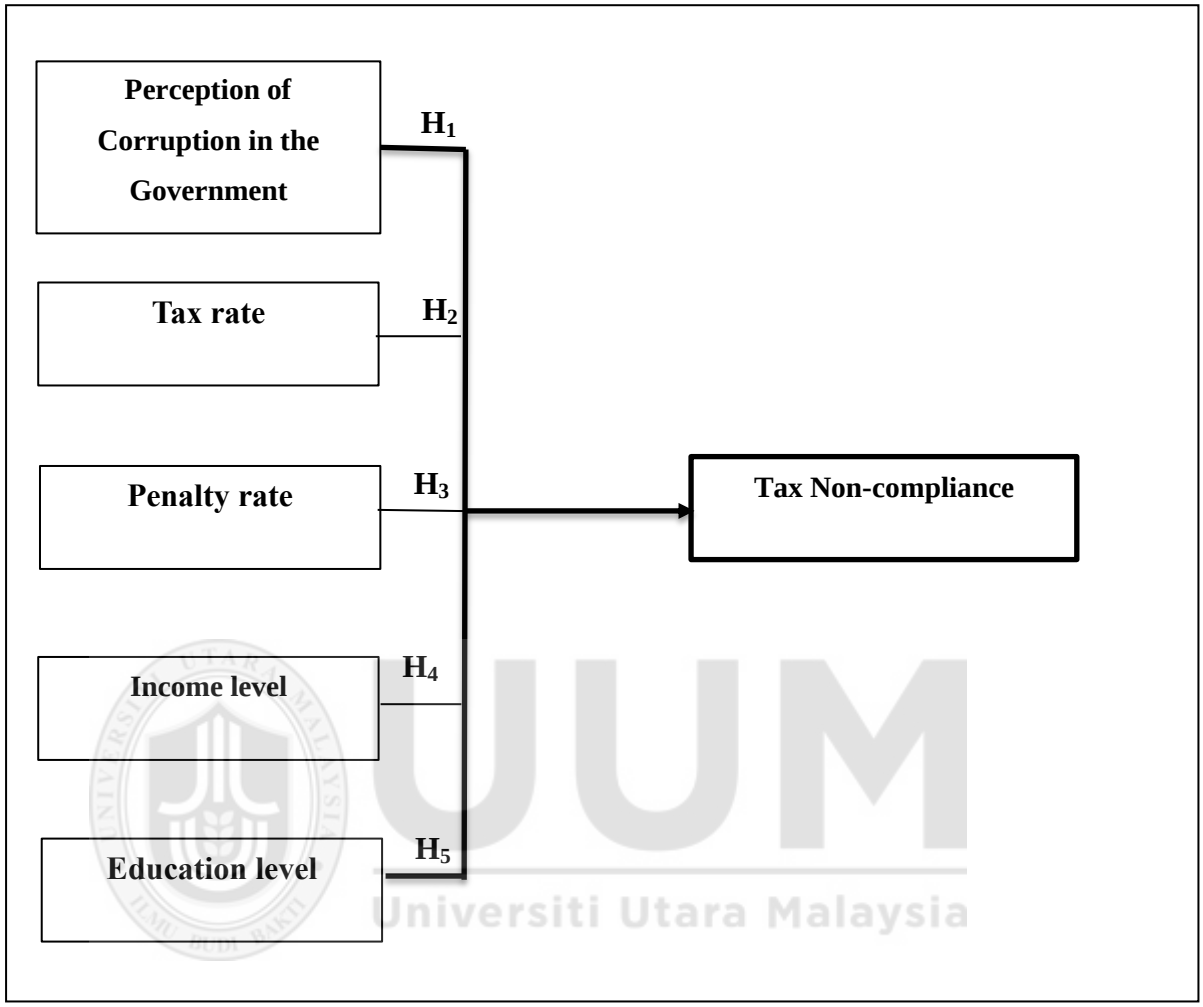


Figure 3.1
Research Framework

3.3 Hypotheses Development

3.3.1 Perception of Corruption in the Government and Tax Non-compliance

Previous researchers have indicated that corruption is related to tax non-compliance (Alm et al., 2016). Many studies have found that taxpayers are more sceptical about corruption and it is among the main reasons for not complying with the tax authorities in reporting their taxes (John & Slemrod ,2008; Nor Ghani et al. 2012; Alm et al., 2016) . The taxpayers are of the opinion that the high level of corruption

among the tax personnel and inefficient tax system and administration, have encouraged taxpayers at both the corporate and individual levels, to hide their income and thus fall into the trap of tax non-compliance (Wadhwa & Pal, 2012).

Consequently, taxpayers are of the view that the high level of corruption among the tax personnel and a corrupt tax system and administration encourage them to hide their income, thus motivating them toward tax non-compliance (Imam & Jacobs, 2007; Gupta, 2008; Cerqueti & Coppier, 2009; Akdede, 2011; Akinyomi & Okpala, 2013; Alon & Hageman, 2013).

Tijani and Mathias (2013) studied tax non-compliance using corruption as the independent variable; they discovered a negative relationship between tax non-compliance and corruption. They concluded that corruption contributes and motivates taxpayers towards tax non-compliance. Therefore, this study develops the following hypothesis:

Universiti Utara Malaysia

H_1: There is a positive relationship between perception of corruption in the government and tax non-compliance.

3.3.2 Tax Rate and Tax Non-compliance

Allingham and Sandmo (1972) demonstrated that a higher tax rate will instigate more tax non-compliance. Spicer and Becker (1980) found that tax rate is the factor most responsible for tax non-compliance when the sample in the study was told that their tax rate is higher than any normal taxpayer. On a related note, McGee and Rossi (2006) confirmed that tax rate has a positive effect on tax evasion. What this portends is that there is a relationship between tax rates and tax non-compliance.

Many studies have also found that the tax rate has a positive influence on tax non-compliance, such as Mughal and Akram (2012); Adebisi and Gbegi (2013); Al-Taffi (2009); Aljaaidi et al. (2011); Cebula (2013); Tijani & Mathias (2014); Gurama (2015); and Teng & Manual (2016).

Furthermore, studies have also found that non-compliance is lower when the sample was told that their tax rate was the lowest among normal tax payers (Friedland et al., 1978; Clotfelter, 1983). On the other hand, Feinstein (1991) discovered a negative effect (Nzaro et al., 2013; Olowookare & Fasina, 2013; Ibadin & Eiya, 2013). Therefore, this study developed the following hypothesis:

H_2: There is a positive relationship between tax rate and tax non-compliance.

3.3.3 Penalty Rate and Tax Non-compliance

It is believed that the penalty rate will influence tax non-compliance because penalty rate is imposed to discourage tax non-compliance (Cherry, 2001). Taxpayers tend to comply with the tax law when they fear punishment and detection (Becker, 1968). Allingham and Sandmo (1972) opined that a higher penalty rate will lead to a lower tax non-compliance level. This means that there is a significant relationship between penalty rate and tax non-compliance. Furthermore, the probability of civil penalty has a significantly negative relationship with compliance for the middle-income wage earners and the upper-income self-employed persons, and the relationship is not significant for small proprietors (Witte & Woodbury, 1985). However, Crane and Nourzad (1990) found that there is a negative relationship between penalty rate and non-compliance, whereas others have found that there is no significant relationship between penalty rate and tax non-compliance (Pommerehne & Wech-Hannemann,

Universiti Utara Malaysia

1996; Al-Ttaffi, 2009; Kuria et al., 2013). Thus, the current study developed the following hypothesis:

$H_{3:}$ There is a negative relationship between penalty rate and tax non-compliance.

3.3.4 Income Level and Tax Non-compliance

John and Slemrod (2007) showed that taxpayers with a low income have the highest possibility of evading taxes. According to them, many cases of underreported taxes involve low-income earners. Similarly, Alm et al., (1992) found that the rate of compliance with tax laws is much higher among the taxpayers with high-income. This means there is a negative relationship where high-income earners are less likely to evade tax, and they have a high rate of reporting their due taxes.

Other studies, such as Nor Ghani et al. (2012); Malkawi and Haloush (2008); Devos (2006); and Nor Aziah et al. (2006) have found that income level has a positive relationship with tax non-compliance. They concluded that high income earned through misconduct and fraudulent sources encourage underreporting and increase non-compliance. Therefore, this study developed the following hypothesis:

H_4: There is a negative relationship between income level and tax non-compliance.

3.3.5 Education Level and Tax Non-compliance

Education level has to do with the ability of a taxpayer to comprehend and comply or not comply with the income tax laws (Jackson & Milliron, 1986). Prior studies have established that education has a strong effect in increasing the awareness of taxpayers on compliance (Chan et al., 2000; Kasipillai et al., 2003; McGee & Bose, 2007; Al-Ttafi, 2009; Palil & Mustapha, 2011; Palil, Akir & Ahmad, 2013). A cross-

Universiti Utara Malaysia

country study by Richardson (2006) involving 45 countries has found a negative relationship between education and tax non-compliance. A negative relationship between education level and compliance has been found in studies by Eriksen and Fallan (1996).

Other researchers have reported that the higher the education level, the lower the level of compliance (Ross & McGee, 2011; Yalama & Gumus, 2013). As mentioned earlier, the majority of prior studies have found that there is a negative relationship between education level and tax non-compliance. Therefore, this study developed the following hypothesis:

H_5: There is a negative relationship between education level and tax non-compliance.

3.4 Research Design

The objectives of the present research are to determine the factors influencing tax non-compliance in Yemen. In order to achieve the objectives of the study, the study used a survey method to collect data. A survey is a way to attain self-reporting information about the assertiveness, ideas, opinions and behaviour and other characteristics of the population (Jain & Srivastava, 2013). This study used a quantitative research approach. It is a cross-sectional study in which the data was collected and analysed at a point of time only. Furthermore, a questionnaire was used for data collection to help understand the relationship between the independent and dependent variables based on the responses from the target respondents. This approach is supported by Sekaran (2003), who stated that questionnaires are an efficient method for collecting data. A questionnaire is set to cover all the important

Universiti Utara Malaysia

constructs of the proposed research framework. The data for this study was analysed using the Statistical Package for Social Sciences (SPSS) version 23.

3.5 Method of Data Collection

As mentioned earlier, data was collected through the use of a self-report questionnaire that was distributed by drop-off and pick-up method. A survey is not only cheaper to administer but also leads to more openness and truthful responses. This study collected data through a survey using a cross-sectional method (Schermerhorn, 2004). The questionnaire was distributed among individual taxpayers in Hadhramout Governorate who have the obligation to pay tax because all employees, whether they are working with public, private sector or self-employed, are mandatory to pay tax. The addresses of the taxpayers are provided by Hadhramout tax authority. A permission letter was attached to the questionnaire to get cooperation from the respondents.

Universiti Utara Malaysia

3.6 Population of the Study and Sample Size

Due to time constraints, the current security situation in Yemen, budget and geographical distance constraints, it was not possible to collect data from all the Yemeni taxpayers. Therefore, the Hadhramout Governorate was chosen because this area is considered as one of the best business areas in Yemen. The population of this study consists of individual taxpayers from both the public and private sectors totaling 20,470 taxpayers registered with the Hadhramout Tax Authority (Hadhramout Tax Authority, 2016). Based on the population size, the appropriate sample size chosen for this study is 379. This is in accordance with the sample size proposed by Sekaran and Bougie (2013).

3.7 Sampling Technique

According to Sekaran and Bougie (2013), sampling is the process of selecting a sufficient number of elements from the population so that it would be possible to generalise the characteristics of the population based on simple random sampling technique. By using this sampling technique, 379 samples were randomly selected from the entire population. Following the suggestion from the literature that a common and the best method to minimise the effect of non-response rate on the results of a study is to increase the sample size of the study (Alreck & Robert, 1995; Bartlett, Kotrilik, & Higgins 2001; Grove, 2006; Sekaran & Bourgies, 2010), the sample size of this study was increased to 400 from 379 to compensate any likely non- respondent rate. The questionnaires were self-administered to the respondents who are individual taxpayers selected at their various employment premises.

3.8 Questionnaire Design

The questionnaire was used for data collection from the respondents in this study. The questionnaire of this study consists of close-ended as well as open-ended questions. The items representing each of the variables were adapted from previous studies (Slehat, 2009; Gurama, 2015; Masoud, 2015) and modified accordingly to suit the present study's context. Sections A and B relate to the information concerning the independent variables. Section C consists of the questions on the dependent variable. The respondents were mostly asked for their opinions under various circumstances according to the hypotheses on a five-point Likert scale. The questionnaire was drafted in English and translated into Arabic language by a language expert in both languages. The distributed questionnaire was in Arabic for ease of communication. The questionnaire is as presented in Appendix A.

3.9 Variables Measurement

This study aims to identify the factors that contribute to tax non-compliance in Yemen. The measurement used for the variables were adapted from past studies and amended to suit the present study. These measurements are explained below:

3.9.1 Respondents' Profile

Demographic profile of the respondents includes gender, age, marital status, source of income and years of being a taxpayer.

3.9.2 Perception of Corruption in the Government, Tax Rate and Penalty Rate

The factors that contribute to tax non-compliance were measured by adopting the measurement used by Abiola & Asiweh (2012); Gurama (2015); and Masoud (2015). Five items for perception of corruption in the government, five items for tax rate and four items for penalty rate were included. Furthermore, a five-point Likert-Scale (1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree) was adopted to show the score for each item. The items are shown below:

Table 3.1
Perception of Corruption in the Government

No.	Items
1	Tax non-compliance is acceptable if there is very high corruption in the government.
2	Tax non-compliance is acceptable if there is low level of corruption in the government
3	Tax non-compliance is acceptable even if the money collected is used wisely without corruption.
4	Tax non-compliance is acceptable even if there is no corruption in the government
5	Because of corruption in the government, I think I have the right not to pay tax.

Source: Abiola & Asiweh (2012); Gurama (2015)

Table 3.2
Tax Rate

No.	Items
1	Tax non-compliance is acceptable if the tax rate is very high.
2	Tax non-compliance is acceptable even if the tax rate is very low.
3	It is not worth to pay tax if the tax rate is high.
4	It is not worth to pay tax even if the tax rate is low.
5	Tax non-compliance is acceptable if the tax rate is low because the government is not entitled to take as much as it is taking from me.

Source: Abiola & Asiweh (2012); Gurama (2015)

Table 3.3
Penalty Rate

No.	Items
1	Tax non-compliance is acceptable if the tax authority does not impose any penalties for it.
2	I have the right not to pay tax when I get a chance to do it.
3	It is worth not to pay tax if the penalties are low.
4	It is worth not to pay tax even if the penalties are high.

Source: Masoud (2015)

Universiti Utara Malaysia

3.9.3 Income Level and Education Level

This section consists of the questions about the respondents' education level and income level. The section contains two items which have dichotomous and multiple choice answers. The respondents were asked to tick the appropriate income level and education level group that they belong to. Measurement of this variable was adopted from Al-Ttaffi (2009); and Gurama (2015). The items are shown below:

Table 3.4
Income Level

No.	Items
1	YER 240,000 and below
2	YER 241,000 – 490,000
3	YER 490,001 – 760,000
4	YER 760,001 - 990,000
5	YER 990,001 and above

Source: Gurama (2015)

Table 3.5
Education Level

No.	Items
1	Before Secondary school certificate
2	Up to Secondary school certificate
3	Diploma certificate
4	Bachelor degree
5	Post graduate (Master – PhD)

Source: Al-Ttaffi (2009)

3.9.4 Dependent Variable Measurement

The dependent variable was measured from the data collected from the taxpayers' opinion about the percentage of people who are not paying taxes in Yemen as follows: first, the percentage of Yemeni people who do not comply with paying tax; second, the acceptance level of percentage of tax non-compliance in Yemen; and third, the percentage of tax non-compliance in Yemen. This section used a scale from 1- 100%. The measurement was adapted from Alm and Benno (2006); Gurama (2015) and Mancharoen (2015).

Universiti Utara Malaysia

3.10 Pilot Test

Before gathering the actual data from the respondents, a pilot test was conducted. The benefits of conducting a pilot test include the identification of errors, detection of mistakes and making corrections to the research instrument (questionnaire). Chua and Sabki (2011) indicated that the least number of respondents that are appropriate for a pilot test to validate the questionnaire ranges from 20 to 40 respondents. Hence, based on the above-mentioned statement, this study conducted a pilot test whereby 30 questionnaires were distributed to Yemeni Postgraduate students in Universiti Utara Malaysia (UUM). These students were chosen because they were active taxpayers in Yemen before pursing their studies in UUM.

Cronbach's Alpha method was used to test the reliability of the data. Table 3.6 shows Cronbach's Alpha reliability result for 17 items. In this case, the reliability test shows that all the four variables, namely perception of corruption in the government, tax rate, penalty rate and tax non-compliance have good reliability values, ranging from 0.732 to 0.796. Therefore, this study instrument is acceptable and appropriate to be used for data collection (Sekaran & Bougie, 2013). In other words, this result indicates that the questions in the instrument are reliable as well as consistent in capturing the respondents' information.

Table 3.6
Reliability Results of Each Variable (n=30)

Variables	**No. of Items**	**Cronbach's Alpha**
Perception of corruption in the government	5	0.769
Tax rate	5	0.796
Penalty rate	4	0.780
Tax non-compliance	3	0.732

3.11 Data Analysis

This subsection shows the data analysis approach adopted in this study. The data was analysed by using SPSS to test the effect of the independent variables on tax non-compliance among individual taxpayers in Yemen. The data analyses cover the following stages: normality test, multicollinearity test, descriptive statistical analysis methods, reliability test, factor analysis, Pearson correlation and regression analysis, which were used to analyse the collected data.

3.12 Summary

This chapter discusses the research methodology used in the study. pilot study, variable measurements of the study as well as questionnaire design are discussed in this chapter. In addition to this, the research hypothesis development and model are explained accordingly. Similarly, the method of data collection is also clearly explained. The population of the study, sample size and sampling technique are also covered. Finally, this chapter serves as the foundation for subsequent chapters of the thesis in terms of data analysis.

Universiti Utara Malaysia

CHAPTER FOUR
DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the findings of the current study which includes response rate, respondents' profile, data screening and results for descriptive statistics, followed by reliability test and factor analysis. Finally, the results from multiple regressions analysis are disclosed. The SPSS software (version 23) was employed to carry out the above analysis by using the data collected from the questionnaires.

4.2 Response Rate

As explained in chapter three, data of the current study was collected from individual taxpayers registered with the Hadhramout Tax Authority in Hadhramout Governorate by using the questionnaire instrument. Following the suggestion from the literature that a common and the best method to minimise the effect of non-response rate on the results of a study is to increase the sample size of the study (Alreck & Robert, 1995; Bartlett, Kotrilik, & Higgins 2001; Grove, 2006; Sekaran & Bourgies, 2010), the sample size of this study was increased to 400 from 379 to prepare for likely non-response rate. A total of 400 questionnaires were distributed to individual taxpayers. The number of returned questionnaires was 264, giving a net response rate of 66%. Table 4.1 shows details of the response rate and their frequency.

Table 4.1
Response Rate

Items	Frequency	Percentages of the Response
No. of distributed questionnaires	400	-
Returned questionnaires	264	66%
Unusable returned questionnaires	0	-
Usable returned questionnaires	**264**	**66%**

Universiti Utara Malaysia

Based on the rating of the response rate in the literature which suggests that a response rate of at least 50% is adequate for analysis and reporting, and that a response rate of 60% is good and a response rate of 70% is very good (Babbie, 2007; Grove, 2006), it can be concluded that a response rate of 66% for this study is good for analysis and reporting.

4.3 Respondents' Profile

This section consists of demographic and related information about respondents' gender, age, marital status, academic qualification (education level), source of income, annual gross income and years of being a taxpayer for all respondents. The descriptive analysis was run through the analyse-descriptive-frequency procedures as explained by Pallant (2013). The results of the descriptive analysis of the demographic profile of the respondents are shown in Table 4.2.

Universiti Utara Malaysia

Table 4.2
Respondents' Profile (n= 264)

Category	Frequency	Percentage (%)
Gender		
Male	246	93.2
Female	18	6.8
Total	264	100
Age:		
18-24	16	6.1
25-31	109	41.3
32-38	112	42.4
39-45	27	10.2
46- 52	0	0
More than 53	0	0
Total	264	100
Marital status		
Single	81	30.6
Married	181	68.6
Others	2	0.8
Total	264	100
Education level		
Before Secondary school certificate	14	5.4
Up to Secondary school certificate	41	15.5
Diploma certificate	19	7.2
Bachelor's degree	154	58.3
Postgraduate (Master- PhD)	36	13.6
Total	264	100
Source of Income		
Employee of public sector	137	51.9
Employee of private sector	40	15.2
Business-self-employed	78	29.5
Others	9	3.4
Total	264	100
Annual Income		
YER 240,000 and below	7	2.8
YER 240,001 – 490,000	26	9.8
YER 490,001 – 740,000	46	17.4
YER 740,001 - 990,000	121	45.8
YER 990,001 and above	64	24.2
Total	264	100
Years of being a taxpayer		
1-5	125	47.3
6-10	84	31.8
11-15	32	12.1
16-20	16	6.1
21 and above	7	2.7
Never	0	0
Total	264	100

Universiti Utara Malaysia

From Table 4.2, it is evident that majority of respondents are male (93.2%) and the rest are female (6.8%). Most of the respondents are aged between 25-31 years (41.3%) and 32-38 years (42.4%), while 10.2% and 6.1% make up the group of respondents with age between 39 – 45 years and 18 -24 years, respectively.

For marital status, 68.6% of the respondents are married, followed by single status of respondents of 30.6% and the remaining 0.8% comprise other marital status, i.e., divorced.

As for education level, it is found that more than half of the respondents have Bachelor's degree representing 58.3% of the respondents. This is followed by 13.6% having postgraduate degree, while up to secondary school certificate is 15.5% of respondents. Respondents who hold at least before secondary school certificate is 5.4% and 7.2% are Diploma holders.

In terms of source of income, this study finds that the highest percentage who answered the questionnaire are employees of the public sector (51.9%), followed by employees of private sector with 15.2% of the respondents and business – self-employed with 29.5% while the lowest percentage of the respondents comprised others, such as professional sector with 3.4%.

For the category of respondents' annual income, majority are earning between YER 740,000-990,000 annually, i.e., 45.8%; 64 respondents representing 24.2% earn YER 990,000 and above; a total of 46 respondents (17.4%) earn between YER 490,001-740,000; and 26 respondents representing 9.8% earn YER 240,001-490,000. The descriptive results of this study also show that only seven respondents representing 2.8% earn YER 240,000 and below.

In terms of the period of becoming a taxpayer, the result highlights that 125, which is exactly 47.3%, have between 1-5 years' experience in paying tax; while about 31.8% or 84 respondents have between 6-10 years of becoming taxpayers; and 32 (12.1%), 16 (6.1%) and 7 (2.7%) have between 11-15, 16-20 and 21 and above years of becoming taxpayers, respectively.

4.4 Data Screening

The data collected for the purpose of this study were properly screened. The screening was done in accordance with the procedures proposed by Hair, Black, Babin, and Anderson (2010); Pallant (2013); and Tabachnick & Fidell (2007).

4.4.1 Missing Value Analysis

Although opinions differ among experts concerning the technique for dealing with missing data in a research study, Hair et al. (2010) recommended that if missing data is less than 10% of the respondents (cases), it might be replaced through any imputation method. In this study, five respondents did not complete item 2 of section C of the questionnaire. These five respondents represent 1.9% of the total number of respondents of the study. Since the percentage of the respondents with missing items is below 10%, the median of near-by point method was used to replace the missing items as recommended by Hair et al. (2010).

4.4.2 Outlier Detection

Outlier detection is another essential step in the data screening process which has high influence on the result of any statistical data analysis. Hence, the use of any multivariate technique calls for the identification and treatment of outliers in the responses (Hair et al., 2010; Meyers, Gamst, & Guarino, 2006). The outlier can be

detected using Mahalanobis distance examined through Boxplot (Pallant, 2013). The Mahalanobis distance is examined and interpreted using a $p < .001$ and the corresponding χ^2 value with the degrees of freedom equal to the number of variables (Tabachnick & Fidell, 2007). In this study, it was observed that all values are $p > .001$. Therefore, in this study, no outlier case was detected in the data collected.

4.4.3 Normality Test

Normality is the fundamental assumption for multivariate techniques, such as multiple regressions, and it is indicated by the shape of the distribution of the data for an individual metric variable. Hair, Anderson, Tatham and Black (2006) stated that normality is the benchmark for statistical approaches (Hair et al., 2006).

There are many ways to test the normality of data distribution. One of these is Normal Q-Q plot in which data that has achieved normal distribution on a normal probability plot will align the plots in a straight line (Coakes & Steed, 2009) as shown in Figure 4.1. Also, confirmed by visual inspection of the histogram of the same data shown in Figure 4.2

Universiti Utara Malaysia

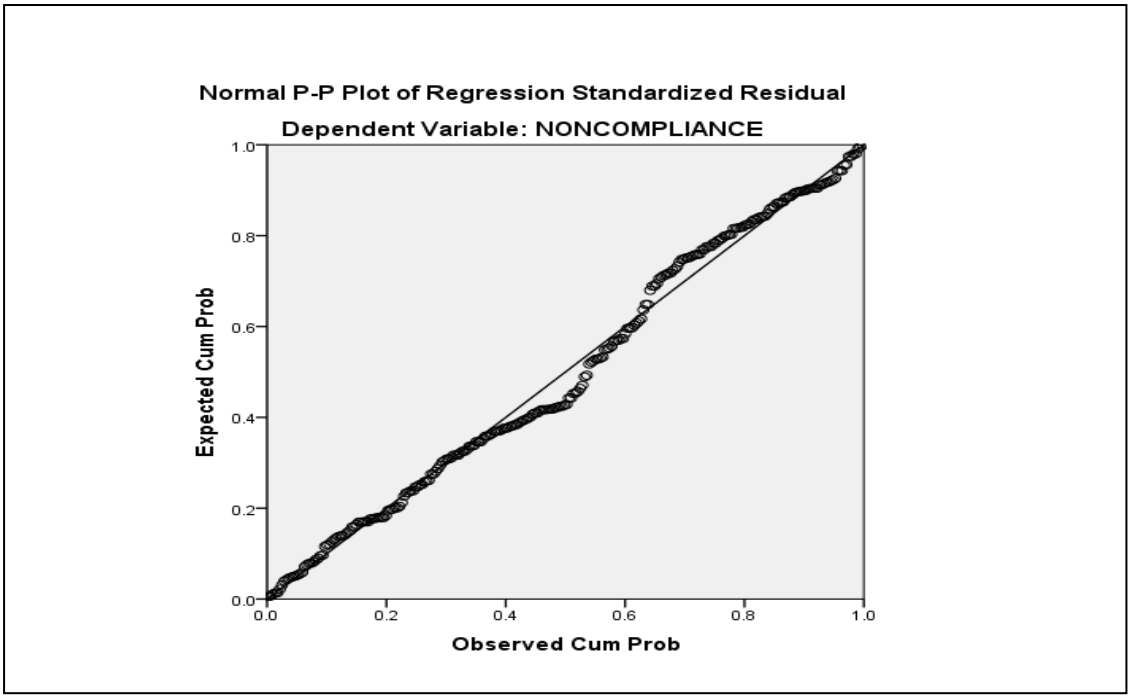
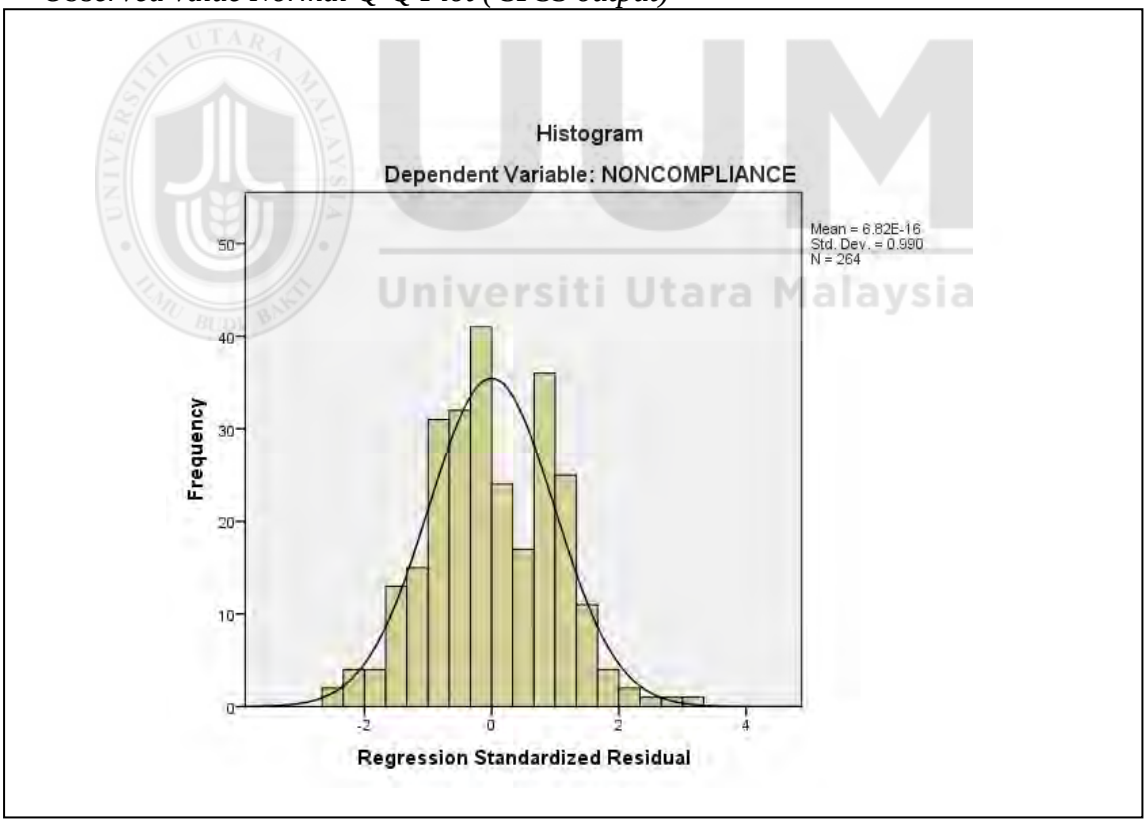


Figure 4.1
Observed value Normal Q-Q Plot (SPSS output)



Universiti Utara Malaysia

Figure 4.2
Histogram with Normal Curve Plot (SPSS output)

Many researchers have described the shape of the data distribution using skewness and kurtosis normality tests. Skewness is an indicator that shows to what extent distribution of data leans from the centre (symmetry) around the mean (George & Mallery, 2006). According to Hair et al. (2006), values of skewness that are outside the range of +1 to -1 imply a substantially skewed distribution. In this study, the skewness values were investigated and found that all variables are within the +1 to -1 limit.

Kurtosis is a test of flatness or peakedness of data distribution. Negative values for kurtosis refer to shapes flatter than normal while the positive values for kurtosis refer to the data distribution being more peaked than normal (George & Mallery, 2006). Similar to skewness measurements, kurtosis is considered as being within a normal range if it computes anywhere between +1 to -1 (George & Mallery, 2006). However, it was also recommended by Coakes and Steed (2003) that kurtosis is acceptable at a range of +3 to -3. Kurtosis for the data of this study was investigated and found that all variables are within the +3 to -3 limit. On the basis of the results of the statistical and graphical assessments of the data distribution, normality of this study's data was assumed. Table 4.3 illustrates the skewness and kurtosis of each variable of this study.

Table 4.3
Summary of Skewness and Kurtosis Value of the Variables

Variables	**Skewness**		**Kurtosis**	
	Statistics	Std. Error	Statistics	Std. Error
P. of corruption in the. G	-0.405	0.150	-0.098	0.299
Tax rate	-0.566	0.150	0.277	0.299
Penalty rate	-0.810	0.150	1.201	0.299
Tax non-compliance	-0.525	0.150	0.025	0.299
Income level	-0.796	0.150	0.201	0.299
Education level	-0.950	0.150	0.061	0.299

Universiti Utara Malaysia

4.4.4 Multicollinearity

Multicollinearity exists when independent variables are strongly correlated with each other. An extreme case of multicollinearity exists when two or more variables are perfectly interrelated which is also known as singularity. Multicollinearity appears when any individual predictor variable is highly correlated with another group of predictor variables (Mayer, 1999). In examining for any multicollinearity effects, the act of the tolerance and its inverse which is the variance inflation factor (VIF) is used. As explained by Hair, Sarstedt, Ringle, and Mena (2012); and Sekaran and Bougie (2013), to determine whether or not this effect occurs, the average points for the tolerance value must be greater than 0.10, or the VIF value should not exceed 10.

Based on the multiple regression analysis as illustrated in Table 4.4, the results show that the tolerance values range between .330 to .978; and the VIF value ranges from 1.022 to 3.439. The values indicate that the tolerance value is substantially greater than 0.10 and the VIF is less than 10. Thus, it can be concluded that there is no multicollinearity among the variables of this study (Hair et al., 2012).

Universiti Utara Malaysia

Table 4.4
Test for Multicollinearity on Assessment of Tolerance and VIF Values

Variables	**Tolerance**	**VIF**
Perception of corruption in the government	0.706	1.416
Tax rate	0.791	3.439
Penalty rate	0.689	1.452
Income level	0.330	3.028
Education level	0.978	1.022

4.5 Descriptive Statistics

The use of descriptive statistics involves the measures of central tendency and frequencies, such as mean, median, range, variance and standard deviation (Vogt, 2007). Further, Vogt (2007) stated that descriptive statistics help to summarise large data with one number as well as explain the characteristics of a relationship with table and graphical approaches.

In order to examine the relationship of each of the construct variables (dependent and independent), descriptive statistics, such as mean and standard deviation, were used as a way of clarification. The mean value of the variables was obtained by measures on a five-point Likert scale in which the greater the number of the said five-point Likert scale, the greater the goodness of each variable. Values nearer to five are favourable, while values close to zero are considered unfavourable. A score equal to or more than four shows a high agreement with particular criterion; a score equal to or less than two is considered as low, and mean score of three is considered as moderate agreement. The descriptive statistics analysis of the data in this study is as illustrated in Table 4.5

Universiti Utara Malaysia

Table 4.5
Descriptive Statistics (n=264)

Variable	Mean	Std. Deviation	Minimum	Maximum
Perception of corruption in the government				
1. Tax non-compliance is acceptable if there is very high corruption in the government.	3.52	1.170	1	5
2. Tax non-compliance is acceptable if there is a low level of corruption in the government.	3.40	1.188	1	5
3. Tax non-compliance is acceptable even if the money collected is used wisely without corruption.	3.60	1.182	1	5

Continued Table 4.5

Descriptive Statistics (n=264)

Variable	Mean	Std. Deviation	Minimum	Maximum
4. Tax non-compliance is acceptable even if there is no corruption in the government.	3.50	1.140	1	5
5. Because of corruption in the government, I think I have the right not to pay tax.	3.69	1.094	1	5
Overall	**3.542**	**0.965**		
Tax rate				
1. Tax non-compliance is acceptable if the tax rate is very high	3.83	.954	1	5
2. Tax non-compliance is acceptable even if the tax rate is very low.	3.84	.978	1	5
3. It is not worth to pay tax if the tax rate is high.	3.85	.925	1	5
4. It is not worth to pay tax even if the tax rate is low.	3.85	.885	1	5
5.Tax non-compliance is acceptable if the tax rate is low because the government is not entitled to take as much as it is taking from me.	3.77	1.019	1	5
Overall	**3.828**	**0.798**		
Penalty rate				
1. Tax non-compliance is acceptable if the tax authority does not impose any penalties for it.	3.93	.916	**1**	**5**
2. I have the right not to pay tax when I get a chance to do it.	3.96	.916	**1**	**5**
3. It is worth not to pay tax if the penalties are low.	3.78	1.020	**1**	**5**
4. It is worth not to pay tax even if the penalties are high.	3.81	1.070	**1**	**5**
Overall	**3.870**	**0.792**		
Tax Non-compliance				
1. What is the percentage of Yemeni people who do not comply with paying tax?	3.54	1.078	1	5
2. What is the a accepted percentage of tax non-compliance in Yemen?	3.34	1.149	1	5
3.What is the percentage of tax non-compliance in Yemen?	3.70	1.112	1	5
Overall	**3.525**	**0.932**		

As shown in Table 4.5, the mean values for perception of corruption in the government, tax rate, penalty rate and tax non-compliance are 3.5 and above. In terms of corruption in the government, the highest mean score is 3.69; respondents

Universiti Utara Malaysia

believe that corruption is the reason that they have the right not to pay tax. The lowest mean score is 3.40, whereby tax non-compliance is acceptable if there is a low level of corruption in the government. Generally, the overall mean score of 3.54 indicates that the respondents perceive high corruption level in the government.

For tax rate mean score as shown in Table 4.5, the highest mean value is 3.85; also, this value is the highest mean value in this study, which represents respondents who believe that it is not worth to pay tax if the tax rate is high. Conversely, the lowest mean score of tax rate variable is 3.77, whereby respondents believe that tax non-compliance is acceptable if the tax rate is low because they perceive that the government is not entitled to take as much as it is taking from taxpayers. On the whole, the overall mean value of tax rate is 3.82.

In terms of penalty rate, the highest mean score is 3.96; respondents perceive that they have the right not to pay tax when they get a chance to do so. The lowest mean value is 3.78, whereby respondents believe that it is not worth to pay tax if the penalty rate is low. With an overall mean score of 3.87, the respondents generally perceive that penalty rate has an impact on tax non-compliance.

For tax non-compliance, i.e., the dependent variable, the three measurements were divided into five groups was adapted from Mancharoen (2015) with the following values: Value 1: from 1%- 20%; Value 2: from 21% - 40%; Value 3: from 41%-60%; Value 4: from 61% -80%; and Value 5: from 81%-100%. The results from these five groups were used in the comparative analysis. The mean value was obtained by measures of 20%. Therefore, 100% is considered high while closer to 20% is considered low. In terms of tax non-compliance, the highest mean score is 3.70; respondents

Universiti Utara Malaysia

perceive that the percentage of tax non-compliance in Yemen is the highest. The lowest mean value is 3.34, whereby respondents believe that it is the accepted level of percentage of tax non-compliance in Yemen. As a whole, the overall mean value of tax non-compliance is 3.52.

It is worth to highlight that there are two negative items which answers were reversed. This is because these items were used for the purpose to test the respondents whether they really read the items and consistent in stating their options. This items are the second item that measure perception of the corruption in the government and tax rate.

4.6 Reliability Test

Reliability is the degree to which measurements are free from error (Zikmund, Babin, Carr & Griffin, 2013). Further, high reliability indicates minimum error variance (Sekaran, 2006). Malhotra and Peterson (2006) explained that the results may vary from "0" to "1", where the alpha value of 0.6 or more indicates satisfactory internal-consistency reliability. Further, Sekaran and Bougie (2010) argued that a Cronbach's alpha slightly lower than .60 is considered to be poor, .70 is acceptable and over .80 is good.

Based on Table 4.6, the result shows that Cronbach's Alpha for perception of corruption in the government, tax rate, penalty rate and tax non-compliance are 0.892, 0.889, 0.836, and 0.787, respectively. Overall, the result shows that the items used in this study to measure the variables can be considered good.

Universiti Utara Malaysia

Table 4.6
Reliability Analysis of Variables (n= 264)

Variable	No. of items	Cronbach's Alpha
Perception of corruption in the government	5	0.892
Tax rate	5	0.889
Penalty rate	4	0.836
Tax non-compliance	3	0.787

4.7 Factor Analysis

Factor analysis is one of the statistical methods to determine the variability among particular factors, and also to minimise a large number of related factors to a more manageable number (Pallant, 2007). By using principal axis factor analysis with varimax rotation, the analysis was conducted to extract all the four constructs, i.e. perception of corruption in the government, tax rate, penalty rate and tax non-compliance. Identification data matrix was executed to check the data in this study through Kaiser-Meyer-Olkin (KMO) value besides the Bartlett's test of Sphericity. KMO measure of sampling adequacy value was 0.880, exceeding the recommended value of 0.50 (Hair et al., 2010), while Bartlett's test of sphericity was 2847.010, which was also found to be significant (p= .000).

Universiti Utara Malaysia

As presented in Table 4.7, the data matrix examination indicates that the factor analysis application on the three variables is fit since the KMO value for perception of corruption in the government is 0.818, tax rate is 0.807, penalty rate is 0.757 and tax non-compliance is 0.631, with variance explained ranging between 69.9% and 70.8%. The value of KMO which is above 0.50 is acceptable. Therefore, KMO measure of sampling adequacy is acceptable for this study because it is greater than 0.50 (Hair et al., 2010). In addition, factor analysis test shows that all factor loadings are between 0.610 and 0.881, which is an acceptable range (Hair et al., 2010).

Table 4.7
Factor Analysis (n= 264)

Variable	No of Items	No of Factors	KMO	Variance Explained (%)
P. of corruption in the G.	5	1	0.818	69.85
Tax rate	5	1	0.807	69.90
Penalty rate	4	1	0.757	67.63
Tax non-compliance	3	1	0.631	70.83

4.8 Pearson Correlation Analysis

Pearson Correlation matrix shows the direction, significance and strength of the bivariate associations between the variables of the study. Table 4.8 shows the relationship between tax non-compliance (dependent variable) and the five variables, i.e., perception of corruption in the government, tax rate, penalty rate, income level and education level (independent variables)

Table 4.8
Pearson Correlations Matrix

Variables	Tax non-compliance	Corruption	Tax rate	Penalty rate	Income level	Education level
Tax non-compliance	1					
Corruption	.619**	1				
Tax rate	.425**	.437**	1			
Penalty rate	.457**	.482**	.461**	1		
Income level	.280**	.343**	.816**	.366**	1	
Education level	.010	-.094	-.055	-.085	-.103	1

Note: ** Correlation is significant at the 0.01 level (2-tailed)

The result of the correlation conducted on the five independent variables shows they are significant and positively correlated and have a positive direction with tax non-compliance. Table 4.8 shows that perception of corruption in the government, tax rate, penalty rate and income level, are correlated positively with tax non-compliance at 0.619, 0.425, 0.457 and 0.280, respectively and significant at the 0.01 level.

The correlations between perception of corruption in the government with tax rate, penalty rate and income level are at 0.437, 0.482 and 0.343, respectively and also significant at the 0.01 level. As for tax rate with penalty rate and income level, the correlations are 0.461 and 0.816, respectively and significant at the 0.01 level. In terms of penalty rate and income level, they are correlated at 0.366 and significant at the 0.01 level. On the other hand, education level shows a weak correlation with other variables. Overall, the result of the correlation analysis suggests that there is a fair degree of linear relationships among the variables of the study.

Universiti Utara Malaysia

4.9 Multiple Regressions

Multiple regressions is a procedure that includes one dependent variable with two or more independent variables. In other words, the test is used to assess simultaneous impact of many independent variables on a dependent variable. This procedure helps researchers to understand how much of the variance in the dependent variable is explained by a set of independent variables (Cavana, Delahaye & Sekaran, 2001).

In this section, by deploying multiple regressions technique, the analysis is more focused on the relationship between the dependent variable, i.e., tax non-compliance and independent variables, i.e., perception of corruption in the government, tax rate, penalty rate, income level and education level. Multiple regressions analysis is the

most common method used in a situation whereby the research is intended to predict a continuous independent variable toward a single continuous dependent variable (Genser, Strina, Teles, Prado, & Barreto, 2007). The result of multiple regressions analysis of this study is shown in Table 4.9

Table 4.9
Summary of the Regression Model (n= 264)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.668a	0.446	0.435	0.70093

a. Predictors: (Constant), Perception of Corruption in the Government, Tax Rate, Penalty Rate, Income Level, Education Level.
b. Dependent variable: Tax Non-compliance

The regression result as presented in Table 4.9 shows that adjusted R2 = 0.435, which indicates that the predictor variables, i.e., perception of corruption in the government, tax rate, penalty rate, income level and education level, explain 43.5% of the variance in tax non-compliance. The result of ANOVA analysis as shown in Table 4.10, presents that F value of 41.507 is significant at the 0.000 level of significance. Therefore, it can be concluded that the model in this study is appropriate and fit. Moreover, the general regression model with five predictor variables has run well in defining tax non-compliance.

Universiti Utara Malaysia

Table 4.10
ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	101.963	5	20.393	41.507	0.000b
Residual		126.758	258	0.491		
Total		228.721	263			

a. Predictors: (Constant), Perception of Corruption in the Government, Tax Rate, Penalty Rate, Income Level, Education Level.
b. Dependent variable: Tax Non-compliance

According to Lind, Marchal and Wathen (2013); and Kumar, Talib and Ramayah (2013), the t-value > 1.9645 shows that the relationships between the independent and dependent variables are significant, and thus the hypotheses are accepted.

Table 4.11
Multiple Regressions Analysis

Model	**Unstandardized Coefficients**		**Standardized Coefficients**		
	β	**Std. Error**	**Beta**	**t**	**Sig.**
1 (Constant)	0.252	0.302		0.833	0.406
Perception of corruption in the government	0.465	0.053	0.482	8.736	0.000***
Tax rate	0.328	0.101	0.279	3.245	0.001***
Penalty rate	0.192	0.066	0.163	2.922	0.004***
Income level	-0.154	0.075	-0.166	-2.056	0.041*
Education level	0.058	0.041	0.067	1.429	0.154

a. Dependent Variable: Tax non-compliance
Note: R^2= .446; F= 41.507
Note: *p< 0.05, **p< 0.01, ***p< 0.001 (significant)
ß= Beta coefficient

Universiti Utara Malaysia

As depicted in Table 4.11, the t-values of four independent variables, i.e., perception of corruption in the government, tax rate, penalty rate and income level are more than 1.9645; therefore, these variables have a significant relationship with the dependent variable, i.e., tax non-compliance. On the other hand, only education level has t-value less than 1.9645 and has no a significant relationship with the dependent variable.

4.10 Hypothesis Testing

For the purpose of this study, five hypotheses were developed to examine the relationship between the independent variables (perception of corruption in the government, tax rate, penalty rate, income level and education level) and the dependent variable (tax non-compliance). Hence, the hypotheses of the study were tested as follows:

Hypothesis 1: There is a positive relationship between perception of corruption in the government and tax non-compliance.

Table 4.9 shows individual taxpayers' perception of corruption in the government is more likely to report a high level of tax non-compliance. Further, Table 4.11 shows that (Beta=.482, t value=8.736, p=.000) is significant at .000. In addition, perception of corruption in the government has a significant value = .000, which is less than .001, which confirms that there is a positively significant relationship between perception of corruption in the government and tax non-compliance. The regression result shows that Hypothesis 1 is supported.

Universiti Utara Malaysia

Hypothesis 2: There is a positive relationship between tax rate and tax non-compliance

Table 4.11 shows individual taxpayers with higher tax rate are more likely to report a high level of tax non-compliance. Further, Table 4.11 shows (Beta=.279, t value=3.245, p=.001) which is significant at .000. In addition, tax rate has a significant value= .000, which is less than .01, which confirms that there is a positively significant relationship between tax rate and tax non-compliance. The regression result shows that Hypothesis 2 is supported.

Hypothesis 3: There is a negative relationship between penalty rate and tax non-compliance.

Table 4.11 shows individual taxpayers with higher penalty rate are more likely to report a high level of tax non-compliance. Further, Table 4.11 shows that (Beta=.163, t value=2.922, p=.004) is significant at .004. In addition, penalty rate has a significant value= .000, which is less than .05, which confirms that there is a positively significant relationship between penalty rate and tax non-compliance. The regression result shows that Hypothesis 3 is not supported.

Hypothesis 4: There is a negative relationship between income level and tax non-compliance.

As shown in Table 4.11, there is negative relationship between income level and tax non-compliance. Based on the analysis, results show a negative and significant relationship between income level and tax non-compliance with an unstandardized coefficient (Beta= -0.166, t value= -2.056, p=.04). The regression result shows that Hypothesis 4 is supported.

Hypothesis 5: There is a negative relationship between education level and tax non-compliance

As shown in Table 4.11, the positive relationship between education level and tax non-compliance shows (Beta= 0.1067, t value=1.429, p=.154). In addition, education level has an insignificant value= .154, which is more than .05, which confirms that there is a positively insignificant relationship between education level and tax non-compliance. The regression result shows that Hypothesis 5 is not supported.

4.11 Summary of Findings

The results of the hypotheses testing in Section 4.10 indicate that the regression results documented in Table 4.11 support three hypotheses (H1, H2, & H4), while two hypotheses (H3 & H5) are not supported. The summary of the hypotheses findings is presented in Table 4.12.

Table 4.12
Summary of Findings

Hypothesis	Statement	Findings
H1	There is a positive relationship between perception of corruption in the government and tax non-compliance.	Supported
H2	There is a positive relationship between tax rate and tax non-compliance.	Supported
H3	There is a negative relationship between penalty rate and tax non-compliance.	Not Supported
H4	There is a negative relationship between income level and tax non-compliance.	Supported
H5	There is a negative relationship between education level and tax non-compliance.	Not Supported

Universiti Utara Malaysia

4.12 Summary

In this chapter, the findings of the study are analysed and presented by using statistical tools. The chapter starts by reporting the response rate, data screening and descriptive analysis. Also, reliability test was conducted to ensure the reliability of data in this study. Factor analysis was used to test the correlation of the data in the study by using Kaiser-Meyer-Olkin (KMO) and Bartlett's test of Sphericity. Finally, the findings of the multiple regressions analysis were used to test the acceptability of the hypotheses.

CHAPTER FIVE
DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter summarises and discusses the research findings based on the research questions and research objectives. It begins with a recapitulation of the study, which discusses the findings and gives a summary of this study. Further, the significance of the findings in terms of theoretical and practical implications to policymakers and other stakeholders is presented. Finally, the study provides limitations and recommendations as well as conclusion of the study.

5.2 Recapitulation of the Study

The current study attempts to examine the relationship between perception of corruption in the government, tax rate, penalty rate, income level and education level and tax non-compliance among individual taxpayers in Yemen. In chapter four, the analyses of the data and findings are presented. Out of the 400 questionnaires distributed to individual taxpayers in the Hadhramout Governorate, only 264 were returned by respondents (66%) of which all were completed and usable for data analysis. The respondents of this study are current taxpayers in Yemen.

The findings of this study indicate that the explanatory power of tax non-compliance by the five independent variables is 43.5%, which means that tax non-compliance model is appropriate to highlight the factors that influence the tax non-compliance behaviour among the individual taxpayers in Hadhramout Governorate. The findings of the current study seem to be consistent with previous researches in various countries (Imam & Jacobs, 2007; Gurama, 2015; Teng & Manual, 2016).

Universiti Utara Malaysia

Specifically, the results of this study show that four factors have a significant effect on tax non-compliance behaviour. The discussion on the hypotheses developed in this study are presented as follows:

Hypothesis 1: As mentioned in chapter four, the findings presented in Table 4.11 indicate that there is a positive and significant relationship between perception of corruption in the government and tax non-compliance in Yemen. Thus, Hypothesis 1 is supported. This indicates that the level of perception of corruption in the government affects tax non-compliance, whereby corruption within the country's tax administration increases the level of tax non-compliance among taxpayers. If there is a high level of corruption in the government administration, taxpayers are more likely not to pay taxes. However, if the level of perception of corruption in the government is low, then the level of tax non-compliance might also be reduced as taxpayers will voluntarily comply with tax requirements. In an environment with rampant corrupt practices, the benefit to be derived from tax payment cannot be easily observed. This result is consistent with previous findings, such as Slehat (2009); John & Enoch (2013); and Gurama (2015). Therefore, the finding achieves the first objective of this study, i.e., to investigate the relationship between perception of corruption in the government and tax non-compliance behaviour.

Hypothesis 2: The second hypothesis proposed that there is a positive relationship between tax rate and tax non-compliance. The findings presented in Table 4.11 show that there is a positive and significant relationship between tax rate and tax non-compliance behaviour. Therefore, it supports Hypothesis 2. This indicates that Yemeni taxpayers are concerned with the rate of their taxes in determining their decision to comply with the tax requirements. This result is consistent with previous

Universiti Utara Malaysia

findings, such as McGee & Rossi (2006); Adebisi & Gbegi (2013); Tijani & Mathias (2014); and Teng & Manual (2016), that provide evidence on a positive relationship between tax rate and tax non-compliance. The higher the rate of taxes imposed on taxpayers' income, the higher the taxpayers' non-compliance. Therefore, this result achieves the second objective of this study.

Hypothesis 3: The third hypothesis proposed that there is a negative relationship between penalty rate and tax non-compliance. The results in Table 4.11 show that there is a positive and significant relationship between penalty rate and tax non-compliance. Thus, the third hypothesis is not supported. Nonetheless, the result of this study is in line with previous studies that have found a positively significant relationship between the penalty rate and tax non-compliance, such as Kirchler (2009); Cummings et al. (2009); Doran (2009); Twum (2014); Gurama (2015); and Oladipup & Obazee (2016).

Universiti Utara Malaysia

The result of the study can be justified due to the economic deterioration and political instability in Yemen, which affect the result of the study from different perspectives. Under the current unstable political situation, Yemeni taxpayers consider that penalty rate without an effective and efficient tax administration would not discourage non-compliance by the taxpayers. Certainly, the political crisis in the country has limited the power to enforce laws and regulations as well as penalties; in other words, the tax authority has not enough power to enforce taxpayers to pay taxes in such circumstances. Also, the government is not introducing better ways that may inspire taxpayers to comply; instead, the government enforces the penalty rate. Further, the authority is not encouraging taxpayers to comply voluntarily. In conclusion, penalty rate is not an effective way to improve tax compliance; instead,

the government must enhance the positive behaviour of taxpayers by voluntary compliance. Consequently, Hypothesis 3 is not supported.

Hypothesis 4: The forth hypothesis proposed that there is a negative relationship between income level and tax non-compliance. The relationship between income level and tax non-compliance shows a negative and significant relationship as presented in Table 4.11. The relationship indicates that the income of the taxpayer determines the level of his or her likely compliance to the tax regulations. From the research findings, high-income earners are less non-compliant, which means that they are more likely to pay taxes. In addition taxpayers with high income are more compliant with the tax authorities compared to the taxpayers with low income level who evade more taxes because high income earners are the more influential people in the society with diverse sources of income which are disclosed to the tax authorities. Thus, Hypothesis 4 is supported. This result is consistent with previous findings, such as Slemrod (2007); and Alm & Mckee (1992).

Universiti Utara Malaysia

Hypothesis 5: Hypothesis five proposed a negative relationship between education level and tax non-compliance. However, the result in Table 4.11 shows a positive and insignificant association. The finding is supported by previous studies of Dubin & Wilde (1988); Park & Hyun (2003); Ross & McGee (2011); Guldana (2013); and Gurma (2015). Hypothesis 5 proposed in this study is therefore not supported.

This can be justified by the reason that the level of education is an indicator of compliance by the taxpayers. Understanding the tax laws and policies helps facilitate compliance and reduce non-compliance. However, the respondents in this study might have high education in academic attainment but not in taxation knowledge. An

adequate knowledge of taxes leads to a good understanding of tax laws and policies, and hence facilitates compliance and paying taxes voluntarily.

High academic attainment is not promising for an individual to be able to even though is carry out the responsibility as taxpayer. This is supported by Al-Jaaidi et al. (2011). The findings on the effect of education remains mixed in tax compliance behaviour. A higher education level is assumed to include an increased level of awareness of tax knowledge among taxpayers. A better educated taxpayer learns more about tax laws and fiscal matters and the benefits and services provided by the government to citizens from the revenue collected. Furthermore, education makes the people consider the severity of tax non-compliance. This, in turn, affects the behaviour and perception of people towards tax non-compliance.

5.3 Theoretical Implications of the Study

This study investigates the impact of several variables on tax non-compliance behaviour in Yemen, specifically, perception of corruption in the government, tax rate, penalty rate, income level and education level. This study finds that perception of corruption in the government, tax rate and penalty rate have positive and significant relationships with tax non-compliance, whereas income level has a negative and significant relationship with tax non-compliance and the relationship between education level and tax non-compliance is insignificant among individual taxpayers in Yemen. The literature review has evidenced that corruption has not been investigated in the Yemeni context. Therefore, it could be argued that this study contributes to the taxation literature by integrating perception of corruption in the government in tax non-compliance behaviour in Yemen.

Universiti Utara Malaysia

According to the social influence theory, compliance behaviour is thought to be affected by the behaviour and social norms of an individual's reference group. Moreover, it is reasonable to assume that human behaviour in the area of taxation is influenced by social interactions much in the same way as other forms of behaviour (Snavely, 1990). Therefore, this study is underpinned by the social influence theory, because this theory provides a logical explanation for the relationship between corruption and tax non-compliance behaviour. In other words, this theory explains how a high level of perception of corruption in the government might affect taxpayers, and therefore, may lead them to not pay their taxes (Sutinen & Kuperan, 1999). Moreover, corruption within the country's tax administration can increase the level of tax non-compliance among taxpayers. Thus, using the social influence theory is considered a theoretical contribution that adds to the knowledge of tax non-compliance behaviour.

Also, this study integrates variables from different theories. Specifically, the deterrence theory is a supporting theory in this study to explain the relationship between the economic factors in Yemen and tax non-compliance behaviour. Generally, the findings of this study are highly significant to researchers. The results provide a new outlook to understanding tax non-compliance and its determinants. Additionally, this study is valuable to academicians, professionals and researchers as well as students in taxation.

Universiti Utara Malaysia

5.4 Practical Implication of the Study

The findings of the current research will be valuable to the YTA in managing more effectively and efficiently tax collection from individual taxpayers, who can potentially make significant contributions to Yemen, especially in the Hadhramout Governorate. As such, this study recommends that the YTA plays a more proactive role to encourage and educate individual taxpayers by enhancing their knowledge on taxation which is important for the country's economic growth. In addition, the findings of the study show the need for the government to develop and implement more stringent enforcement strategies to combat corruption in the administration and improve the tax system in terms of penalty rate and tax rates.

In the long-term, the government should improve administrative strategies to encourage voluntary compliance among taxpayers. It is advisable that pamphlets, brochures or fliers on the right procedures of tax payment should be disseminated to those who are eligible. Moreover, the Ministry of Education can come up with a curriculum on taxation that is more specific, particularly to ensure students' compliance behaviour when they ultimately become taxpayers. In other words, such an effort can prepare the potential taxpayers to carry out their responsibility as taxpayers. Furthermore, the tax authority should have a good relationship and interaction with taxpayers by consistently organising effective programmes for the society in order to enhance their belief in and trust of the tax authority.

The results of the current study can assist policymakers in better understanding the tax non-compliance behaviour in Yemen. They can also find techniques to facilitate and motivate taxpayers to fulfil their obligations to pay tax. In addition, the government should consider introducing relevant courses or enlightening individuals

Universiti Utara Malaysia

at various levels of schooling since education for taxation knowledge has a negative relationship with tax non-compliance. Therefore, the more knowledge individuals have about their role to pay tax for the government to carry out its functions effectively, the less the tax non-compliance will be. McGee and Lingle (2006) found that due to their level of education and awareness as well as the strict and effective measures put in place by tax authorities, the non-compliance attitude was less or minimal.

5.5 Limitations and Recommendations

The current study has some limitations that must be considered. Firstly, the finding cannot be generalised extensively in Yemen, as the scope of the study is limited to the Hadhramout Governorate only. Hence, it is suggested that future studies be carried out to extend the sample covering other Governorates in Yemen to find out whether there are similarities or differences in the results.

Universiti Utara Malaysia

Secondly, due to time and resource constraints, this study is limited as it only consists of individual taxpayers receiving employment income and self-employed. It is recommended that more comprehensive research and studies be conducted that cover a wider sample of all types of businesses, corporate bodies, registered or operating in Yemen such as large corporation and small and medium enterprises (SMEs), with the sole aim of having a clearer picture and better understanding concerning tax compliance behaviour.

Finally, another limitation of this study is that it only investigated five independent variables and their relationship with tax non-compliance. The researcher faced several constraints as explained earlier to conduct this research. It is recommended that future research take into consideration other variables so that a more comprehensive understanding can be obtained on the factors that cause tax non-compliance. Additionally, researchers can look into geographic variables to determine whether or not they have an impact on tax non-compliance such as gender, status, and occupation. It is also recommended that future research efforts include psychological and cultural factors that may influence tax non-compliance behaviour, such as financial constraints, situational constraints, personal orientation and intolerance of tax non-compliance.

5.6 Conclusion

As a conclusion, this study has provided empirical evidence about the factors that determine taxpayers' non-compliance behaviour in Yemen. The research results provide support for three hypotheses and do not support two hypotheses. More importantly, this study has met the research objectives as mentioned in Chapter One despite some of the limitations.

This study investigates the determinants of tax non-compliance from economic and social perspectives in Yemen. The results reveal that three factors, specifically perception of corruption in the government, tax rate and penalty rate positively affect tax non-compliance. Also, it reveals that income level negatively affects tax non-compliance, while education level has no significant effect on tax non-compliance. Therefore, the Yemeni government and tax authority should take note of the factors that influence taxpayers' behaviour, which could be useful to reduce the problems.

Although this study has successfully tested the research hypotheses and made valuable theoretical and practical contributions to the body of knowledge, there are several limitations which pave the way for future studies to investigate this phenomenon further.

Universiti Utara Malaysia

REFERENCES

Abdul Manaf, N., & Abdul Jabbar, H. (2006). A Survey of Perception Towards Tax Evasion As A Crime. *Further Global Challenges in Tax Administration*, 183-199.

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).

Adebisi, J. F., & Gbegi, D. O. (2013). Effect of tax avoidance and tax evasion on personal income tax administration in Nigeria. *American Journal of Humanities and Social Sciences*, *1*(3), 125-134.

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.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, N.J.: Prentice-Hall.

Akdede, S. H. (2011). Corruption and tax evasion. *Doğuş Üniversitesi Dergisi*,7(2), 141- 149.

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

Al-Asaly, S. (2003). "*Political Reform and Economic Institutional Building:* A Case Study of Budgetary Institutional Reform in Yemen". *Economic Research Forum: Economic*.

Al-Batly, A. (2014)"The financial policies of the new Yemeni government." *Al-Ahaly. Net, Yemen*. Retrieved 28 November, 2016 from: http://alahale.net /article/918

Al-Fasel. T (2014), Low tax revenue contribution in GDP. *Al-Thawrah. Net*, Retrieved Sep. 14, 2016, from http://www.althawranews.net/archives/95622

Al-Jaaidi, K. S., Manaf, N. A. A., & Karlinsky, S. S. (2011). Tax evasion as a crime: A survey of perception in Yemen. *International Journal of Business and Management*, *6*(9), 190-201

Al-Jamaree, Y., & Algaylee, A. (2007). "Financial Ministry Implements Transparency Principle to Reform the Financial Regulations and Laws". *Sabanews. Net* Retrieved June 10, 2016 from: http://www.sabanews.net /ar/news131480.htm

Allingham, M., & Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, *1*(3-4), 323-338.

Alm, J. (1999). Tax compliance and administration. *Public Administration and Public Policy, 7(2),* 741-768.

Alm, J. (2012). Measuring, Explaining, and Controlling Tax Evasion: Lessons from Theory, Experiments, and Field Studies. *International Tax Public Finance, 1*(9), 54-77.

Alm, J. & Benno T., (2006). Culture differences and tax moral in U.S.A and Europe *Journal of Economic Psychology, 127*(2).

Alm, J., Jackson, B. R., & McKee, M. (1992). Estimating the determinants of taxpayer compliance with experimental data. *National Tax Journal 45*(1), 107-114.

Alm, J., Martinez-Vazquez, J., & McClellan, C. (2016). Corruption and firm tax evasion. *Journal of Economic Behavior & Organization, 124(1),* 146-163.

Alm, J., McClelland, G. H., & Schulze, W. D. (1992). Why do people pay taxes?. *Journal of Public Economics, 48*(1), 21-38.

Alm, J., Sanchez, I., & Juan, A. D. (1995). Economic and non-economic factors in tax compliance. *Kyklos, 48(1),* 3-18.

Alon, A., & Hageman, A. M. (2013). The impact of corruption on firm tax compliance in transition economies: Whom do you trust?. *Journal of Business Ethics, 116*(3), 479-494.

Alreck, P., & Robert, S. (1995). *The survey research handbook.* New York: McGraw-Hill.

Al-Rubaidi, M. (2012). *Taxation Accounting*. Dar Al-feker Al-mua'aser, Sana'a, Yemen, 4(5), 43-46

Al-Saadi, M.S (2014). Interview with the minister of planning and international cooperation. *Al-Thawra official journal* (Issued daily by the Yemeni Prime Minister). Sana'a

Al-Sharabi and Al-Slehi (2015), Taxes bitter harvest basket. *Alrai Press.Net*, Retrieved Feb. 10, 2017, from http://www.alraipress.com/news4194.html

Al-Ttaffi, L., (2009). *Determinants of tax evasion: An empirical evidence from the Republic of Yemen.* (Unpublished Master Dissertation, Universiti Utara Malaysia).

Al-Ttaffi, L., & Abdul-Jabbar, H. (2016). *Geopolitics and its implications for tax administration.* International Conference on Government & Public Affair (ICOGPA), Sintok, Malaysia, 05 – 06 October. School of Government, Universiti Utara Malaysia.

Al-Ttaffi, L., & Abdul-Jabbar, H. (2015). Does Muslim view on tax influence compliance behaviour? *International Conference on Accounting Studies (ICAS)* 17-20 August 2015, Johor Bahru, Johor, Malaysia.

Universiti Utara Malaysia

Al-Ttaffi, L., Abdul Manaf, N., Aljaidi, K. & McGee, R. (2011). An investigation of factors influencing tax evasion in Yemen. *The Second Soft Science Conference*. Vietnam.

Azrina Mohd Yusof, N., Ming Ling, L., & Bee Wah, Y. (2014). Tax non-compliance among SMCs in Malaysia: tax audit evidence. *Journal of Applied Accounting Research*, *15*(2), 215-234.

Babbie, E. (2007). *The practice of social research (11th ed.).* Belmont: Thomson Learning Inc.

Baldry, J. C. (1987). Income tax evasion and the tax schedule: Some experimental results. *Public Finance= Finances publiques*, *42*(3), 357-83.

Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.

Banerjee, A. V. 1992. A simple model of herd behaviour. *The Quarterly Journal of Economics*, *107*(1)**,** 797-817.

Bartlett, J. E., Kotrilik, J. W., & Higgins, C. C. (2001). Organizational research: Determining samples size in survey research. *Information Technology, Learning and Performance Journal*, *19*(1), 43-50.

Bayer, R. C. (2006). A contest with the taxman–the impact of tax rates on tax evasion and wastefully invested resources. *European Economic Review*, *50*(5), 1071-1104.

Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, *76*(2), 169-217.

Benjamini, Y., & Maital, S. (1985). Optimal Tax Evasion & Optimal Tax Evasion Policy Behavioral Aspects. In *The economics of the shadow economy15*(1), 245-264. Springer Berlin Heidelberg.

Bidin, Z., Idris, K. M., & Shamsudin, F. M. (2009). Predicting compliance intention on zakah on employment income in Malaysia: An application of reasoned action theory. *Jurnal Pengurusan*, *28*(1), 85-102.

Blank, J. D. (2014). Collateral Compliance. *University of Pennsylvania Law Review*, *162*(1), 12-06**.**

Bobek, D. D. (1997). *How do individuals judge fairness and what effect does it have on their behaviour? (Federal income tax, Theory of planned behaviour).* Ann Arbor: UMI.

Bobek, D. D., & Hatfield, R. C. (2003). An investigation of the theory of planned behaviour and the role of moral obligation in tax compliance. *Behavioural Research in Accounting*, *15*(1), 13-38.

Brand, P. (1996). Compliance: a 21st century approach. *National Tax Journal*, 49(3), 413-419

Universiti Utara Malaysia

Campos, J. E., Lien, D., & Pradhan, S. (1999). The impact of corruption on investment: Predictability matters. *World development, 27*(6), 1059-1067.

Carapico, S. (1998). *Civil society in Yemen: the political economy of activism in modern Arabia 9*(1) 85-102. . Cambridge University Press.

Castro, L., & Scartascini, C. (2015). Tax compliance and enforcement in the pampas evidence from a field experiment. *Journal of Economic Behavior & Organization*, *116*, 65-82.

Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods.* Milton: John Wiley & Sons Australia Ltd.

Cebula, R. J. (2013). New and current evidence on determinants of aggregate federal personal income tax evasion in the united states. *American Journal of Economics and Sociology*, *72*(3), 701-731.

Central Organization of Audit &Control COAC. (2012). Annual report. *Official Supervisory Authority*. Sana'a.

Central Organization of Audit &Control COAC. (2014). Annual report. *Official Supervisory Authority*. Sana'a.

Cerqueti, R., & Coppier, R. (2009). Tax revenues, fiscal corruption and "shame" costs. *Economic Modelling*, *26*(6), 1239-1244.

Chan, C. W., Troutman, C. S., & O'Bryan, D. (2000). An expanded model of taxpayer compliance: Empirical evidence from the United States and Hong Kong. *Journal of International Accounting, Auditing and Taxation*, *9*(2), 83-103.

Cherry, T. L. (2001). Financial penalties as an alternative criminal sanction: Evidence from panel data. *Atlantic Economic Journal*, *29*(4), 450-458.

Christian, C. W. (1994). Voluntary compliance with the individual income tax: results from the 1988 TCMP study. *The IRS Research Bulletin*, *1500*, 35-42.

Chua, S. S., & Sabki, N. H. (2011). Use of Non-prescription Medications by the General Public in the Klang Valley. *Journal of Applied Pharmaceutical Science*, 1(9), 93.

Clotfelter, C. T. (1983). Tax Evasion and Tax Rates: An analysis of Individual Returns. *The review of Economics and Statistics*, 363-373.

Coakes, S. J., & Steed, L. (2009). *SPSS: Analysis without anguish using SPSS version 14.0 for Windows*. John Wiley & Sons, Inc.

Coakes, S. J., & Steed, L. (2009). *SPSS: Analysis without anguish using SPSS version 14.0 for Windows*. John Wiley & Sons, Inc..

Collins, J. H., & Plumlee, R. D. (1991). The taxpayer's labor and reporting decision: The effect of audit schemes. *Accounting Review*, 559-576.

Cowell, F. A. (1990). *Cheating the Government*. Cambridge, MA: MIT Press.

Crane, S. E., & Nourzad, F. (1990). Tax rates and tax evasion: evidence from California amnesty data. *National Tax Journal*, 189-199.

Crisp, J. R., & Turner, R. N. (2007*). Essential social psychology*. London: Sage Publications.

Cullis, J. G., & Lewis, A. (1997). Why people pay taxes: From a conventional economic model to a model of social convention. *Journal of economic psychology*, *18*(2), 305-321.

Cummings, R. G., Martinez-Vazquez, J., McKee, M., & Torgler, B. (2009). Tax morale affects tax compliance: Evidence from surveys and an artefactual field experiment. *Journal of Economic Behavior & Organization*, *70*(3), 447-457.

Dbwan Abdulmoez (2014). Fighting the Culture of Corruption in Yemen. The World Bank . http://blogs.worldbank.org/arabvoices/fighting-culture-corruption-yemen.

DeBacker, J., Heim, B. T., & Tran, A. (2012). Importing corruption culture from overseas: Evidence from corporate tax evasion in the United States. *Journal of Financial Economics.117*, (1), 122-138.

Devos K. (2006). The Attitude of Australian and New Zealand Tertiary Student Towards Tax Evasion: A Comparative Study and Demographic Analysis. New Zealand *Journal of Taxation Law and Policy, 12* (4), 293-323

Devos, K. (2005). The Attitudes of Tertiary Students on Tax Evasion and the Penalties for Tax Evasion-A Pilot Study and Demographic Analysis. *Journal of tax research*, *3*(2), 222-273.

Doran, M. (2009) Tax Penalties and Tax Compliance: A Personal Income Tax Non-Compliance in Malaysia. PhD Thesis, Victoria University, Melbourne. *Harvard Journal on Legislation, 4*6(1).

Dubin, J. A., & Wilde, L. L. (1988). An empirical analysis of federal income tax auditing and compliance. *National Tax Journal*,*12*(1), *6*1-74.

Embassy of Yemen. (2007). "Structure and Features of the Yemeni Economy". Retrieved June 10, 2016 from: http://www.yemenembassy.org/economic /%20YemeniEconomy.htm

Engida, T. G., & Baisa, G. A. (2014). Factors Influencing taxpayers' compliance with the tax system: An empirical study in Mekelle City, Ethiopia. *eJournal of Tax Research*, *12*(2), 433.

Eriksen, K. & L. Fallan (1996). Tax knowledge and attitudes towards taxation; A report on a quasi-experiment. *Journal of Economic Psychology 17*(3): 387-402.

Escobari, D. (2012). Imperfect detection of tax evasion in a corrupt tax administration. *Public Organization Review, 12*(4), 317-330.

Explorable.com (2011). Cognitive Learning Theory (CLT), online glossary. Retrieved Feb,2017 from: https://explorable.com/cognitive-learning-theory

Fagbemi, T. O., Uadiale, O. M., & Noah, A. O. (2010). The ethics of tax evasion: Perceptual evidence from Nigeria. *European journal of social sciences*, *17*(3), 360-371.

Feinstein, J. S. (1991). An econometric analysis of income tax evasion and its detection. *The RAND Journal of Economics*, 14-35.

Feld, L. P., & Frey, B. S. (2007). Tax compliance as the result of a psychological tax contract: The role of incentives and responsive regulation. *Law & Policy, 29*(1), 102-120.

Feld, L., & Frey, B. (2006). Tax compliance as the result of a psychological tax contract: The role of incentives and responsive regulation. *Social Science Research Network Working Paper Series,*

Feldman, N. E., & Slemrod, J. (2007). Estimating tax noncompliance with evidence from unaudited tax returns. *The Economic Journal*, *117*(518), 327-352.

Fishlow, A., & Friedman, J. (1994). Tax evasion, inflation and stabilization. *Journal of Development Economics, 43*(1), 105-123.

Fjeldstad, O. H. (2006). Corruption in tax administration. *Tax evasion and fiscal corruption essays on compliance and tax administrative practices in East and South Africa*, *93*(1), 61-74.

Freire-Serén, M. J., & Panadés, J. (2013). Do Higher Tax Rates Encourage/Discourage Tax Compliance?. *Modern Economy*, *2013*.

Frey, B. S., & Feld, L. P. (2002). Deterrence and morale in taxation: An empirical analysis. *CESIFO working paper 760*(1)

Frey, B. S., & Torgler, B. (2007). Tax morale and conditional cooperation. *Journal of Comparative Economics*, *35*(1), 136-159.

Friedland, N., Maital, S., & Rutenberg, A. (1978). A simulation study of income tax evasion. *Journal of public economics*, *10*(1), 107-116.

Galbiati, R., & Zanella, G. (2008). The tax evasion social multiplier: Evidence from Italy. *CNRS - EconomiX Paris, France, and Econpubblica, Bocconi University, Italy*.

Gaventa, J., & McGee, R. (2010). Introduction: Making change happen–citizen action and national policy reform. *Citizen Action and National Policy Reform. London: Zed Books*, 1-43.

Genser B, Strina A, Teles CA, Prado MS, Barreto ML(2007). Risk Factors for Childhood Diarrhea Incidence; Dynamic Analysis of A Longitudinal Study. *Epidemiology*. ;17(6):658–667.

George, D., & Mallery, P. (2006). *SPSS for Windows: Step by step. A simple Guide and reference 10.0 update.* Boston: Allyn & Bacon.

Cerqueti, R., & Coppier, R. (2009). Tax revenues, fiscal corruption and "shame" costs. *Economic Modelling*, *26*(6), 1239-1244.

Groves, R. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly*, 70(5), 646-675.

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 1*6.

Gupta, R. (2008). Tax evasion and financial repression. *Journal of Economics and Business 6*0(6): 517-535.

Gupta. R & McGee. R (2009) An Empirical Study of Demographics of Perception of Tax Evasion in New Zealand. *New Zealand Journal of Taxation Law and Policy 6*5.

Gurama, Z. (2015) *Tax Evasion Determinants: Evidence From Nigeria.* (Unpublished Master Dissertation), Universiti Utara Malaysia.

Hadhramout Tax Authority, (2016). *Annual Report. Statistics of Registered Individual Taxpayers*. Retrieved from : http://www.tax.gov.ye

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, J. F., Money, A., Samuoel, P., & Page, M. (2007). *Research method for business.* West Sunsex: John Wiley and Son Ltd.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 4*0(3), 414-433.

Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C., (2006). *Multivariate Data Analysis (7th ed.)*. Upper Saddles River, NJ:Pearson Education.

Hall, R. E., & Jones, C. I. (1999). *Why do some countries produce so much more output per worker than others?* National Bureau of Economic Research.

Hasseldine, J. and Li, Z. (1999), "More tax evasion research required in new millennium", Crime, *Law & Social Change, 3*1(2), 91-104.

Hasseldine, J., & Hite, P. A. (2003). Framing, gender and tax compliance. *Journal of Economic Psychology, 24*(4), 517-533.

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.

Hindriks, J., Keen, M., & Muthoo, A. (1999). Corruption, extortion and evasion. *Journal of Public Economics, 7*4(3), 395-430.

Hindriks, J., Peralta, S., & Weber, S. (2008). Competing in taxes and investment under fiscal equalization. *Journal of public economics, 92*(12), 2392-2402.

Hite, P. (1997). Identifying and mitigating taxpayer non-compliance. *Australian Tax Forum, 13*, 155-180.

Hogg, M. A., & Vaughan, G. M. (2005). *Social Psychology, 4th ed.* Harlow: Pearson Education Ltd.

Ibadin, P. O., & Eiya, O. F. I. A. F. O. H. (2013). Tax evasion and avoidance behaviour of the self-employed Nigerians. *European Journal of Business and Management, 5*(6), 1-16.

Imam, P. A., & Jacobs, D. (2014). Effect of corruption on tax revenues in the Middle East. *Review of Middle East Economics and Finance Rev. Middle East Econ. Fin., 10*(1), 1-24.

Imam, P. A., & Jacobs, D. F. (2007). *Effect of corruption on tax revenues in the Middle East* (No. 2007-2270). International Monetary Fund.

Jackson, B. R.,&Milliron,V. C. (1986).Tax compliance research: Findings, problems and prospects. *Journal of Accounting Literature, 5*, 125–165.

Jain, N., & Srivastava, V. (2013). Data mining techniques: a survey paper. *IJRET: International Journal of Research in Engineering and Technology, 2*(11), 2319-1163.

Jamaludin,A., (2011). *The tendency of Malaysian taxpayers toward tax evasion: A case study Among restaurant owners in Perlis*. (Unpublished Master Dissertation ,Universiti Utara Malaysia).

James, S., & Alley, C. (2002). Tax compliance, self-assessment and tax administration. *Journal of Finance and Management in Public Services* , 2(2),27-42.

John, A, O., & Enoch, O, K., (2013). Appraisal of factors influencing tax avoidance and evasion in Nigeria. *International Journal of research in commerce & management,4*(5) 107-111.

Johns, A., & Slemrod, J. (2008).The distribution of income tax non-compliance. Retrived From http://www.bus.umich.edu/otpr/DITN%20091308.pdf

Universiti Utara Malaysia

Kafkalas, S., Kalaitzidakis, P., & Tzouvelekas, V. (2014). Tax evasion and public expenditures on tax revenue services in an endogenous growth model.*European Economic Review*, *7*0, 438-453.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the econometric society*, *47*(2) 263-291.

Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American psychologist assocation*, *39*(4), 341.

Kamleitner, B., Korunka, C., & Kirchler, E. (2012). Tax compliance of small business owners: A review. *International Journal of Entrepreneurial Behavior & Research*, *18*(3), 330-351.

Karlinsky, S., Burton, H., & Blanthorne, C. (2004). Perceptions of tax evasion as a crime. *E–Journal of Tax Research*, *2*(2), 226-240.

Karzhassova, G. B. (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.

Kasipillai, J., & Abdul Jabbar, H (2006). Gender and ethnicity differences in tax compliance. *Asian Academy of Management Journal*, *11*(2), 73-88.

Kasipillai, J., Baldry, J., & Rao, D. S. P. (2000). Estimating the size and determinants of hidden income and tax evasion in Malaysia. *Asian Review of Accounting*, *8*(2), 25-41.

Khan, W. A., & Ahmad, P. F. (2014). Causes of Tax Evasion in Pakistan: A case study on southern Punjab. *International Journal of Accounting and Financial Reporting*, *4*(2), 273-294

Khlif, H., & Achek, I. (2015). The determinants of tax evasion: a literature review. *International Journal of Law and Management*, *57*(5), 486-497.

Kirchler, E. (1997). The burden of new taxes: acceptance of taxes as a function of affectedness and egoistic versus altruistic orientation. *The Journal of Socio-Economics*, *26*(4), 421-437.

Kirchler, E. (2007). *The economic psychology of tax behaviour*. Cambridge: Cambridge University Press.

Kirchler, E. (2009). On the economic psychology of tax behaviour (Book Review). *Journal of Economic Psychology*. *2*9, 866–868.

Kirchler, E., Muehlbacher, S., Kastlunger, B., & Wahl, I. (2010). Why pay taxes? A review of tax compliance decisions. *Developing alternative frameworks for explaining tax compliance*, 15-31.

Universiti Utara Malaysia

Kuria, K., Ngumi, P., & Rugami, J. (2013). Factors affecting rental income tax compliance among landlords in Kilifi municipality in Kenya.

Kumar, M., Talib, S. A., & Ramayah, T. (2013). *Business Research Methods. Oxford Fajar/Oxford University Press.*

LaPalombara, J. (1994). Structural and institutional aspects of corruption. *Social research*, *6*1 (2) 325-350.

Leonardo, G. (2012). *Politics and tax morale. The role of trust, values, and beliefs, in shaping individual attitude towards tax compliance.* (Doctoral dissertation, Georgia State University)

Lewis, A. (1982). The social psychology of taxation. *British Journal of Social Psychology, 21*(2), 151-158.

Lind, D. A., Marchal, W. G., &Wathen, S. A. (2013). *Basic Statistics for Business and Economic* (8th ed.). McGraw-Hill Education (Asia).

Long, S.B. and Swingen, J.A. (1991), "Review essay: taxpayer compliance: setting a new agendas for research", *Law & Society Review, 2*5(3), 637-683.

Lubell, M., & Scholz, J. T. (2001). Cooperation, reciprocity, and the collective-action heuristic. *American Journal of Political Science*, 160-178.

Malhotra, N. K., and Peterson, M. (2006). *Basic Research Marketing: A Decision-Making Approach (2nd Ed.).* New Jersey: Pearson Education, Inc.

Malkawi, B. H., & Haloush, H. A. (2008). The case of income tax evasion in Jordan: symptoms and solutions. *Journal of Financial Crime*, *15*(3), 282-294.

Manaf, N. A. (2004). *Land tax administration and compliance attitude in Malaysia* (Unpublished doctoral thesis). University of Nottingham, United Kingdom.

Manaf, N. A., Hasseldine, J., & Hodges, R. (2005). The determinants of Malaysian Land taxpayers' compliance attitude. *eJournal of Tax Research*, 3(2), 206-221.

Mancharoen, M. (2015). *Determinants of tax evasion: Perception of Southern-Thailand taxpayers* (Unpublished Master Dissertation) Universiti Utara Malaysia.

Mason, R., & Calvin, L. D. (1984). Public confidence and admitted tax evasion. *National Tax Journal*, *37*(4), 489-496.

Masoud, S. A. A. (2015). *Determinants of tax evasion: Evidence from Libya* (Unpublished Master Dissertation), Universiti Utara Malaysia.

Mauro, P. (1995). Corruption and growth. *The Quarterly Journal of Economics*, *110*(3), 681-712.

Mayer, R. E. (1999). *The promise of educational psychology: Learning in the content areas.* Upper Saddle River, NJ: Prentice Hall.

McGee, R and Bose, S. (2007). The Ethics of Tax Evasion: A Comparative Study of Australian, New Zealand & the U.S.A opinions. *Andreas School of Business. Working Paper.*

McGee, R. and Noronha, C (2008). The Ethics of Tax Evasion: A Comparative Study of Guangzhou (Southern China) and Macau Opinions Euro Asia. *Journal of Management. 1*8(2), 133-152.

McGee, R. W., & Lingle, C. (2006). Tax Evasion and Business Ethics: A Comparative Study of Guatemala and the USA. *Available at SSRN 8*92323.

McGee, R. W., & Rossi, M. J. (2006). The Ethics of Tax Evasion: A Survey of Law and Business Students in Argentina. *Available at SSRN 8*75892.

McGee, R. W., & Tyler, M. (2006). Tax evasion and ethics: A demographic study of 33 countries. *Available at SSRN 9*40505.

McGee, R. W., Benk, S., Yıldırım, H., & Kayıkçı, M. (2011). The ethics of tax evasion: A study of Turkish tax practitioner opinion. *European Journal of Social Sciences*, *18*(3), 468-480.

McGee, R. W., López Paláu, S., & Polanco, E. (2007). The ethics of tax evasion: an empirical study of Dominican Republic opinion. *Available at SSRN 997575*.

McGee, R. W., Petrides, Y., & Ross, A. M. (2012). *How Serious Is Tax Evasion? A Survey of Mexican Opinion. In The Ethics of Tax Evasion* 405-411. Springer New York.

McKerchar, M. (2001). Why Do Taxpayers Comply? Past Lessons and Future Directions in Developing a Model of Compliance Behaviour. In M. Walpole & C. Evans (Eds.), *Tax Administration in the 21st Century. St Leonards, NSW: Prospect Media.*

Meyers, L., Gamst, G., & Guarino, A. (2006). *Applied multivariate research: Design and interpretation. London: Sage Publication.*

Ministry of Finance, (2008). Annual Report: *The Final Accounts and General Budget. Yemen.* Retrieved from www.mof.gov.ye.

Ministry of Finance, (2009). Annual Report: *The Final Accounts and General Budget. Yemen.* Retrieved from www.mof.gov.ye.

Ministry of Finance, (2010). Annual Report*: The Final Accounts and General Budget. Yemen.* Retrieved from www.mof.gov.ye.

Ministry of Finance, (2011). Annual Report*: The Final Accounts and General Budget. Yemen.* Retrieved from www.mof.gov.ye.

Universiti Utara Malaysia

Ministry of Finance, (2012). Annual Report*: The Final Accounts and General Budget. Yemen.* Retrieved from www.mof.gov.ye.

Ministry of Finance, (2013). Annual Report: *The Final Accounts and General Budget. Yemen.* Retrieved from www.mof.gov.ye.

Ministry of Planning &International Cooperation MPIC. (2009). Annual Report. *Official website of the ministry.* Sana'a. from http://www.yemen.gov.ye

Mughal, M. M., & Akram, M. (2012). Reasons of Tax Avoidance and Tax Evasion: Reflections from Pakistan. *Journal of Economic and Behavioral Studies, 4*.

Muhrtala, T. (2013). Professionals' Perspective of Tax Evasion: Some Evidence from Nigeria. *Universal Journal of Accounting and Finance, 1*(2), 35-41.

Muhrtala, T. O., & Ogundeji, M. (2013). Professionals' Perspective of Tax Evasion: Some Evidence from Nigeria. *Universal Journal of Accounting and Finance, 1*(2), 35-41.

Nor Aziah A. M., Stewart S. K., & Khaled S. Y. A (2011) Taxation as A Crime: ASurvey of Perception in Yemen. *International Journal of Business andMangement, 6*(9).

Nor Ghani Md. Nor, Mansor J., Mohd A. S. Z., and Razieh T. (2012) Estimating Factors Affecting Tax Evasion in Malaysia: A Neural Network Method Analysis. *Prosiding PERKEM VII, JILID 2*. 1524 – 1535.

Nordblom, K., Jagers, S. C., & Hammar, H. (2005). Tax Evasion and the Importance of Trust*: Working Papers in Economics,110*(3), 179.

Nwachukwu I. (2006). Institution Indulge in Tax evasion despite huge profit they make in Nigeria. *The Tribune September, 1*

Okpala Kenneth Enoch. (2013). Appraisal of Factors Influencing Tax Avoidance and Evasion in Nigeria. *International Journal of Research in Commerce and Management. 4*(5), 107-111.

Oladipupo, A. O., & Obazee, U. (2016). Tax Knowledge, Penalties and Tax Compliance in Small and Medium Scale Enterprises in Nigeria. *iBusiness, 8*(1), 1.

Olowookere, J. K., & Fasina, H. T. (2013). Taxpayers' Education: A Key Strategy in Achieving Voluntary Compliance in Lagos State, Nigeria. *European Journal of Business and Management, 5*(10), 146-154.

Organization for Economic Cooperation Development (OECD), (2004) *Glossary of tax terms*

Oz Yalama, G., & Gumus, E. (2013) Determinant of Tax Evasion Behavior:Empirical Evidence from Survey Data .*Journal of International Business and Management, 6*(2) 15-23.

Universiti Utara Malaysia

Oz Yalama, G., & Gumus, E. (2013). Determinants of Tax Evasion Behavior: Empirical Evidence from Survey Data. *International Business and Management*, *6*(2), 15-23.

Palil, M. R., & Mustapha, A. F. (2011). Factors affecting tax compliance behaviour in self-assessment system. *African journal of business management*, *5*(33), 12864.

Palil, M. R., Akir, M. R., & Ahmad, W. F. B. A. (2013). The Perception of Tax Payers on Tax Knowledge and Tax Education with Level of Tax Compliance: A Study the Influences of Religiosity. *ASEAN Journal of Economics, Management and Accounting*, *1*(1), 118-129.

Pallant, J. (2007). *SPSS survival manual: A step by step guide to data analysis using SPSS for windows -version 15 (3rd ed.).* Crow's Nest: Open University Press.

Pallant, J. (2013). *SPSS survival manual*. McGraw-Hill Education (UK).

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.

Pashev, K. (2005). *Corruption and Tax Compliance.* Center for the Study of Democracy.

Peter Okoeguale Ibadin,& Efiafoh. Eiya (2013). Tax evasion and avoidance behavior of The self-employed Nigerians. *European journal of business and management.*

Picur, R. D., & Riahi-Belkaoui, A. (2006). The impact of bureaucracy, corruption and tax compliance. *Review of Accounting and Finance*, 5(2), 174-180.

Pirttila, J. (1999). Tax evasion and economies in transition: lessons from tax theory. *Available at SSRN 9*40505.

Pommerehne, W. W., & Weck-Hannemann, H. (1996). Tax rates, tax administration and income tax evasion in Switzerland. *Public Choice*, *88*(1-2), 161-170.

Pommerehne, W., Hart, A. and Frey, B.S. (1994), "*Tax Morale, Tax Evasion and the Choice of Policy Instruments in Different Political Systems",* Public Finance, *49*(6), 52-69.

Popoola, N. (2009) A Good Tax System wills Enhance Economic Development. Punch,31stJanAvailable from: http://www.punchng.com/Articl.aspx?theartic=Art20090131654450

Purohit, M. C. (2007) Corruption in tax administration. In: A. Shah (ed.) *Performance Accountability and Combating Corruption.* Washington DC: The World Bank, 285 – 302.

Universiti Utara Malaysia

Richardson, G. (2006). Determinants of tax evasion: A cross-country investigation. *Journal of International Accounting, Auditing and Taxation*, *15*(2), 150-169.

Ritsema, C. M., Thomas, D. W., & Ferrier, G. D. (2003, June). Economic and behavioural determinants of tax compliance: evidence from the 1997 Arkansas Tax Penalty Amnesty Program. In *IRS research Conference*.

Robinson.G.E, Wilcox.O, Carpenter.S, Al-Iryani.A (2006). This publication was produced for review by the *United States Agency for International Development(USAID). It was prepared by ARD, Inc.*

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.

Ross, A. M., & McGee, R. W. (2011). A six-country study on education level and ethical attitude toward tax evasion. *In Academy of Educational Leadership 1*(6), 1-63.

Ross, A. M., & McGee, R. W. (2012). Education Level and Ethical Attitude toward Tax Evasion: A Six-Country Study. *Journal of Legal, Ethical and Regulatory Issues*, *15*(2), 93.

Roth, J. A., & Scholz, J. T. (1989). *Taxpayer Compliance, Volume 1: An Agenda for Research* 1. University of Pennsylvania Press.

Rothengatter, M. R. (2005). Social networks and tax (non)-compliance in a multicultural nation. *International Journal of Entrepreneurial Behaviour & Research*, *11*(4), 280-314.

Saad, N. (2012). Tax Non-Compliance Behaviour: Taxpayers View. *Procedia-Social and Behavioral Sciences*, *65*(1), 344-351.

Sah, R. K. 1991. Social osmosis and patterns of crime. *Journal of Political Economy, 99*(6), 1272- 1295.

Sapici, N. S., Kasipilai, J., & Eze, U. C. (2014). Determinants of tax compliance behaviour of corporate taxpayers in Malaysia. *eJournal of Tax Research*, *12*(2), 383.

Sanyal, A., Gang, I. N., & Goswami, O. (2000). *Corruption, tax evasion and the Laffer curve. Public Choice, 1*05(12), 61-78.

Sarker, N. M. (2014). Arab spring and the contemporary geopolitics of the Middle East. *Peace and Security Review, 6* (12), 39-62

Schadewald, M. S. (1989). Reference Point Effect in Taxpayer Decision Making. *Journal Of American taxation Association Spring*, *10*(2), 68-84

Sekaran U. & Bougie, R. (2013). *Research Methodology for Business: A Skill-Building Approach* (6th ed.). Willey.

Universiti Utara Malaysia

Sekaran, U. (2003). *Research Methods more Business: A Skill-Building Approach* (3rd ed.). New York: John Wiley & Son.

Sekaran, U. (2006). *Research Methods more Business: A Skill-Building Approach* (4rd ed.). New York: John Wiley & Son.

Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach, 5th ed.* West Sussex: John Wiley and Sons Ltd.

Seren, M. and Panades, J. (2007). *Does tax evasion modify the redistributive effect of tax progressivity?*.The School of Economics at the Australian National University, Australia.Working Paper Number 102.

Shanmugam, S. (2003). Managing self-assessment - An appraisal. *Tax Nasional, 1st Quarter,* 30-32.

Slehat, Y. A. A. A. (2009). *The Tendency Toward Tax Evasion in Jordan* (Unpublished Master Dissertation), Universiti Utara Malaysia.

Slemrod, J. (1985). *An empirical test for tax evasion.Review of Economics and Statistics*, 67(2), 232-238.

Slemrod, J. (2007). Cheating ourselves: The economics of tax evasion. *The journal of economic perspectives, 21*(1), 25-48.

Smith, K. W. and Kinsley, K. A. (1987). Understanding Taxpayers Behavior: A Conceptual Framework with Implication for Research .*Law and Society Review, 1*2(4), 639-663.

Snavely, K. 1990. Governmental policies to reduce tax evasion: coerced behaviour versus services and values development. *Policy Sciences,* 23**,** 57-72.

Song, Y., & Yarbrough, T. (1978). Tax ethics and taxpayer attitudes: A survey. *Public Administration Review*, 38(5), 442-452.

Soos, P. (1991). Self-employed evasion and tax withholding: A comparative study and analysis of the issues. *Working paper, University of California.*

Soyode, L. and S.O. Kajola, (2006). "Taxation: Principles and Practice in Nigeria": *1st Edition: Silicon, Ibadan.*

Spicer, M. W., & Becker, L. A. (1980). Fiscal inequity and tax evasion: An experimental approach. *National tax journal*, *33*(2), 171-175.

Srinivasan, T. N. (1973). Tax evasion: A model. *Journal of public economics*, *2*(4), 339-346.

Sutinen, J. G., & Kuperan, K. (1999). A socio-economic theory of regulatory compliance. *International Journal of Social Economics*, 26(1/2/3), 174-193.

Tabachnick, B., & Fidell, L. (2007). *Using multivariate statistics (5th ed.).* New York: Pearson Education Inc.

Teng, Y. M., & Manual, V. (2016). A Study about Economic Factors Influencing Taxpayers' Noncompliance Behaviors in Kuala Lumpur, Malaysia. *Imperial Journal of Interdisciplinary Research, 2*(9).

Tijjani, O. P., Mathias, O., (2013). Professional Perspective of Tax Evasion: some Evidence from Nigeria. *Universal Journal of Accounting and Finance 1* (2)

Tirole, J. (1996). A theory of collective reputations (with applications to the persistence of corruption and to firm quality). *The Review of Economic Studies*, *63*(1), 1-22.

Torgler, B. (2001) What Do We Know About Tax Compliance and Tax Morale? *International Review of Economics and Business, (RISEC) 48*(1), 395-419.

Torgler, B., & Schneider, F. (2007). What shapes attitudes toward paying taxes? Evidence from multicultural European countries. *Social Science Quarterly*, *88*(2), 443–470.

Transparency International's Quarterly Newsletter. (2005). *"A call to stamp out natural resource corruption"*.from http://www.transparenc org/content/download/2270/14250/version/1/Þ(2005) pdf.

Transparency International's Quarterly Newsletter. (2016). *"A call to stamp out natural resource corruption" from* http://www.transparency.org/news/feature/corruption_perceptions_index_2016

Umar, M. A., Kasim, R., & Martin, D. J. (2012). An overview of property tax collection as a tool for a sustainable local government reform in Malaysia. *International Conference on Technology Management, Business and Entrepreneurship 2012* (ICTMBE 2012), 18-19 December 2012

United Nations Development Program. (2005). "Program on /Governance in the Arab Region".

Vogt,W. P. (2007). *Quantitative research methods for professionals*. NY: Pearson/Allyn & Bacon.

Wadhwa, L., & Pal, D. V. (2012). Tax Evasion India. *International Journal of Applied Engineering Research, 7* (11).

Wallschutzky, I. G. (1993). *Tax Compliance: Issues in Research Methods*. Paper presented at the Australian Taxation Office Research Conference Part 2, Canberra.

Webley, P., Robben, H., Elffers, H. and Hessing D. (1991). *Tax Evasion: An Experimental Approach.* Cambridge: Cambridge University Press.

Witte, A. D., & Woodbury, D. F. (1985). The effect of tax laws and tax administration on tax compliance: The case of the US individual income tax. *National Tax Journal*, *38*(1), 1-13.

World Bank (2014). Fighting the Culture of Corruption in Yemen. Retrieved 20 May, from http://blogs.worldbank.org/arabvoices/fighting-culture-corruption-yemen.

Worlu, C. N., & Nkoro, E. (2012). Tax revenue and economic development in Nigeria: A macroeconometric approach. *Academic Journal of Interdisciplinary Studies*, *1*(2), 211-223.

Yalama, G. O., & Gumus, E. (2013). Determinants of Tax Evasion Behavior: Empirical Evidence from Survey Data. *International Business and Management, 6*(2), 15-23.

Yaniv, G. (2009). The tax compliance demand curve: A diagrammatical approach to income tax evasion. *The Journal of Economic Education*, *40*(2), 213-224.

Yankelovich, Skelly & White 1984. Taxpayer attitudes study: Final report. *Public opinion survey prepared for the Internal Revenue Services.* Washington, DC: Internal Revenue Service, U.S. Department of the Treasury.

Yemen Tax Authority. (2010) , Minister of Finance.R.Y, Income Tax Law Law No. (17) of 2010 Retrieved from : http://www.tax.gov.ye/r/index.php/tax-shria/incometax/category/9-role-re#

Yemeni news agency. (2012). *Official website of the agency*. Retrieved 20 Nov, 2016 from http://www.sabanews.net/ar/news262356.htm.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business Research Methods*. Cengage Learning.

Universiti Utara Malaysia

APPENDICES

APPENDIX A: QUESTIONNAIRE (ENGLISH)

Universiti Utara Malaysia
College of Business

QUESTIONNAIRE

CORRUPTION AND TAX NON-COMPLIANCE MODEL: AN INVESTIGATION ON INDIVIDUAL TAXPAYERS IN YEMEN

Dear valued respondent,

This questionnaire is designed to study about perceptions of individual taxpayers in Yemen toward tax non-compliance. Your participation is highly appreciated.

This study is conducted as a partial fulfilment for my study of Master of Science (International Accounting). The information you provide for the purpose of this study will be kept strictly confidential and for the academic purpose only.

This questionnaire will take about 10 minutes to be completed. The findings of this study would provide valuable inputs useful to individual taxpayers, tax professionals and the tax authority specifically in Yemen.

Your input is highly valued. Thank you very much for your time and cooperation.

Yours sincerely,

Mohammed Mahdi A. Obaid (817190)

Master of Science (International Accounting)
College of Business
Universiti Utara Malaysia

SECTION A

General Information:

Please tick [√] against the appropriate responses or fill in the blanks with the appropriate answers

1. Gender: [ ] Male [ ] Female

2. Age(Years) [ ] 18 – 24 [ ] 25 -31 [ ] 32 – 38

[ ] 39 - 45 [ ] 46 – 52 [ ] 53 and above

3. Marital Status: [ ] Single [ ] Married [ ] Others, Please specify

4. Education level: [ ] Before Secondary school certificate
[ ] Up to Secondary school certificate
[ ] Diploma certificate
[ ] Bachelor degree
[ ] Post graduate (Master – PhD)

5. Source of Income [ ] employee of public sector
[ ] employee of private sector
[ ] business – self-employed
others, please specify ----------

6. Annual gross income: Rial Yemen (YER)

[ ] YER 240,000 and below
[ ] YER 240,001 – 490,000
[ ] YER 490,001 – 740,000
[ ] YER 740,001 - 990,000
[ ] YER 990,001 and above

7. Years of being a taxpayer

[ ] 1-5 year [ ] 6 – 10 year
[ ] 11 – 15 [ ] 16 – 20 year
[ ] 21 and above [ ] Never

Universiti Utara Malaysia

SECTION B

i. Perception of corruption in the government

The items below represent your opinion about corruption in the government. Based on the scale given, please circle the number that you think is appropriate for each statement below:

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Tax non-compliance is acceptable if there is very high corruption in the government	1	2	3	4	5
2	Tax non-compliance is acceptable if there is a low level of corruption in the government.	1	2	3	4	5
3	Tax non-compliance is acceptable even if the money collected is used wisely without corruption.	1	2	3	4	5
4	Tax non-compliance is acceptable even if there is no corruption in the government.	1	2	3	4	5
5	Because of corruption in the government, I think I have the right not to pay tax.	1	2	3	4	5

ii. Tax rate

The items below represent your opinion about tax rate. Based on the scale given, kindly circle the number that you think appropriate for each statement below:

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Tax non-compliance is acceptable if the tax rate is very high.	1	2	3	4	5
2	Tax non-compliance is acceptable even if the tax rate is very low	1	2	3	4	5
3	It is not worth to pay tax if the tax rate is high.	1	2	3	4	5
4	It is not worth to pay tax even if the tax rate is low.	1	2	3	4	5
5	Tax non-compliance is acceptable if the tax rate is low because the government is not entitled to take as much as it is taking from me.	1	2	3	4	5

iii. Penalty Rate

The items below represent your opinion on the perceived penalty rate. Based on the scale given below, kindly, circle the number that you think appropriate for each item.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Tax non-compliance is acceptable if the tax authority does not impose any penalties for it.	1	2	3	4	5
2	I have the right not to pay tax when I get a chance to do it.	1	2	3	4	5
3	It is worth not to pay tax if the penalties are low.	1	2	3	4	5
4	It is worth not to pay tax even if the penalties are high.	1	2	3	4	5

SECTION C

Tax Non-compliance

Indicate your opinion about tax non-compliance in Yemen by answering the questions below using the scale from 1% to 100%.

1. What is the percentage of Yemeni people who do not comply with paying tax? _____%

2. What is the a accepted level of percentage of tax non-compliance in Yemen _____%

3. What is the percentage of tax non-compliance in Yemen? _____%

-END OF QUESTIONNAIRE-
THANK YOU FOR YOUR COOPERATION

APPENDIX B: QUESTIONNAIRE (ARABIC)

جامعة الشمال (اوتارا) الماليزية

كلية الاعمال

إستبيان

الفساد ونموذج عدم الامتثال الضريبي : دراسة تحقيقية لدافعي الضرائب في اليمن

عزيزي المستجيب،

تم تصميم هذا الاستبيان لدراسة حول تصورات دافعي الضرائب الافراد في اليمن تجاه عدم الامتثال الضريبي.

تعتبر هذه الدراسة بمثابة متطلب تكميلي لنيل درجة الماجستير في المحاسبة الدولية.

جوابك يلعب دوراً هاماً في انجاح هذه الدراسة. ثق تماما انه سيتم التعامل بسرية تامة مع المعلومات التي تقدمها، اجابتك هي لغرض الدراسة (غرض اكاديمي) فقط.

هذا الاستبيان سيستغرق حوالي 10 دقائق فقط. نتائج هذه الدراسة أن تقدم مساهمات قيمة مفيدة لدافعي الضرائب الافراد ومصلحة الضرائب على وجه التحديد في اليمن

ولك كل الشكر والتقدير على تعاونك

الباحث:

محمد مهدي عبيد
ماجستير في (المحاسبة الدولية)
كلية الاعمال
جامعة الشمال (اوتارا) الماليزية

القسم الأول

معلومات عامة
يرجى وضع علامة (√) في المربع أو ملْ الفراغ بالاجابة المناسبة أدناه:

1. الجنس: ( ) ذكر ( ) أنثى

2. العمر: ( ) 18 – 24 سنة ، ( ) 25- 31 سنة ،( ) 32 - 38سنه
( ) 39 – 45 سنة ، ( ) 46 – 52 سنة ، ( ) 53 فأكثر

3. الحالة الإجتماعية: ( ) أعزب ( ) متزوج ( ) غير ذلك، فضلا يرجى تحديد ذلك_____

4. مستوى التعليم:
( ) ثانوية عامة أو أقل
( ) دبلوم
( ) بكالوريوس
( ) دراسات عليا (ماجستير، دكتوراه)

5. مصادر الدخل :
( ) موظف في القطاع العام (حكومي)
( ) موظف في القطاع الخاص
( ) عمل خاص
غير ذلك، فضلا يرجى تحديد ذلك _____

6. إجمالي الدخل السنوي (بالريال اليمني)
( ) 240,000 ريال وأقل
( ) 240,001 - 490,000
( ) 490,001 – 740,000
( ) 740,001 - 990,000
( ) 990,001 فأكثر

7. سنوات دفع الضرائب :
( ) 1 ـــ 5 سنوات
( ) 6 ـــ10 سنوات
( ) 11 ـــ20 سنه
( ) 21 فأكثر
( ) ولا مره

Universiti Utara Malaysia

القسم الثاني

1.تصور الفساد في الحكومة

البنود التالية تمثل رأيك أو تصورك تجاه الفساد في الحكومة .

استنادا إلى المقياس التالي، يرجى وضع دائرة حول الرقم المناسب الذي يمثل اجابتك والموضح في الجدول أدناه.

	الاسئلة	لا اوافق بشدة	لا اوافق	محايد	اوافق	اوافق وبشدة
1	عدم الامتثال الضريبي مقبولا اذا كان معدل الفساد في الحكومة عاليا	1	2	3	4	5
2	عدم الامتثال الضريبي مقبولا اذا كان معدل الفساد في الحكومة متدنيا	1	2	3	4	5
3	عدم الامتثال الضريبي مقبول حتى إذا تم استخدام الأموال التي تم جمعها بحكمة دون فساد.	1	2	3	4	5
4	عدم الامتثال الضريبي مقبول حتى إذا لم يكن هناك فساد في الحكومة.	1	2	3	4	5
5	بسبب الفساد في الحكومة،أعتقد أن لدي الحق في عدم دفع الضرائب.	1	2	3	4	5

Universiti Utara Malaysia

2. معدل الضريبة

البنود التالية تمثل رأيك حول معدل الضريبة.

استنادا إلى المقياس التالي، يرجى وضع دائرة حول الرقم المناسب الذي يمثل اجابتك والموضح في الجدول أدناه.

	الاسئلة	لا اوافق بشدة	لا اوافق	محايد	اوافق	اوافق وبشدة
1	عدم الامتثال الضريبي يكون مقبول إذا كان معدل الضريبة مرتفعة جدا.	1	2	3	4	5
2	عدم الامتثال الضريبي يكون مقبول إذا كان معدل الضريبة منخفضا جدا	1	2	3	4	5
3	من الجدير عدم دفع الضرائب إذا كان معدل الضريبة مرتفعة.	1	2	3	4	5
4	ومن الجدير عدم دفع الضرائب إذا كان معدل الضريبة منخفضا.	1	2	3	4	5
5	ضريبة عدم الامتثال هو مقبول إذا كان معدل الضريبة منخفضا لأنه لا يحق للحكومة أن تأخذ بقدر ما يأخذ مني.	1	2	3	4	5

3.معدل العقوبة

البنود التالية تمثل رأيك حول معدل عقوبة عدم الامتثال الضريبي.

استنادا إلى المقياس التالي، يرجى وضع دائرة حول الرقم المناسب الذي يمثل اجابتك والموضح في الجدول أدناه

	الاسئلة	لا اوافق بشدة	لا اوافق	محايد	اوافق	اوافق وبشدة
1	عدم الامتثال الضريبي يكون مقبولا اذا لم تفرض مصلحة الضرائب أي عقوبات.	1	2	3	4	5
2	لدي الحق في عدم دفع الضرائب عندما أحصل على فرصة للقيام بذلك.	1	2	3	4	5
3	من الجدير عدم دفع الضرائب إذا كانت العقوبات منخفضة.	1	2	3	4	5
4	من الجدير عدم دفع الضرائب إذا كانت العقوبات مرتفعة.	1	2	3	4	5

القسم الثالث :

عدم الامتثال الضريبي

حدد رأيك حول عدم الامتثال الضريبي في اليمن من خلال الإجابة على الأسئلة التالية باستخدام مقياس من 1٪ إلى 100٪

1. كم نسبة من اليمنيين الذين لا يمتثلون لدفع الضرائب؟ _____ %
2. ماهي النسبة المقبولة لعدم الامتثال الضريبي في اليمن؟_____ %
3. ماهي نسبة عدم الامتثال الضريبي في اليمن؟_____ %

أنتهت الاسئلة

شكرا لكم على تعاونكم

APPENDIX C: SPSS OUTPUT

Descriptive

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CR1	264	1	5	3.52	1.170
CR2	264	1	5	3.40	1.188
CR3	264	1	5	3.60	1.182
CR4	264	1	5	3.50	1.140
CR5	264	1	5	3.69	1.094
RT1	264	1	5	3.83	.954
RT2	264	1	5	3.84	.978
RT3	264	1	5	3.85	.925
RT4	264	1	5	3.85	.885
RT5	264	1	5	3.77	1.019
PL1	264	1	5	3.93	.916
PL2	264	1	5	3.96	.916
PL3	264	1	5	3.78	1.020
PL4	264	1	5	3.81	1.013
TNC1	264	1	5	3.54	1.078
TNC2	264	1	5	3.34	1.149
TNC3	264	1	5	3.70	1.112
Income	264	1	5	3.79	1.005
Education	264	1	5	3.59	1.071
Valid N (listwise)	264				

Universiti Utara Malaysia

Descriptive Statistics(Overall)

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
P. of Corruption in G	264	4	1	5	3.5417	.05941
Tax Rate	264	4	1	5	3.8280	.04879
Penalty Rate	264	4	1	5	3.8703	.04877
Tax Non-compliance	264	4	1	5	3.5253	.05739
Income Level	264	4	1	5	3.79	.062
Education Level	264	4	1	5	3.59	.066
Valid N (listwise)	264					

Reliability

Perception of Corruption in the Government

Case Processing Summary

		N	%
Cases	Valid	264	100.0
	Excluded[a]	0	.0
	Total	264	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.892	5

Item Statistics

	Mean	Std. Deviation	N
CR1	3.52	1.170	264
CR2	3.40	1.188	264
CR3	3.60	1.182	264
CR4	3.50	1.140	264
CR5	3.69	1.094	264

Universiti Utara Malaysia

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CR1	14.19	15.173	.741	.867
CR2	14.31	14.997	.748	.865
CR3	14.11	14.916	.765	.862
CR4	14.21	15.778	.686	.879
CR5	14.02	15.695	.738	.868

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
17.71	23.295	4.826	5

Reliability

Tax Rate

Case Processing Summary

		N	%
Cases	Valid	264	100.0
	Excluded[a]	0	.0
	Total	264	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.889	5

Item Statistics

	Mean	Std. Deviation	N
TR1	3.83	.954	264
TR2	3.84	.978	264
TR3	3.85	.925	264
TR4	3.85	.885	264
TR5	3.77	1.019	264

Universiti Utara Malaysia

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TR1	15.31	10.367	.722	.866
TR2	15.30	9.838	.802	.847
TR3	15.29	10.038	.821	.844
TR4	15.29	10.686	.733	.864
TR5	15.37	10.744	.588	.898

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
19.14	15.710	3.964	5

Reliability

Penalty Rate

Case Processing Summary

		N	%
Cases	Valid	264	100.0
	Excluded[a]	0	.0
	Total	264	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.836	4

Item Statistics

	Mean	Std. Deviation	N
PR1	3.93	.916	264
PR2	3.96	.916	264
PR3	3.78	1.020	264
PR4	3.81	1.013	264

Universiti Utara Malaysia

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PR1	11.55	6.249	.646	.802
PR2	11.52	5.787	.776	.746
PR3	11.70	5.699	.678	.788
PR4	11.67	6.101	.583	.832

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.48	10.045	3.169	4

Reliability

Tax Non-compliance

Case Processing Summary

		N	%
Cases	Valid	264	100.0
	Excluded[a]	0	.0
	Total	264	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.787	3

Item Statistics

	Mean	Std. Deviation	N
TNC1	3.54	1.078	264
TNC2	3.34	1.149	264
TNC3	3.70	1.112	264

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TNC1	7.04	3.824	.674	.663
TNC2	7.24	4.205	.489	.859
TNC3	6.88	3.517	.737	.589

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.58	7.827	2.798	3

Universiti Utara Malaysia

Factor Analysis

Overall

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.880
Bartlett's Test of Sphericity	Approx. Chi-Square	2847.010
	df	136
	Sig.	.000

Communalities

	Initial	Extraction
CR1	1.000	.725
CR2	1.000	.746
CR3	1.000	.721
CR4	1.000	.668
CR5	1.000	.710
TR1	1.000	.753
TR2	1.000	.833
TR3	1.000	.806
TR4	1.000	.688
TR5	1.000	.559
PR1	1.000	.659
PR2	1.000	.804
PR3	1.000	.685
PR4	1.000	.625
TNC1	1.000	.694
TNC2	1.000	.668
TNC3	1.000	.757

Extraction Method: Principal Component Analysis.

Universiti Utara Malaysia

Rotated Component Matrix[a]

	Component			
	1	2	3	4
CR2	.832			
CR3	.788			
CR1	.781			
CR4	.764			
CR5	.711			
TR2		.881		
TR1		.841		
TR3		.831		
TR4		.762		
TR5		.631		
PR2			.842	
PR3			.769	
PR4			.736	
PR1			.720	
TNC2				.801
TNC3				.672
TNC1				.610

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 5 iterations.

Universiti Utara Malaysia

Factor Analysis

Perception of corruption in the government

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.818
Bartlett's Test of Sphericity	Approx. Chi-Square	789.671
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
CR1	1.000	.707
CR2	1.000	.711
CR3	1.000	.737
CR4	1.000	.635
CR5	1.000	.702

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.493	69.856	69.856	3.493	69.856	69.856
2	.644	12.889	82.745			
3	.397	7.939	90.683			
4	.249	4.974	95.657			
5	.217	4.343	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
CR3	.859
CR2	.843
CR1	.841
CR5	.838
CR4	.797

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Factor Analysis
Tax Rate

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.807
Bartlett's Test of Sphericity	Approx. Chi-Square	859.763
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
TR1	1.000	.692
TR2	1.000	.791
TR3	1.000	.806
TR4	1.000	.693
TR5	1.000	.513

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.495	69.906	69.906	3.495	69.906	69.906
2	.696	13.922	83.828			
3	.404	8.070	91.898			
4	.261	5.230	97.128			
5	.144	2.872	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
TR3	.898
TR2	.889
TR4	.833
TR1	.832
TR5	.716

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Factor Analysis
Penalty Rate

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.757
Bartlett's Test of Sphericity	Approx. Chi-Square	457.212
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
PR1	1.000	.663
PR2	1.000	.800
PR3	1.000	.680
PR4	1.000	.562

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.705	67.636	67.636	2.705	67.636	67.636
2	.637	15.921	83.557			
3	.416	10.398	93.955			
4	.242	6.045	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
PR2	.894
PR3	.825
PR1	.815
PR4	.750

Extraction Method: Principal Component Analysis. a. 1 components extracted.

Factor Analysis

Tax Non-compliance

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.631
Bartlett's Test of Sphericity	Approx. Chi-Square	294.049
	df	3
	Sig.	.000

Communalities

	Initial	Extraction
TNC1	1.000	.771
TNC2	1.000	.528
TNC3	1.000	.825

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.125	70.831	70.831	2.125	70.831	70.831
2	.634	21.149	91.981			
3	.241	8.019	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
TNC3	.908
TNC1	.878
TNC2	.727

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Universiti Utara Malaysia