

**Curtin Law School  
Department of Taxation**

**A Study of Tax Authority Information Assistance in  
Malaysia: Determinants of Its Usage and Impacts on Tax  
Compliance**

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**This thesis is presented for the degree of Doctor of Philosophy of Curtin University**

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## DECLARATION

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgement has been made. This thesis contains no material that has been accepted for the award of any other degree or diploma in any university.

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Date: 12 September 2016

## ABSTRACT

This study examines the use of tax authority information assistance among self-prepared taxpayers of Malaysia. Firstly, it identifies the characteristics of users. Next, it explores the elements conceptualised by Protection Motivation Theory (Rogers 1975; 1983) and Motive-Based Trust (Tyler 2001) in encouraging the use of information assistance. Following this, the significance of information assistance in relation to tax compliance is examined, and the taxpayers' trustworthiness perceptions of the tax authority are examined for their moderating effects on taxpayers' compliance. A mixed-methods approach was used in collecting data, which comprised a survey and interviews. A total of 446 useable questionnaires were collected from salaried and self-employed groups, while 14 taxpayers were interviewed. The survey data was subsequently analysed using SPSS version 21 while interviews were manually analysed.

The survey results suggest that the use of information assistance is significantly different between groups in terms of gender, location, opinions in the completion of return form, levels of qualification and occupational sectors. Additionally, taxpayers' perceptions of the probability of audit, monetary risk minimisation attitudes and self-efficacy were significantly associated with their use of information assistance. The survey findings also suggested that the use of information could only go as far as assisting taxpayers, administratively, and that taxpayers' agreement over the unacceptability of tax non-compliance was not supported. However, there is sufficient statistical evidence to support the view that favourable trustworthiness perceptions of the tax authority ease the unfavourable effect of tax non-compliance.

This study contributes to the paucity of literature on the subject of tax information assistance and in its use of different data collection methods. In terms of policy contributions, it acknowledges the importance of integrating threat and coping mechanisms in motivating the use of information assistance among self-lodgers. Despite the importance of providing information assistance, its limited role in ensuring taxpayers' reporting compliance, in a truthful sense, is recognised. Hence, efforts in promoting a favourable perception of the tax authority's trustworthiness should be emphasised.

# **SPECIAL DEDICATION**

## **Life's greatest blessings**

My husband: John Tensay Ak. Peter Raig

My daughter: Elyza Tensay

My sons: Isaac Tensay and David Tensay

## **With much love and respect**

My parents: Casimir Sikayu and Flora Mary Kintun

My parents-in-law: Peter Raig and Patricia Medid

## **A gift in memory of**

Our daughter: Mary Tensay

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## PRESENTATIONS

The following papers were presented at conferences relevant to this research:

Sikayu, S (2014). Understanding the Role of Threat and Coping Appraisals in Seeking Assistance from the Tax Authority. Paper presented at the 5<sup>th</sup> Queensland Tax Researchers' Symposium, Cairns, Queensland.

Sikayu, S (2015). Tax Authority Information Assistance and Tax Compliance: The Moderating Effect of Perceived Trustworthiness. Paper presented at the 27<sup>th</sup> Australasian Tax Teachers' Association (ATTA) Conference, Adelaide.

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## LIST OF ABBREVIATIONS

ATO	:	Australian Tax Office
AUS	:	Australia
EFA	:	Exploratory Factor Analysis
HMRC	:	Her Majesty's Revenue and Customs
IRAS	:	Internal Revenue Authority of Singapore
IRBM	:	Inland Revenue Board of Malaysia
ITA	:	<i>Income Tax Act 1967</i>
OAS	:	Official-Assessment System
OECD	:	Organisation for Economic Co-operation and Development
PR	:	Public Ruling
MYR	:	Malaysian Ringgit
NZ	:	New Zealand
SAS	:	Self-Assessment System
SPSS	:	Statistical Package for Social Sciences
TCMP	:	Taxpayer Compliance Measurement Program
UK	:	United Kingdom
US	:	United States of America

# CHAPTER ONE

## INTRODUCTION

### 1.1 Chapter Overview

This chapter provides an overview of the thesis. It begins by summarising the background of the study. Following this, the main problem that this study seeks to analyse is presented. The research objectives are then outlined and the approaches undertaken by this study are described. The remaining sections present the significance of the study and the definition of key terms, while the thesis outline concludes this chapter.

### 1.2 Background of the Study

Tax authority information assistance<sup>1</sup> is important for self-prepared taxpayers under any self-assessment system because taxpayers are expected to prepare and submit their tax returns, independently. Since 66% of the Malaysian individual taxpayers self-prepare their own tax returns,<sup>2</sup> cultivating the responsibility to seek assistance is important, in order to address unintentional non-compliance. Broadly, this study addresses several issues pertaining to the use of tax authority information assistance. In particular, this study seeks to understand 1) the characteristics of the users of information assistance; 2) the elements associated with the use of information assistance; 3) the association between the use of information assistance and taxpayers' compliance; and 4) the moderating effect of trustworthiness perception of the tax authority on taxpayers' compliance.

Over the last four decades, tax compliance has remained a subject of prominent interest among tax researchers (see, for example, Allingham and Sandmo 1972; Slemrod, Blumenthal and Christian 2001; Feld and Frey 2005; Hasseldine et al. 2007; Appelgren 2008; Alm et al. 2010; Kirchler and Wahl 2010). While the issue of non-compliance is not new (Andreoni, Erard and Feinstein 1998, 818), it still attracts considerable attention due to the ongoing challenge of deterring errant tax evaders, persuading negligent taxpayers to comply and maintaining continuous cooperation among submissive taxpayers (Birskyte 2008, 87). The issue of tax non-compliance is not isolated to one country; rather, it affects almost every country, particularly

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<sup>1</sup> Definition is provided in Section 1.7.1.

<sup>2</sup> Inland Revenue Board of Malaysia (2010, 34-38)

when voluntary compliance is being considered. Therefore, the study of tax compliance is pivotal to assess the effectiveness of the existing approach and to continuously find ways in gaining cooperation from the taxpayers.

Consistent with the traditional credo that individuals are both rational and opportunistic (Von Neumann and Morgenstern 1947), this same belief has predominantly been applied in understanding the behaviour of taxpayers (Allingham and Sandmo 1972), as early as in 1972. This approach, namely, the economic deterrent approach had been employed based on presumptions that taxpayers are opportunistic, in general, and are compelled to comply because enforcement mechanisms are used (Allingham and Sandmo 1972, 324). The traditional belief was subsequently challenged by Levi (1988) and Alm, Sanchez, and De Juan (1995, 5) on the grounds that the compliance rate was already high, despite the unlikelihood of getting caught.<sup>3</sup> This argument was probably the turning point in acknowledging the need to move beyond the conventional economic approach. Furthermore, it has been argued that strategies based solely on deterrence suffer major pitfalls and do not necessarily result in improved compliance (Hite 1997; Hasseldine et al. 2007, 173). By contrast however, Slemrod, Blumenthal, and Christian (2001, 456) cautioned that individuals may not comply voluntarily in the absence of any threat, hence the incorporation of threats when designing a tax structure is still relevant.

Over the years, the call for a more holistic approach in addressing taxpayers' non-compliance has been supported. This is evidenced by a growing consensus about integrating threats, services and psychological drivers into compliance strategies (see, for example, Kirchler, Hoelzl and Wahl 2008; Alm and Torgler 2011; Gangl et al. 2012). Similarly, several revenue bodies have emphasised an integrated approach into their compliance strategies.<sup>4</sup> In view of the fact that public spending in most countries is highly dependent upon revenue collected, voluntary compliance is crucial to secure a desired amount (Loo, Evans and McKerchar 2010, 102; Chung and Trivedi 2003, 133). In this regard, a change in paradigm that acknowledges the importance of service orientation in gaining such cooperation has been welcomed by most countries (Braithwaite 2003b; Kirchler, Hoelzl and Wahl 2008; Alm et al. 2010; Alm and Torgler 2011; Gangl et al. 2012). Specifically, quality educational

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<sup>3</sup> In the US, annual audits represent about 1% or less of total returns received (Hanefah 2007, 26).

<sup>4</sup> See, for example, the Australian Tax Office, the Internal Revenue Authority of Singapore and the Inland Revenue Board of Malaysia.

initiatives have been developed and adopted to educate and assist taxpayers in their tax compliance decisions (Palil 2010, 131; Loo, McKerchar and Hansford 2009, 181). Since a positive attitude towards taxpaying is believed to exist in most taxpayers (Braithwaite 2003b, 2007), tax authority information assistance is, plausibly, a pivotal catalyst in assisting and guiding those who feel obliged to comply (Alm et al. 2010, 578).

Interest in the subject of tax authority information assistance was first inspired by the current knowledge gap in regard to taxpayers' help-seeking behaviour or why certain taxpayers are drawn to use tax authority information assistance. Understanding this issue is imperative because it helps to support policy-makers in structuring strategies that will instil a sense of responsibility within taxpayers to use information assistance. Moreover, the quandary over unintentional non-compliance (Scotchmer 1989a; OECD 2004; Ho et al. 2006, 14; Loo, Evans and McKerchar 2010, 106) as a combined result of frequent changes in tax law (Edmiston, Mudd and Valev 2003, 6), tax complexity (Richardson 2006, 6; McKerchar 2007; Hanefah 2007; Evans and Tran-Nam 2013), and functional tax illiteracy (Kamaluddin and Madi 2005; Abdul-Latiff et al. 2005) further accentuates the need to reconsider the role of tax authorities in encouraging help-seeking behaviour, particularly among self-lodgers.<sup>5</sup>

The motivation to seek help is supported by the Protection Motivation Theory (Rogers 1975, 1983). Rogers (1975, 1983) theorised that, when fear is communicated, individuals' adoption of preventive behaviour will be motivated by their assessments of the threat and related coping mechanisms. Hence, the present study has postulated that the self-lodgers' decisions whether or not to use information assistance will be governed by their assessments of the threat and the coping mechanisms initiated by the tax authority. Evidently, the literature in the field of psychology has documented trust as an important element in maintaining positive attitudes towards seeking help (see, for example, Rickwood and Braithwaite 1994, 564; Barwick, de Man and McKelvie 2009, 335; Koydemir et al. 2010, 280-283). This is further reinforced by the view that uncertain individuals commonly choose to trust others when seeking solutions (Mayer, Davis and Schoorman 1995; Sniezek and Van Swol 2001). Since this is not well understood in the field of taxation, an individual's assessment of the perceived trustworthiness of the tax authority is

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<sup>5</sup> Self-lodgers, or commonly known as self-prepared taxpayers are taxpayers, who self-assess their own tax liabilities. A detailed discussion is provided in Section 4.3.2.1.

integrated with appraisals of threat and coping as antecedents for the use of tax authority information assistance.

Secondly, debates over whether or not a taxpayer's compliance is enhanced by being informed and knowledgeable on tax matters have been highlighted in several studies (see, for example, Tan and Chin-Fatt 2000; Kasipillai, Aripin and Amran 2003; Mottiakavandar, Hasnah and Ang 2003; Devos 2009; Alm et al. 2010). A powerful notion of Lewis's (1982, 71) provides "... when myths and misperceptions are replaced by knowledge, we expect a change in attitude towards taxation even if the subjects' basic ideology and values remain unchanged and the tax law is unchanged". Lewis (1982, 71) asserted that information is requisite in reducing misapprehension towards a tax system. However, findings in support of this concept have been mixed. Several findings have suggested that being informed and knowledgeable about a tax system supports taxpayers' compliance (Kasipillai, Aripin and Amran 2003; Alm et al. 2010) while others have documented insignificant results (see, for example, Jackson and Jaouen 1989; Antonides and Robben 1995; Tan and Chin-Fatt 2000; Mottiakavandar, Hasnah and Ang 2003; Devos 2009, 20).

Although there have been relatively few studies focusing on tax authority information assistance, some important work has been conducted that provides a direction for further investigation. For instance, the findings of Alm et al. (2010, 584) suggest that the provision of information assistance does have a positive and significant impact on the tendency to file a tax return. Additionally, they observed a significant reporting compliance for those who chose to file a return. These results contradicted an earlier opinion, highlighted by LeBaube and Vehorn (1992, 327). They asserted that, while taxpayer service assistance can be extremely effective in reducing the taxpayers' ignorance and confusion, it may do little in reducing tax non-compliance. The later opinion highlights the need for the tax authority to move beyond a conventional provider of information assistance.

This study also explores taxpayers' perceptions of the trustworthiness of the tax authority, as a condition that affects tax compliance. While previous studies have supported the views that trust enhances individuals' intended tax compliance (see, for example, Murphy 2004b; Murphy and Tyler 2008; Van Dijke and Verboon 2010; Gangl et al. 2012; Kogler et al. 2013, 176), the conditional effect of perceived trustworthiness on the relationship between the use of information assistance and tax compliance has remained unexplored. Hence, in examining this relationship, the

motive-based trust concept (Tyler 2001, 367) was used as a guide. It postulates that, by behaving in desirable ways that promote good faith, cooperation is a likely outcome. Incidentally, Bergman (2003) and Baurer (2005, 15) claimed that the type of treatment received by taxpayers is important in shaping their impressions of the tax authority. As such, Kirchler, Hoelzl, and Wahl (2008, 217) recommended improvements in areas of taxpayer literacy and services provided as pre-conditions for tax compliance.

### **1.3 Statement of Problem**

While various measures have been mobilised in assisting the taxpayer community with their tax compliance obligations,<sup>6</sup> there appears to be a lack of evidence to substantiate the use of information assistance and its impact on tax compliance, particularly in Malaysia. Even though an improved taxpayer service is believed to improve voluntary compliance (Dohrmann and Pinshaw 2009, 29; Alm et al. 2010, 578), the significant cost incurred by the tax authorities will be wasteful if that cost is not justified by usage of information services. Furthermore, the ongoing concern over unintentional non-compliance and over-compliance (OECD 2007, 42; Hanefah 2007, 29; Kamleitner, Korunka and Kirchler 2012, 332) suggests that the role of the tax authority in cultivating help-seeking within its client base should be revisited. Hence, the study is being carried out, examines this gap in the literature by focussing on the use of tax authority information assistance. Broadly, it attempts to determine the background characteristics of the users, to explore factors associated with its usage, and to ascertain its association with taxpayers' willingness to comply.

#### **1.3.1 Help-Seeking Among Self-Prepared Taxpayers**

Seeking assistance from tax professionals has dominated the help-seeking studies in the field of taxation (see, for example, Jackson and Milliron 1989; Klepper and Nagin 1989; Christian, Gupta and Lin 1993; Hite and Hasseldine 2003; Fleischman and Stephenson 2012). The lack of literature that examines the characteristics of the users of tax authority information assistance suggests that little attention has been rendered to this area. Firstly, gaining an understanding of this issue is crucial in comprehending which taxpayers are drawn to use information assistance, and in helping the tax authority to align the provision of its information assistance with

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<sup>6</sup> Please refer to Chapter 2, Section 2.3.5, for a detailed explanation of measures mobilised by the Inland Revenue Board of Malaysia.

those taxpayers' characteristics. Secondly, presently there exists little knowledge about the role of a tax authority in fostering help-seeking behaviour among self-prepared taxpayers. Specifically, the presence of threat, provision of an enabling environment, and perceived trustworthiness of the tax authority as antecedents for help-seeking behaviour have rarely been explored. This study remains significant for a self-assessment system because failure to instil a sense of responsibility for help-seeking will affect the execution of tax obligations during times of uncertainty. Most critically, failure to understand the elements that help to nurture the individual's help-seeking behaviour by way of usage of information assistance may contribute to the on-going dilemma of unintentional non-compliance.

### **1.3.2 Tax Compliance Variables**

While the role of tax practitioners in facilitating taxpayers' compliance has been well documented (see, for example, Long and Caudill 1987; Bloomquist 2008; Wirth 1994; McKerchar 2005), the association between tax authority information assistance and tax compliance has received little attention in the literature in this area, with the exception of Alm et al. (2010) and Bruch, Cico, and Mehmood (2011). Although the work of Alm et al. (2010) has underpinned the importance of taxpayer information assistance in resolving tax uncertainty, a limitation remains in its use of undergraduates<sup>7</sup> as subjects of the study, which fails to consider the wider attitudes of actual taxpaying individuals, including their perceptions and possible discontentment with the tax system.

The present study employs a mixed methods approach, which integrates a survey and interviews, and utilises actual taxpaying individuals as its participants. This study remains significant for two important reasons. Firstly, individual taxpayers comprise 88.39% of the total Malaysian taxpayers and, secondly, approximately 66% of these individual taxpayers self-prepare their own tax returns.<sup>8</sup> Hence, this study is fundamental because the tax compliance studies of Malaysia to date have not addressed the role of information assistance in facilitating tax compliance.

The social gap between the tax authority and taxpayers has long been highlighted by scholars (see, for example, Slemrod, Blumenthal and Christian 2001; Braithwaite 2003a; Devos 2004; Kirchler, Hoelzl and Wahl 2008; Alm, Jackson and McKee

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<sup>7</sup> Their subjects of study were confined to undergraduates and staff of a public university in the US.

<sup>8</sup> Inland Revenue Board of Malaysia (2010, 34-38)

2009). In such circumstances, failure to build and maintain trust impedes the quest to encourage voluntary compliance, making the long term goals of the tax authority difficult to accomplish. While trust has garnered the attention of researchers (Murphy 2004b; Murphy and Tyler 2008; Kirchler, Hoelzl and Wahl 2008; Van Dijke and Verboon 2010; Gangl et al. 2012), its conditional effect on the 'information assistance and tax compliance' relationship has remained rarely explored, evidenced by the paucity of literature in scholarly works. Hence, the present study remains significant because it explores the conditional effect of perceived trustworthiness of the tax authority on tax compliance.

#### **1.4 Research Objectives**

This study seeks to understand the role of a tax authority in conveying the responsibility to use tax authority information assistance and, consequently, its association with individuals' willingness to comply. The first objective seeks to examine the main characteristics of the users of tax authority information assistance. The second objective explores the relationships among threat appraisals, coping appraisals and perceived trustworthiness in association with the use of tax authority information assistance. The third objective examines the relationship between the use of tax authority information assistance and the taxpayers' willingness to comply. The final objective explores the moderating effect of 'perceived trustworthiness of the tax authority' on the relationship between information usage and taxpayers' compliance. These objectives are addressed using the following questions.

- RQ1      What are the background characteristics of the users of tax authority information assistance?
- RQ2      Are the threat appraisals, coping appraisals and perceptions of the trustworthiness of the tax authority significantly associated with the individual taxpayers' usage of tax information assistance?
- RQ3      Is the use of tax information assistance significantly associated with the taxpayers' willingness to comply?
- RQ4      Do the taxpayers' levels of perceived trustworthiness of the tax authority moderate the relationship between the use of tax information assistance and the taxpayers' willingness to comply?

## **1.5 Research Approach**

The subjects of the study are individual taxpayers who independently assess their tax liabilities and file their own tax returns. This includes salaried and small business taxpayers from the Eastern and Western parts of Malaysia. An explanatory sequential mixed methods design will be adopted which commences with a survey phase and is followed by interviews. A mixed-mode method, by way of postal delivery, personal drop-off and referral networks, will be employed for the questionnaire distribution, while telephone will be used as the medium for interviews. The survey data will be analysed using the Statistical Package for the Social Sciences (SPSS) version 21. This will include performing the t-test, one-way ANOVA, Pearson Correlation, and regression analysis.<sup>9</sup> The interview data will be manually analysed using an approach recommended by Creswell (2012, 237), which includes transcribing, obtaining a general sense of the material, coding of data and collapsing codes into themes.

## **1.6 Significance of the Study**

The outcome of the present study will contribute new knowledge in a number of ways. In particular, the findings offer contributions of theoretical and practical significance that are discussed next.

### **1.6.1 Theoretical Contributions**

The findings of this study offer several theoretical contributions. Firstly, the study will contribute to the body of knowledge by exploring the relevance of threat appraisals, coping appraisals and perceived trustworthiness in motivating the use of information assistance. In this way, it helps narrow down the research gap by identifying the specific elements of threat, coping and trustworthiness perception found to be associated with instilling the responsibility for help-seeking among self-lodgers. Additionally, the findings will help to distinguish the individual characteristics of the users of information assistance.

Secondly, while information assistance has been studied for its impact on tax compliance (see, for example, Alm et al. 2010; Vossler, McKee and Jones 2011),

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<sup>9</sup> Discussion on the rationality and appropriateness of each method will be provided in Chapter 4.

the findings of this study may differ due to the different taxpaying cultures, perceptions and acceptances of the tax system among Malaysian taxpayers. In comparison with the study by Alm et al. (2010), the present study examines reporting compliance from the aspect of willingness to report, instead of accuracy of reporting. In addition, the present study proceeds a step further by exploring the moderating effect of perceived trustworthiness on the 'information assistance and tax compliance' relationship, which, to the best of the researcher's knowledge, has not been documented in any published articles to date.

The third theoretical contribution of the study rests in the application of a mixed methods approach and the use of actual taxpaying individuals as the subjects of the study. In comparison with the laboratory experiments undertaken by Alm et al. (2010) and Vossler, McKee, and Jones (2011), the present study integrates interviews and a survey method, allowing the capture of participants' beliefs, perceptions and discontentment over the tax system of Malaysia. Hence, the combination of qualitative and quantitative approaches helps to determine whether similar conclusions can be drawn to those derived by the laboratory experiments. Additionally, the strength of this study rests on the use of individual taxpayers from both salaried and small business groups, as opposed to the undergraduates and staff of a public university undertaken in the previous studies in this field.<sup>10</sup> Since the use of undergraduates as subjects may not truly reflect the taxpaying attitudes possessed by the wider taxpaying community, the validity of such a study is debateable.

Finally, the application of the Protection Motivation Theory (Rogers 1973; 1985) (PMT) in this study allows contributions to that theory in two ways. Firstly, a comprehensive review of the published journals suggested that this study was probably the first in the area of taxation to adapt PMT in examining the use of tax authority information assistance. Secondly, the study contributes to this theory by integrating perceived trustworthiness with threat and coping appraisals in exploring the motivation to use information assistance.

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<sup>10</sup> Alm et al. (2010) and Vossler, McKee, and Jones (2011)

## 1.6.2 Practical Contributions

The overall findings of this study may help policy-makers of Malaysia in developing a holistic approach to address the issues of non-compliance. Firstly, the study explores the various roles which the tax authority could fulfil in fostering help-seeking behaviour among Malaysian self-lodgers. A holistic approach that integrates the elements of threat, coping and trust in encouraging the use of tax authority information assistance may benefit the tax authority in addressing the issue of unintentional non-compliance.

Secondly, the study draws critical attention to the recognition of internal coping appraisals in encouraging the use of tax authority information assistance. The outcome of this study may help tax authorities in revisiting the effectiveness of their existing coping strategies. Investment in coping mechanisms can be exhaustive because consideration has to be given to both internal and external factors. The findings from this study will help to narrow down the coping assessments that are significantly related to the use of information assistance. As such, this will allow the tax authority to focus its investment on the most appropriate strategy required to achieve a functional and desirable coping mechanism.

Thirdly, this study on the use of tax authority information assistance serves as valuable input for tax authorities in managing the dissemination of information, and in strengthening information change and knowledge management to ensure a smooth flow of services. Additionally, the outcome of this study will help to re-evaluate the role of the tax authority as the gatekeeper of information in providing reliable, up-to-date and readable information for those who wish to comply.

Fourthly, the study emphasises the role of perceived trustworthiness in easing the effects of non-compliance. This study helps to accentuate the importance of building and maintaining trust in bridging the gap between the tax authority and the taxpayer community. The main contribution of this study is the identification of perceived trustworthiness items which can be addressed by a tax authority within both traditional and non-traditional environments.<sup>11</sup>

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<sup>11</sup> In a traditional environment, the social interaction between the tax authority and taxpayers is possible due to direct interaction, such as face-to-face interviews or telephone calls. On the other hand, within the non-traditional or modern environment, social interactions between the two are difficult, if not impossible, to achieve when the taxpayers rely on the use of internet-mediated or written references as the sources for obtaining information assistance.

## **1.7 Delineation of Key Terms**

This section offers a brief description of the key terms used in the study. Specifically, it covers the descriptions of tax authority information assistance, usage of tax authority information assistance, tax compliance, threat appraisals, coping appraisals and perceived trustworthiness.

### **1.7.1 Tax Authority Information Assistance**

Tax authority information assistance can be loosely defined as the agency-based information assistance provided to educate, support and help the taxpayers in their compliance decisions (Baurer 2005, 7). Alternatively, it is commonly known as the taxpayer information assistance or taxpayer service (Alm et al. 2010). The term 'tax authority information assistance' is preferred in this study because it distinctly signifies the source of assistance, being, the tax authority. The types of information assistance provided in regard to tax compliance decisions include information about registration, filing, reporting and tax payment matters as well as communication of knowledge for educational purposes (OECD 2004, 7; Baurer 2005, 7). Since information assistance covers a broad range of services, the scope for this study was narrowed to include only general tax information, and the explanations and guidelines covering adherence to administrative and reporting compliance.

### **1.7.2 Usage of Tax Authority Information Assistance**

The use of tax authority information assistance serves as a proxy for the help-seeking behaviour of taxpayers. The use of information assistance was appropriately categorised to differentiate the individuals' problem tasks such as: (1) determining taxable income; (2) resolving eligibility of deductions; (3) the general completion of a tax return form; (4) password matters; (5) tax payment matters; (6) tax lodgement matters; and (7) assistance in obtaining tax forms.

### **1.7.3 Tax Compliance**

Tax compliance can be referred to as the extent to which a taxpayer meets the four categories of tax obligations, namely registration in the tax system, timely filing or lodgement of income tax returns, reporting of complete and accurate information, and payment of tax on time (OECD 2004, 7). Alternatively, Roth, Scholz, and Witte

(1989, 21) defined tax compliance to mean “ ... that the taxpayer files all required tax returns at the proper time and that the returns accurately report tax liability in accordance with the Internal Revenue Code, regulations, and court decisions applicable at the time the return is filed”. Since tax compliance cannot be accurately measured using a survey method, tax researchers (see, for example, Abdul-Jabbar and Pope 2008b; Palil 2010; Saad 2011; Gangl et al. 2012; Mohdali 2013) have tended to rely on the respondents’ agreements with the tax compliance statements. In this study, the individuals’ willingness to comply was assessed based on their agreement with several tax compliance statements (see, in Yankelovich, Skelly and White Inc. 1984, 26-27; Roth, Scholz and Witte 1989, 21; OECD 2004, 7), which served as a proxy for taxpayers’ compliance.

#### **1.7.4 Threat Appraisals**

Threat appraisal encompasses the assessment of threat elements that influence the likelihood of adopting protective behaviour (Neuwirth, Dunwoody and Griffin 2000, 722). In the context of this study, it refers to the evaluation of the severity of threat and the likelihood of threat occurrence in association with the adoption of tax authority information assistance. The severity of threat can be understood as the perceived anxiety about undergoing a tax audit and receiving a tax penalty. Conversely, the likelihood of an event occurrence can be comprehended as the perceived probability of being audited and detected for non-compliance.

#### **1.7.5 Coping Appraisals**

Coping appraisal can be referred to as the assessment of the efficacy of a coping mechanism and the self-efficacy expectancy when a protective behaviour is undertaken (Neuwirth, Dunwoody and Griffin 2000, 723). Applied in the present study, the efficacy of a coping mechanism can be understood as the effectiveness of the tax authority information assistance in assisting the taxpayers’ compliance decisions and the perceived benefit in minimising monetary risk. On the other hand, self-efficacy expectancy refers to the individual’s ability to successfully initiate and complete the adaptive behaviour (Neuwirth, Dunwoody and Griffin 2000, 723). In the context of this study, self-efficacy expectancy refers to one’s ability to use and obtain the tax information assistance for tax reporting.

### **1.7.6 Perceived Trustworthiness**

Perceived trustworthiness refers to the individuals' trustworthiness perceptions of the tax authority. In this regard, the individuals will be more likely to cooperate if they believe that the tax authority's provision of assistance is driven by its concern to help them meet their tax obligations, consistent with the motive-based trust concept pioneered by Tyler (2001). In reference to this study, the perceived trustworthiness of the tax authority involves: (1) the revelation of genuine concern in helping taxpayers; (2) possessing knowledge to help taxpayers; (3) acting in the best interests of taxpayers; (4) making decisions based on law; and (5) being respectful of the taxpayers' needs.

### **1.8 Thesis Outline**

The thesis is organised into nine chapters. Chapter 1 provides an overview of the thesis. It presents the background of the study, statements of the problem, research objectives and approach, discussion of the significance of the study, definitions of key terms and an outline of the organisation of chapters. Chapter 2 undertakes the literature review in respect of the Malaysian tax system, the available tax authority information assistance, and tax compliance studies. Chapter 3 presents the operational and hypothesis development for the study. This chapter highlights the theoretical considerations, outlines the operational development and presents the final research hypotheses. Chapter 4 describes the research methodology and design of the study. It is organised under two main sections, namely, the survey and interview phases. Under each phase, the procedures observed during instrument development, data distribution and collection, and data analysis are discussed. Chapter 5 presents the analysis of responses, descriptive analyses and a preliminary analysis of the survey study, while the inferential analysis of the survey study is presented in Chapter 6. The analysis and discussion of the interview findings are offered in Chapter 7, which serves to complement the survey findings. Chapter 8 summarises and integrates the overall results of the survey and interview studies. Thereafter, comparisons of the current findings with those of previous studies or existing literature are made, and recommendations for policy considerations are offered accordingly. Chapter 9 concludes the study by providing a summary. It recognises the theoretical and practical contributions of the study, offers future directions for research and acknowledges the limitations of the study.

## **CHAPTER 2 LITERATURE REVIEW**

### **2.1 Chapter Overview**

A review of literature is essential to acquire a strong understanding of a research topic, and to establish the current knowledge gaps in a study. This chapter presents the relevant literature pertaining to the research topic and questions. The flow of this chapter is organised as follows. It begins with a discussion of the Malaysian tax system, and the challenges faced by taxpayers and the tax authority under the self-assessment system (SAS). Next, literature focusing on tax authority information assistance is presented, emphasising its relevance and evolution within Malaysia. Following this, studies pertaining to an individual's help-seeking behaviour and tax compliance issues are discussed, before concluding with the chapter summary.

### **2.2 The Malaysian Tax System**

The Income Tax Ordinance in Malaysia is based on the *Haeman's Report* and was first introduced into the Federation of Malaya by the British, in 1947 (Singh 1999, 138). It was subsequently replaced by the *Income Tax Act 1967* (ITA 1967), which took effect on Jan 1, 1968. Up until the present, the ITA 1967 remains the main guide for direct taxes in Malaysia.

#### **2.2.1 Official Assessment System (OAS)**

The official assessment system (OAS) was the tax assessment system used prior to the self-assessment system in Malaysia. It is a traditional assessment system, whereby the responsibility of assessing income tax rests with the tax authority (Hanefah 2007, 7). The taxpayer's statutory duty is to ensure that all sources of income are declared and that necessary documents are submitted to support his or her claims for relevant reliefs, rebates and deductions. The taxpayers are subsequently notified of the amount due through issuance of a notice of assessment, and are then required to pay within 30 days from the date of notice,

failing which a 10% penalty shall be imposed under section 103.<sup>12</sup> In 2004, the OAS was completely replaced by the self-assessment system (SAS).

The OAS had been criticised for its high administrative costs and delays in assessment process (Loo, Evans and McKerchar 2010, 102), high dependency on taxpayers and weak enforcement due to a shortage of qualified staff (Shanmugam 2003), unsatisfactory filing rate and low compliance level (see, for example, Kasipillai et al. 1999; Mottiakavandar, Hasnah and Ang 2003; Shanmugam 2003; Kamaluddin and Madi 2005). A compilation of several Malaysian studies<sup>13</sup> by Ho et al. (2006, 9), revealed that the compliance level of individual taxpayers under the OAS was considered to be unsatisfactory, evidenced by a non-compliance rate ranging from 25% to 30%.

### **2.2.2 Self-Assessment System (SAS)**

The self-assessment system (SAS) is an assessment system where taxpayers are required by law to ascertain their own taxable income, assess their tax liability and submit their tax returns in accordance with the existing tax law and policy statements issued by the tax authorities (Kasipillai 2005, 25). Taxpayers are also responsible for the settlement of outstanding tax upon the filing of their tax returns. Additionally, they need to ensure observation of proper record-keeping of the supporting documentation relating to chargeable income, claims for reliefs, rebates and deductions for the following six years (Kasipillai 2005, 25). The SAS was implemented in stages, beginning with companies in the year 2001, followed by sole proprietorship businesses, partners and co-operatives in 2003, and concluding with the salaried group in 2004.

The SAS was implemented with several objectives. However, its main objective was to modernise and coordinate the tax administration system (Inland Revenue Board of Malaysia 2001, 90). An earlier literature by Barr, James, and Prest (1977) asserted that a SAS eliminates the need to issue a large volume of assessments, reduces bureaucracy and paperwork. As such, numerous Malaysian scholars believed that the IRBM will benefit from the new system. Among others, it was acknowledged that the SAS eases the burden of the IRBM (Saad, Mansor and Ibrahim 2003, n.a) and that it minimises the administrative costs of IRBM (Hanefah

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<sup>12</sup> *Income Tax Act 1967*

<sup>13</sup> Sheikh-Obid (1996), Kasipillai et al. (1999), and Mottiakavandar, Hasnah, and Ang (2003).

2007, 10). This enables the tax authority to focus on the deployment of resources in its monitoring and enforcement efforts (Singh and Bhupalan 2001; Somasundram 2003). Additionally, the SAS helped to facilitate and speed up revenue collection (Inland Revenue Board of Malaysia 2004; Hanefah 2007, 29) while simultaneously reducing tax arrears (Singh and Bhupalan 2001; Shanmugam 2003; Hanefah 2007). Most importantly, since taxpayers are compelled to understand the tax rules and regulations, it is presumed that voluntary compliance is enhanced (Singh and Bhupalan 2001; Inland Revenue Board of Malaysia 2003, 124; Hanefah 2007, 29; Lai and Choong 2009, 2).

The implementation of the SAS means that the taxpayers and the tax authority are now confronted with distinctive roles. Specifically, the SAS recognised the new statutory duty of taxpayers in relation to income tax, and highlighted the changing role of the tax authority, which included educating and assisting the taxpayers, and checking and verifying tax returns prepared by taxpayers, in addition to collecting taxes. Although criticisms and setbacks were encountered during its early implementation,<sup>14</sup> Lai and Choong (2009, 2) emphasised that such reforms were necessary in encouraging voluntary tax compliance. The following sections discuss the challenges faced under the new regime, from the perspectives of taxpayers and the tax authority, and the significance of tax authority information assistance.

### **2.2.3 Challenges for Self-Prepared Taxpayers under the SAS**

Since the introduction of the SAS, concerns have mainly focused on the capability of the self-lodgers to discharge their new responsibilities. For example, there has been apprehension over the taxpayers' knowledge capacity (see, for example, Madi and Kamaluddin 2003; Kamaluddin and Madi 2005; Loo and Ho 2005; Palil 2010), their inability to cope with tax complexities (see, for example, Hanefah 2007; Saad 2011), uncertainties in tax law (see, for example, Kasipillai et al. 1999; Kamaluddin and Madi 2005; Ho et al. 2006; Palil 2010) and compliance costs (see, for example, Hanefah, Ariff and Kasipillai 2001; Mansor, Saad and Ibrahim 2004; Hanefah 2007). These challenges are discussed in more detail below.

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<sup>14</sup> Please refer to Sections 2.2.3 and 2.2.4.

### 2.2.3.1 Tax Knowledge

Tax knowledge is important under the SAS, mainly because the statutory tax responsibility now lies with taxpayers (Kasipillai et al. 1999; Palil 2005; Kamaluddin and Madi 2005). Therefore, self-prepared taxpayers are expected to understand, interpret and apply the law correctly, when assessing their income tax liabilities (Mansor, Saad and Ibrahim 2004; Kasipillai 2005, 24). In doing so, they must possess the knowledge, confidence and capability to compute their tax liabilities, and to file their tax returns, independently (Borjayai 1992; Razman and Ariffin 2000; Loo, McKerchar and Hansford 2009, 181; Palil 2010, 146). In particular, Madi and Kamaluddin (2003) accentuated the importance of possessing the capability to understand tax jargon and absorb basic tax knowledge applicable to all items included in the tax return forms.

A tax literacy survey conducted by Kamaluddin and Madi (2005, 81) in East Malaysia revealed that more than 86% of salaried taxpayers did not possess a high understanding of tax knowledge, which implied that individual taxpayers lacked required knowledge on specific areas of tax and would require assistance in computing their tax liabilities. At the same time, a vast majority of 90% and above were knowledgeable in terms of their basic tax responsibilities,<sup>15</sup> what constituted offences and the penalties applicable (Kamaluddin and Madi 2005, 83). In contrast, a survey study conducted in West Malaysia by Loo and Ho (2005) highlighted the lack of competency to file appropriate tax returns among white collar employees, evidenced by their poor knowledge in areas such as chargeability of income, reliefs other than personal relief, rebates and options for joint assessments. Other findings by Loo and Ho (2005) and Palil (2010, 304) revealed that even educated individuals did not possess the necessary tax knowledge for tax reporting. These findings emphasise the significance of tax authority information assistance in assisting these individuals.

Similarly, literature among the global studies has accentuated several problems associated with a lack of tax knowledge. For instance, individuals tended to view tax as a burden rather than as a fiscal benefit (Lewis 1982, 71) and they were found to be less compliant (Devos 2009, 22). It was suggested that lack of tax knowledge often results in unintentional non-compliance (Loo, Evans and McKerchar 2010,

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<sup>15</sup> Basic responsibilities included the responsibility to: 1) complete taxpayer's tax return form; 2) provide tax-related information; and 3) inform the change of address.

106). Hence, tax knowledge is indispensable because it also imparts awareness of the consequences of tax non-compliance (Niemiowski, Baldwin and Wearing 2003, 154; Kamleitner, Korunka and Kirchler 2012, 337).

While the personal income tax system in Malaysia is not as complicated as it is in other developed countries,<sup>16</sup> tax information assistance is pertinent in enhancing tax knowledge. The fact that individual taxpayers self-assess their own tax liabilities places them at the risk of becoming functionally tax illiterate<sup>17</sup> due to repeated changes in tax law, and changes in their own family dynamics and income status. As a result, their eligibility for deductions and taxability of income may evolve over time. Due to the fact that individual taxpayers represent the largest group of taxpayers (88%) in Malaysia, and that approximately 66% individual taxpayers self-prepare their own tax returns (Inland Revenue Board of Malaysia 2010, 34-38), tax authority information assistance plays a significant role in supplementing their tax knowledge.

### **2.2.3.2 Tax Complexity**

Tax complexity is a universal issue (see, for example, Krause 2000; Forest and Sheffrin 2002; Hanefah 2007; McKerchar 2007; Evans and Tran-Nam 2013). It affects not only the tax authorities and tax practitioners, but also the self-lodgers (Ho et al. 2006, 14). Tax complexity covers several facets (Evans and Tran-Nam 2013, 3), and the fact that perceptions of complexity vary between individuals makes it even more difficult to measure or define (Davies, Carpenter and Iverson 2001, 5-7).<sup>18</sup> Perhaps, one of the clearest descriptions of tax complexity is that provided by McCaffery (1990). McCaffery (1990, 1270-1272) broadly categorised tax complexity into: 1) technical complexity, where ascertaining the meaning of legislation was less than straight-forward; 2) structure complexity, that is, poor structuring of provision and inconsistent interaction among different provisions; and 3) compliance

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<sup>16</sup> For instance, it was reported that approximately over 75% of personal taxpayers and 92% of businesses in Australia relied on the help of tax agents (McKerchar, Ingraham and Karlinsky 2005, 298).

<sup>17</sup> Functional tax illiteracy can be defined as a situation where a person's basic tax knowledge becomes out-of-date and, hence, one is unable to independently determine his or her income tax liability (Borjayai 1992).

<sup>18</sup> A survey conducted by Davies, Carpenter, and Iverson (2001, 5-7) revealed that tax professionals and tax educators have different perceptions of what might define tax complexity. Tax practitioners (40.39%) choose the number of laws and regulations as the method of defining tax complexity, while tax educators choose the likelihood of significant preparer confusion (27.90%) and the need to consult a tax professional (22.10%) as the preferred methods of defining tax complexity.

complexity, which includes the excessive burdens of record keeping, tax form completion and other compliance activities placed on the taxpayer.

The American Institute of Certified Public Accountants (1992) have distinctly categorised the sources of complexity as internally and externally based, whereby the internal factors deal with those within the immediate tax system. For instance, Long and Swingen (1987) claimed that tax complexity is the outcome of ambiguity, difficult computations, frequent law changes, excessive details, record-keeping and confusing forms. External factors, by contrast, are the result of business complexity and legislative processes. In this regard, Richardson and Sawyer (2001) claimed that tax complexity is the outcome of the sophistication in tax law. The internal factors, which are within the immediate tax system, such as those highlighted by Long and Swingen (1987), have raised concern predominantly because they inhibits taxpayers' execution of their statutory tax obligations, a detriment to voluntary compliance (see, for example, McKerchar 2003; Langham, Paulsen and Hartel 2012). Langham, Paulsen, and Hartel (2012, 366) argued that ordinary people may find it difficult to comprehend law because it is written with the pre-assumption that individuals are knowledgeable, experienced and have the confidence to translate the information.

A survey in Malaysia by Saad (2011, 233) reported that individual taxpayers still viewed the content of documents and relevant tax law of the income tax system as complicated. In particular, Saad (2011, 233) reported that content complexity was the most prevalent problem among respondents of Peninsular Malaysia, when compared to technical and compliance complexity.<sup>19</sup> Another Malaysian survey conducted by Hanefah (2007, 53-56) revealed that all the complexity elements highlighted by Long and Swingen (1987) existed within Malaysian tax law, with record-keeping identified as the strongest element, followed by excessive detail and ambiguity. Hanefah (2007, 53) further revealed that, although the self-employment sector was positively correlated with tax complexity, even salaried taxpayers perceived the format and instructions of tax returns to be complex, particularly among the younger, inexperienced and lower occupational groups. Accordingly, Ho et al. (2006, 14) cautioned that self-lodgers are at a disadvantage because complexities inhibit them from making legitimate claims due to their fear of being

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<sup>19</sup> Compliance complexity is concerned with the process of keeping records, filing tax return forms and making tax payments, content complexity relates to the complexity of the documents and relevant tax law while technical complexity relates to knowledge on taxability of income and eligibility of deduction (Saad 2010).

penalised for unintentional mistakes. Similarly, Loo (2006a) asserted that tax complexities that are a result of frequent changes in tax law impose a burden on taxpayers due to the need to constantly re-assess this impact on tax reporting.

Global studies suggest that the perception and magnitude of complexity varies among categories of taxpayers, and even between individuals (see, for example, McCaffery 1990; Gale 1999; Davies, Carpenter and Iverson 2001; Forest and Sheffrin 2002; McKerchar 2007). The literature also largely suggests that complexity in tax law is undesirable because it impedes the taxpayers' understanding of tax law (Edmiston, Mudd and Valev 2003, 6) and is perceived as being inequitable (see, for example, Carroll 1987; Cialdini 1989; Kirchler, Niemirowski and Wearing 2006). Not surprisingly, a cross-country study by Richardson (2006, 151) identified tax complexity as the main reason for non-compliance among 45 countries. Several studies also have supported the link between tax complexity and tax compliance (see, for example, Milliron 1985; Roth, Scholz and Witte 1989; Collins, Milliron and Toy 1992; Smith 1992; McKerchar 2003; Cox and Eger III 2006), although other studies did not find any link (see, for example, Clotfelter 1983; Yankelovich, Skelly and White Inc. 1984). However, the absence of a standard dimension in assessing complexity may have contributed to the inconsistency of findings, as argued by Evans and Tran-Nam (2013, 7).

Despite the calls for tax simplification (see, for example, Carnes and Cuccia 1996, 40; McKerchar 2007, 201), this proposition has attracted mixed remarks because tax simplification is considered too costly and requires time to materialise (see, for example, Evans and Tran-Nam 2001, 16; James 2007, 7).<sup>20</sup> Hence, tax authority information assistance plays a pivotal role in assisting the self-prepared taxpayers. This statement was further supported by an earlier finding in Malaysia, by Kasipillai et al. (1999), which reported that a vast majority of Malaysian individuals expressed their preference for receiving information assistance from the tax authority, citing ambiguity and frequent changes in tax law as the main reasons for their need to be assisted.

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<sup>20</sup> Furthermore, scholars argued that certain degree of complexity is necessary to minimise the exploitation of tax law so that a fair administration of tax law is possible (Gale 1999, n.a; James 2007, 7) and to measure income accurately (Kaplow 1996, 143).

### 2.2.3.3 Compliance Costs

Compliance costs can be understood as the costs incurred by taxpayers or businesses in conforming with tax requirements (Sandford, Godwin and Hardwick 1989, 10-12; Abdul-Jabbar and Pope 2008b, 2; Kasipillai and Sapiei 2014a, 390). Sandford (1995) recognised this to be an excess burden of taxation, hence the name 'the hidden cost of taxation' (see, also, Tran-Nam et al. 2000, 229). Compliance costs can be broadly categorised into three groups, namely, time costs, other monetary costs and psychological costs (Sandford 1995; Pope, Fayle and Chen 1994, 3; Evans and Tran-Nam 2001, 3; Kasipillai and Sapiei 2014b, 6). In the case of an individual taxpayer, time costs consist of the time taken to complete the tax returns and to collect and prepare the necessary data, while monetary costs include payments to a tax adviser or tax professional, transportation costs incurred when visiting the tax office, and other general expenses such as telephone, books, equipment and software (see, for example, in the works of Tran-Nam et al. 2000, 236; Lopes, de Basto and Martins 2012, 152; Kasipillai and Sapiei 2014b, 6-7). Psychological costs, by contrast, include anxiety, stress and frustration, which the taxpayers or advisors may experience when dealing with complex tax legislation (see, for example, in the works of Diaz and Delgado 1995; Woellner et al. 2001, 2007; Lopes, de Basto and Martins 2012, 152; Kasipillai and Sapiei 2014b, 6-7).

A study on compliance costs among Malaysian individual taxpayers, by Sapiei and Abdullah (2008), revealed that the average time spent in meeting tax obligations was excessively high, at 70 hours, with time mostly devoted to record-keeping. The latest survey conducted by Ibrahim (2014, 524) revealed that taxpayers using e-filing spend an average of 9.84 hours in meeting their tax obligations, while those utilising manual filing required 13.24 hours. The former study by Sapiei and Abdullah (2008) was conducted approximately 3 years after the implementation of the SAS, while data from the later study by Ibrahim (2014) was collected 6 years after the tax reform, which could explain the huge difference in time spent. Substantial time required for record-keeping remained the most often mentioned item among individual filers in Malaysia (Hanefah 2007, 25; Sapiei and Abdullah 2008), consistent with several findings from other countries.<sup>21</sup> Hanefah (2007, 25) believed that the individuals' low levels of numeracy and literacy may have contributed to the increased compliance costs among individual Malaysian taxpayers. Another study

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<sup>21</sup> See, for example, Slemrod and Sorum (1984); Blumenthal and Slemrod (1992); Pope (1993) and Lopes, de Basto, and Martins (2012, 156).

by Abdul-Jabbar and Pope (2008a) found compliance costs to be highest for small business groups within Malaysia., consistent with findings from other countries.<sup>22</sup>

Literature from global studies also largely suggests increased complexity in the tax system as being the major contributor towards compliance costs (see, for example, Pope 1993; McKerchar 2007, 193; Slemrod 2007). Not surprisingly, complexity is often cited as the key reason for hiring a tax preparer (see, for example, Slemrod and Sorum 1984; Long and Caudill 1987; Hite, Stock and Cloyd 1992; Christian, Gupta and Lin 1993; Ashley and Segal 1997). Additionally, findings have remained relatively consistent, whereby compliance costs were found to be highest for small business groups (see, for example, Joumard 2002; Chittenden, Kauser and Poutziouris 2005; Lopes and Martins 2013, 159) and regressive in nature (Evans 2008, 457).

Under the SAS, taxpayers are expected to incur temporary start-up and learning costs for tax reporting (Sandford, Godwin and Hardwick 1989), which can be minimised once the system is well established and remains simpler (Pope 1992, 11-12). However, in developing countries, such as Malaysia, Sapiei and Abdullah (2008, 228) cautioned that efforts to minimise compliance costs largely rest on taxpayers because the priorities of tax authorities are focused on compliance programs and improving the tax system. Accordingly, recurrent changes in tax law impose burdens on self-lodgers because a substantial amount of time is needed to meet their tax obligations (see, for example, Sapiei and Abdullah 2008; Ibrahim 2014). Therefore, the role of information assistance in assisting taxpayers is pivotal in addressing high compliance costs.

#### **2.2.4 Challenges for the Tax Authority under the SAS**

The implementation of the SAS has benefited the tax authority in various ways.<sup>23</sup> Despite its benefits, the tax authority is faced with an enormous challenge in educating the public, addressing the attitude of taxpayers and managing administrative costs. These issues are discussed below.

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<sup>22</sup> See, for example, Joumard (2002) and Chittenden, Kauser, and Poutziouris (2005)

<sup>23</sup> Please refer to Section 2.2.2.

#### **2.2.4.1 Educating the Public**

A study in Malaysia suggested that the tax knowledge of individuals who had attended a tax course was significantly different from those who did not attend a course (Palil 2010, 297) and that tax knowledge is consistent with a positive attitude towards tax (Kasipillai, Aripin and Amran 2003; Loo, McKerchar and Hansford 2009, 189; Palil 2010, 364). While the tax authority has the best of intentions to educate the public, other taxpayers may not necessarily share the same vision (Kasipillai, Aripin and Amran 2003), which makes tax education even more challenging. Since it is difficult to ensure that all individual taxpayers possess the necessary tax knowledge, deliberate and unintentional mistakes are inevitable, leading to a decline in the quality of tax administration (Cheung et al. 1995) and erosion of equity within the tax system (Loo and Ho 2005; Hanefah 2007, 24). Accordingly, Abdul-Latiff et al. (2005, 9) cautioned that conflicts may arise among misinformed taxpayers, making cooperation even more difficult to attain.

Similarly, global studies have found increased tax knowledge to be consistent with an improved attitude towards tax (see, for example Song and Yarbrough 1978; Roberts, Hite and Bradley 1994; Eriksen and Fallan 1996). However, efforts to educate the public can be arduous, due to the varying capabilities of individuals to comprehend tax law (Lopes and Martins 2013), the complexity of return forms (Braithwaite and Ahmed 2005) and frequent changes in tax law (Chinttenden, Kauser and Poutziouris 2003). Not surprisingly, many taxpayers prefer the assistance of a paid preparer in preparing their return forms (Jackson and Jaouen 1989; Christian, Gupta and Lin 1993; McKerchar 2005; Fleischman and Stephenson 2012).

More than a decade after the implementation of the SAS, challenges in educating Malaysian self-lodgers have progressed to a different level that is, instilling an on-going responsibility upon the taxpayers for their own education. The reason for this is that self-lodgers can no longer expect the IRBM to provide a conventional step-by-step assistance, as was the case during the early implementation of the SAS. Hence, it is expected that taxpayers have the responsibility to educate themselves or to seek help in times of uncertainty, by making use of the various coping mechanisms provided by the tax authority.<sup>24</sup> The question that remains is whether

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<sup>24</sup> Please refer to Section 2.3.3 for detailed discussion.

the current mechanisms undertaken by the IRBM are capable of fostering help-seeking behaviour (through usage of information assistance) among self-lodgers. Having a clear understanding of this conundrum is critical because it may help, in part, to untangle the issue of unintentional non-compliance and functional tax illiteracy among current and future self-lodgers.

#### **2.2.4.2 Attitudes towards Paying Tax**

While researchers of Malaysia have emphasised that comprehension of the tax system is associated with taxpayers' attitudes towards paying tax (see, for example, Loo 2006b; Ahmad, Mohd Hanefah and Mohd-Noor 2007; Loo, McKerchar and Hansford 2009, 181; Palil 2010), the task of ensuring obedience and on-going compliance remains a challenge. This is because, under the SAS, taxpayers' returns are no longer subjected to the tax authority's detailed scrutiny (Loo 2006a), which further heightens concerns over taxpayers' ethics. Hence, the tax authority is faced with yet another challenge in terms of distinguishing between return forms that demonstrate intentional non-compliance and tax avoidance, and those that exhibit honest misinterpretation (Ho et al. 2006, 14).

Similarly, global studies also have highlighted taxpayers' attitudes towards paying tax as being complex because they are influenced by other factors that include, among others, the personality traits of individuals (Antonides and Robben 1995, 624), culture (Chan, Troutman and O'Bryan 2000, 98), educational background (Antonides and Robben 1995; Chan, Troutman and O'Bryan 2000), comprehension of tax (Eriksen and Fallan 1996; Niemiowski, Baldwin and Wearing 2003; Devos 2009), different values held by individuals (Song and Yarbrough 1978; Eriksen and Fallan 1996; Kaplan, Newberry and Reckers 1997), dislike of taxation in general (Hammar, Jagers and Nordblom 2008, 540) and higher opportunity to evade (OECD 2004; Webley 2004; Kirchler, Niemiowski and Wearing 2006; Lederman 2010; Kamleitner, Korunka and Kirchler 2012, 335).

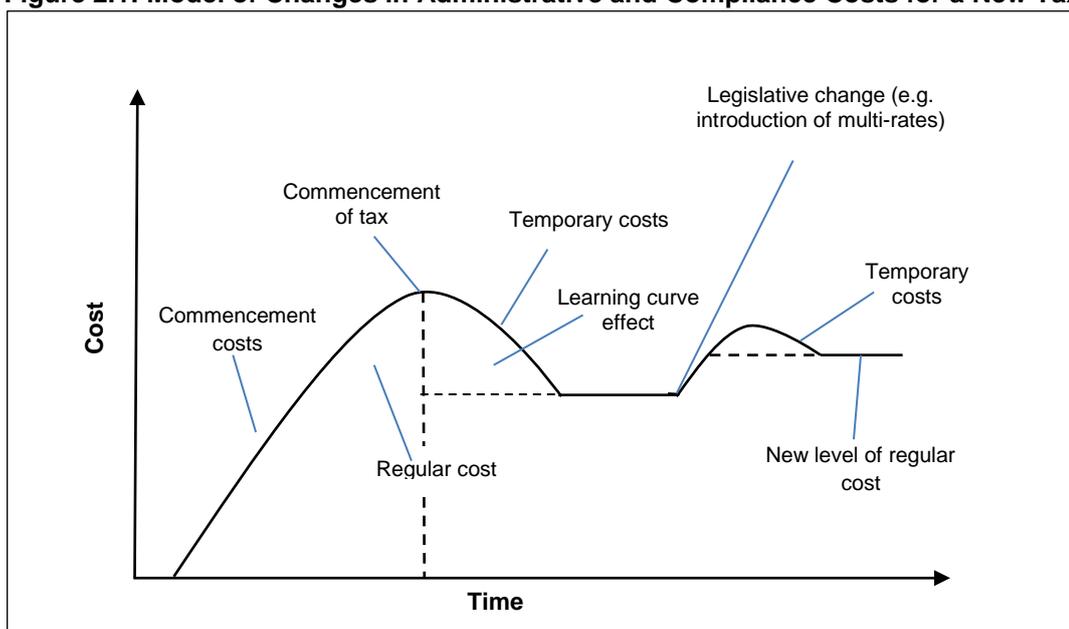
While there is a limit to what the tax authority can do in addressing undesirable taxpaying attitudes, Hite (1997) emphasised that the tax authority should focus on helping obedient taxpayers, rather than wasting valuable and scarce resources in pursuing the minority tax offenders. Given that most taxpayers are committed in their natures (Braithwaite 2003a, 23), help in the form of information assistance from the tax authority offers a promising resolution for promoting voluntary compliance.

### 2.2.4.3 Administrative Costs

Administrative costs consist of the costs incurred in running and maintaining the revenue agencies, legislative enactment relating to the tax system and judicial costs in administering tax disputes (Evans and Tran-Nam 2001, 4). They are broadly categorised into commencement costs, temporary costs and recurrent or regular costs (Sandford, Godwin and Hardwick 1989, 6-18). Commencement and temporary costs are incurred when a new change is made to the existing tax system, whereby Evans and Tran-Nam (2001, 5) further clarified this as the transitional costs, including the costs of designing, drafting and enacting legislation, the costs of preparing, producing and distributing information, training staff, updating software and modifying income tax databases, and the juridical costs of dispute resolution, if any, related to the implementation phase.

Figure 2.1 illustrates the model of changes in the operating costs that was developed by Sandford, Godwin, and Hardwick (1989). When a new tax system is introduced, for instance, the implementation of the SAS, the tax authority will incur temporary start-up and learning costs of getting the new tax system into operation. However, these costs will not be totally eliminated later because administration costs will still exist in areas such as the production, provision and distribution of information due to repeated changes in tax law, the on-going training of staff and the monitoring of tax collection.

**Figure 2.1: Model of Changes in Administrative and Compliance Costs for a New Tax**



Source: Sandford et al. (1989)

In order to develop a sound tax system, Smith (1776)<sup>25</sup> emphasised the need for efficiency in tax administration. The canon of efficiency, one of the four main components of a good tax system, accentuated that tax collection should be easy to administer and that there should be economy in collecting tax. In regard to the latter, Lymer and Oats (2009, 55) emphasised that administrative costs should be kept minimal in order to attain a desirable economic efficiency. However, it has been argued that a substantial investment is required in replacing a well-established system (Barr, James and Prest 1977; Cheung et al. 1995), as in the case of replacing the OAS with SAS. Additionally, repetitive training of personnel, updating of information, and the provision of guidance and assistance to taxpayers are unavoidable due to frequent changes in tax law. Hanefah (2007, 22) also pointed out that the existing assessment officers need to be retrained in the area of tax audit if a new system is to be successful. In this regard, Hasseldine et al. (2007, 173) asserted that auditing taxpayers may not always be cost-effective because the cost of monitoring taxpayers may exceed the tax revenue collected, disregarding the canon of economic efficiency accentuated by Smith (1776).

Although some costs will be tolerated once the SAS is in full operation, it is unlikely that the costs of maintaining and disseminating information, assisting taxpayers and monitoring them can be eliminated. Given the limited resources of the tax authority, it is pertinent that these incurred costs are justified by individuals' usage of information assistance, that are likely to benefit taxpayers in meeting their tax obligations. This is because, it has been highlighted that an efficient but ineffective program is a waste of public funds, and that the spending of public money must be justified by achievement in one or more of the compliance obligations.<sup>26</sup> Hence, it is important to identify the characteristics of taxpayers who are likely to be users of information assistance, so that it can be better tailored for the intended frequent users and to identify areas in need of improvement to enable better compliance.

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<sup>25</sup> 'The Wealth of Nation' was published by Adam Smith in 1776. He suggested four basic principles of a tax system, namely: equity, certainty, convenience and efficiency.

<sup>26</sup> The Treasury Board of Canada (2005)

## **2.3 Tax Authority Information Assistance**

Since the implementation of the SAS, the IRBM has acknowledged its commitment in assisting the taxpayer community (Inland Revenue Board of Malaysia 2004, 45). This is evidenced by the various efforts mobilised in making it easier for the taxpayers to comply, which has included the provision of information assistance (Inland Revenue Board of Malaysia 2004, 41-51). This section presents the definition and forms of tax authority information assistance, the rationale for its use, and the evolution of its service channels in Malaysia.

### **2.3.1 Introduction**

The statement by Dubin et al. (1992, 78), that the need for information and services was cited as one of the motives for seeking assistance, reinforces the importance of tax authority information assistance for self-lodgers under the SAS. The tax authority's information assistance is an agency-based service, which is sometimes known as taxpayer information assistance, taxpayer service or taxpayer assistance (see, in Alm et al. 2010).

While the review of literature and anecdotal evidence offered no standard definition of tax authority information assistance, its similarities are apparent across countries in terms of its uniform function to educate, support and help the taxpayers in their compliance decisions. In general, tax authority information assistance covers a broad range of assistance in relation to registration, education, filing and payment requirements, and other general concerns on tax law (OECD 2004, 7; Baurer 2005, 7). A summary of the activities provided is presented in Table 2.1. However, although it covers a broad range of assistance, the focus for this study is directed towards the use of information assistance in helping taxpayers fulfil their tax obligations. Activities in relation to registration, assigning a unique taxpayer identification number, maintaining and updating the taxpayer register, and responding to the status of taxpayers' accounts will not be covered in this study.

**Table 2.1: A Summary of Activities for Taxpayer Assistance**

- Providing tax returns, instructions, and informational publications
- Developing informational and educational publications
- Conducting seminars on changes to tax laws and procedures
- Developing press release, press conferences and conducting media relations activities to communicate tax administration messages to the general public
- Monitoring subjects of queries to determine the need for additional educational materials for taxpayers
- Developing and maintaining the content of tax admin website
- Registering taxpayers
- Assigning unique taxpayer identification number
- Maintaining and updating taxpayer register
- Contact point for taxpayers who visit, or write (including internet) to the tax administration
- Responding to general inquiries regarding registration, filing and payment requirements and basic tax law, as well as the status of a taxpayer's account,
- Ensuring that the taxpayer is routed to other areas as appropriate.

Source: Baurer (2005, 7)

Although various services are provided by the IRBM, these services are not categorised, and hence, made it difficult to differentiate the main and the supporting functions. Therefore, the service categories inspired by the ATO are chosen as the benchmark in this study, given the fact that there is no published description of a similar kind in Malaysia and, most importantly, due to its striking resemblance with the services provided under the Malaysian tax system. Table 2.2 illustrates the three categories of services namely; interaction, information and transaction, and their respective functions. While the range of services within each service category may differ between countries, it is understood that 'transaction service' provides the main function, while 'information and interaction services' serve as the support provider of 'transaction services' (OECD 2007, 21).

**Table 2.2: Service Categories of the Regulatory Agencies**

Service Category	Example of Services	Function
Transaction	<ul style="list-style-type: none"><li>• Filing of Tax Return</li><li>• Payment and Refund</li></ul>	Main
Information	<ul style="list-style-type: none"><li>• Education</li><li>• Publication (paper and web)</li><li>• Campaigns</li><li>• Mass distribution of different types of information</li><li>• Instructions</li></ul>	Support 'Transaction Service'
Interaction	<ul style="list-style-type: none"><li>• Enquiry</li><li>• Audit</li><li>• Guidance</li><li>• Debt Collection</li></ul>	Support 'Transaction Service'

Source: OECD (2007, 22)

### **2.3.2 Rationale for Tax Authority Information Assistance**

Tax authority information assistance has been introduced for various reasons, which include the need to support taxpayers' obligations (Abdul 2001; Holland and Rasey 2007; Dohrmann and Pinshaw 2009), to create awareness and knowledge (Isa 2012; Kamleitner, Korunka and Kirchler 2012), to build trust (Tyler 2001; Gangl et al. 2012) and to minimise costs (Inland Revenue Board of Malaysia 2004). These are further discussed below.

#### **2.3.2.1 Supports of Tax Obligations**

Due to the nature of reporting under the SAS,<sup>27</sup> the statutory tax responsibilities of individual taxpayers have entered a new phase, whereby they are expected to be competent in discharging their duties (Kasipillai 2005, 24). As such, it is pertinent that self-lodgers have the ability and confidence to carry out their tax obligations, as emphasised by several Malaysian scholars (see, for example, Borjayai 1992; Razman and Ariffin 2000; Abdul 2001; Kamaluddin and Madi 2005; Palil and Mustapha 2011). In this regard, the IRBM believes that a better understanding of tax laws and regulations can be achieved through the provision of information assistance, which then helps to ensure proper record keeping, accounts preparation, completion of tax returns and computation of taxable income (Inland Revenue Board of Malaysia 2001, 106; 2003, 124). These understandings are supported by the findings of Loo, McKerchar, and Hansford (2009, 185).

Similarly, several global studies have underscored the importance of information assistance in supporting taxpayers in their tax obligations. For example, Alm et al. (2010, 585) found that the mere provision of information assistance, which resolved tax uncertainties, actually increased reporting compliance. This finding further reinforced the understanding that expert assistance provides confidence in the completion of tax returns (Noga and Arnold 2002, 126), consistent with the findings of Witte and Woodbury (1985). In terms of tax return accuracy, it was found that assisted individuals make fewer errors than unassisted individuals (Holland and Rasey 2007, 240), although no significant differences were evident between those who received and did not receive assistance services.

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<sup>27</sup> Please refer to Section 2.2.2.

### **2.3.2.2 Creation of Awareness in Tax Matters**

The provision of information assistance is aimed not only at guiding and educating self-lodgers in regard to their statutory tax obligations, but also at enhancing taxpayers' awareness of taxation (Isa 2012, 75), the consequences of non-compliance, their rights as taxpayers and their duties as citizens (Inland Revenue Board of Malaysia 2001, 106). Kamaluddin and Nero (2005, 83) noted a marginally smaller percentage (less than 10%) of surveyed Malaysian individuals as being unaware of the implementation of penal codes for offences, suggesting the success of the tax authority in keeping the public informed of the penalties for non-compliance. Despite this, another Malaysian study revealed that awareness of tax matters among future taxpayers are considered to be low (see, for example, Halim et al. 2015). Halim et al. (2015, 118) documented a low level of basic tax knowledge among surveyed respondents with no taxation background.

It has been claimed that awareness alters the decision maker's state of knowledge, (Yovits and Foulk 1985, 64). Hence, when a clear 'instructive program' is available, taxpayers' awareness of their compliance requirements is enhanced (LeBaube and Vehorn 1992, 237). Global studies have suggested that individuals with a poor understanding of tax penalties were found to be less compliant (see, for example, Devos 2009, 22) while knowledgeable individuals favoured the tax system and regarded tax evasion as unacceptable (see, for example, Eriksen and Fallan 1996, 397). These findings supported an earlier statement made by Vogel (1974, 512), affirming information as being indispensable in forming a strong comprehension of the need for laws and regulations, along with the benefits supported by tax. Hence, tax knowledge, channelled from information assistance, remains vital in implementing awareness of the consequences of tax non-compliance (Niemiowski, Baldwin and Wearing 2003, 154; Kamleitner, Korunka and Kirchler 2012).

### **2.3.2.3 Improvement of Trust in Tax Authorities**

Under the SAS, the tax authority is indirectly compelled to place its confidence in the taxpayers of being honest in their tax reporting. Consequently, the implementation of the SAS in Malaysia accentuated the beginning of an effort to regard the taxpayers as being trustworthy, since they were expected to read, understand and apply the law accordingly. Equally challenging is the complementary issue of building their trust towards the tax authority.

At the time when this study was conducted, literature on trust in the tax authority remained limited in Malaysia. However, the IRBM has emphasised the tax authority's efforts in building trust through the provision of approachable, supportive and satisfying services (Inland Revenue Board of Malaysia 2005, 122). Similarly, Loo, McKerchar, and Hansford (2009, 185) have underlined the significance of taxpayers' confidence in the tax system because it serves as one of the basic aspects affecting taxpayers' compliance decisions.

In developed countries, the social gap between the tax authority and taxpayers often has been highlighted (see, for example, Kornhauser 2007; McKerchar 2007; Dijke and Verboon 2010; Gangl, Hofmann and Kirchler 2015), and lack of trust has been blamed as one of its contributing factors (Tyler 2001; Dijke and Verboon 2010). Notably, gaining and maintaining trust is difficult to attain in an environment where one functions as the contributor of tax, and the other is the collector of tax and enforcer of tax law. For instance, McKerchar (2007, 193) noted the reluctance of taxpayers to seek assistance from the Australian Taxation Office (ATO) due to lack of confidence in the ability of ATO staff and apprehension about being noticeable to the tax office.

Studies in other countries have found that taxpayer service is favourably associated with trust. For instance, taxpayer assistance was reported as having an effect on trust among the individual taxpayers in Belgium (Eichfelder and Kegels 2014). Similarly, a study by Gangl et al. (2012, 12) in the Netherlands, found that a service-oriented approach is positively related with the taxpayers' assessments of the tax authority's trustworthiness. They further noted that "... service orientation is not only seen as the possibility to facilitate cooperation from citizens but also as a chance to increase trust and confidence..." (Gangl et al. 2012, 12). Since revenue bodies have preferred the migration of their service channels from a direct to an indirect assistance,<sup>28</sup> it is pivotal that taxpayers have confidence in the tax system (OECD 2007, 23). In particular, trust in the tax authority is necessary because, when services provided by the authority are executed in good faith, taxpayers are then able to regard the tax authority as trustworthy (Tyler 2001, 367).

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<sup>28</sup> The medium for delivery services includes face-to-face contact, provisions of phone inquiry, written correspondence and provisions of written and internet mediated references (OECD 2007, 7; IRBM Annual Report, 2002 – 2012). In short, the interaction with the tax authority can be broadly categorised under direct interaction (in this case, face-to-face and phone inquiry) and indirect interaction (in this case, written correspondences through mails or emails, and the provision of written and internet mediated references).

#### **2.3.2.4 Reduction in Costs**

Recurrent changes in tax laws are unavoidable, which may hurt taxpayers. In response, they may report tax in approximation (Alm et al. 2010, 585) or they may over-report, as in the case of risk-neutral taxpayers who fear costly penalties (Scotchmer 1989b). An Malaysian study conducted by Loo (2006a, 178) revealed that individual taxpayers were less willing to spend money on tax agents and preferred to handle their own tax affairs. However, the presumption that self-prepared taxpayers remain functionally tax literate over time is an overstatement, and had to be resolved. Therefore, the provision of tax-related information that is delivered through dialogue sessions, seminars, briefings, websites and printed guidelines, in the forms of books, public rulings, leaflets and explanatory notes, may benefit individual taxpayers in terms of reducing their compliance costs (Inland Revenue Board of Malaysia 2004, 18).

#### **2.3.3 Evolution in Malaysia**

Although Malaysia has lagged behind in its implementation of the SAS compared to other ASIAN counterparts,<sup>29</sup> one positive aspect of this is that Malaysia has the comfort of learning lessons from the best and being spared the heavy burden of ineffective measures. The implementation of the SAS signified that the IRBM's focus has since shifted from being an assessor of income tax to that of an enforcer and facilitator. Over the last decade, awareness and knowledge of taxation have been channelled to taxpayers via customer service, tax education and tax-based expansion programs. Figure 2.2 presents the evolution, in various sources of information assistance, since the first implementation of the SAS among corporate taxpayers in 2002. Evidently, appropriate measures in creating awareness and disseminating information have been put in place, suggesting the preparedness of the IRBM for the new tax system. Additionally, in an effort to better inform and to provide the best service for taxpayers, improvements are notable in several areas consistent with both service demands, and the evolution of technology and social media.

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<sup>29</sup> Self-assessment systems were introduced in Sri Lanka, Pakistan and Indonesia in 1972, 1979 and 1984, respectively (Jaidi, Noordin and Kassim 2013, 57).

**Figure 2.2: Evolution in Channels of Information Assistance in Malaysia**

PROGRAMS	YEAR											
	02	03	04	05	06	07	08	09	10	11	12	13
<b>CUSTOMER SERVICE:</b>												
1) Customer Service Centre	•	•	•	•	•	•	•	•	•	•	•	•
2) One Stop Centre	•	•	•	•	•	•	•	•	•	•	•	•
3) Golden Lounge	•											
4) Call Out Centre			•	•	•	•	•	•	•	•	•	•
5) Revenue Service Centre			•	•	•	•	•	•	•	•	•	•
6) Information Counters/ Expos			•	•	•	•	•	•	•	•	•	•
7) Taxpayer Service Month				•	•	•	•	•	•	•	•	•
8) SMS facilities							•	•	•	•	•	•
<b>TAXPAYER EDUCATION:</b>												
1) Briefings, workshops, seminars	•	•	•	•	•	•	•	•	•	•	•	•
2) TV/ Radio/ Newspapers	•	•	•	•	•	•	•	•	•	•	•	•
3) Online Tax Information	•	•	•	•	•	•	•	•	•	•	•	•
4) IRBM Publication	•	•	•	•	•	•	•	•	•	•	•	•
5) Business Support Service			•	•	•	•	•	•	•	•	•	•
6) Taxpayer Relation Officer (TRO)							•	•	•	•	•	•
7) 24 hours paid Infoline							•	•	•	•	•	•
8) Official Blog									•	•		
9) Video TV HASIL									•	•		
10) Facebook and Twitters											•	•
<b>TAX BASE EXPANSION:</b>												
1) Business Censuses	•	•	•	•	•	•	•	•	•	•	•	•

Source: IRBM Annual Report (2002 – 2012)

In line with the IRBM's quality policy<sup>30</sup> since 2002, information assistance has been provided via customer service centres, one stop centres, golden lounges, media announcements, official websites, IRBM publications, briefings, workshops, seminars and business censuses. Ideally, these avenues have remained in use until today, with the exception of the 'Golden Lounge'. Perhaps, the IRBM was quick to realise that the 'Golden Lounge' was regarded as being inappropriate due to its misleading approach of entertaining exclusive or wealthy taxpayers, and this has since been aptly converted into a taxpayers' discussion room.

In 2004, the SAS was introduced among non-corporate taxpayers with a reassuring service motto "To provide friendly, helpful, satisfying service" as its backdrop. A greater emphasis was placed on educating self-lodgers to independently report, calculate and pay the appropriate amount of tax. This was made evident by the introduction of several measures such as the call out centres, revenue service centre, information counters during exhibitions and expos, and business support or

<sup>30</sup> The quality policy reads "We are committed to providing service quality professionally to our clients. We shall ensure that our officers and staff work towards excellence. Based on these principles and guided by the pledge of the Lembaga Hasil Dalam Negeri (IRBM), we shall make quality service our way of life" (Inland Revenue Board of Malaysia 2002, 92).

small traders' support services. In an effort to prepare the public for yet another major tax reform,<sup>31</sup> taxpayer service month was introduced in 2005 and extensive outreach activities were conducted, which observed a sharp increase in visitors by 106% (Inland Revenue Board of Malaysia 2005, 160).

When e-filing was finally introduced in 2006, it was supported with a 'pop-up' feature that provided tax information for easy guidance. In 2008, e-filing was extended to non-residents, partnerships and employers. Additional facilities were introduced to obtain tax information, including SMS facilities and a 24 hour paid IRBM Infoline that is operated seven days a week, equipped with 30 lines (Inland Revenue Board of Malaysia 2008, 35).<sup>32</sup> Additionally, 'Taxpayer Relations Officers' have been appointed from various government departments and private companies in an effort to help disseminate tax information.<sup>33</sup>

In line with its National Strategic Planning 2009-2013, the IRBM rebranded its corporate values in 2009, which further highlighted the commitment to enhance the quality of its service. The IRBM continued to upgrade its electronic and online services, assuring the best service was echoed in its service motto 'The Best Service for You'. In 2010, interactive web services were introduced and in-house videos consisting of tax information were displayed at the site counters. In addition, the manner of informing taxpayers continued to evolve, consistent with the advancements in technology and social media. For instance, the use of Facebook and Twitter as means of reaching the taxpayer communities and disseminating information were introduced in 2012. Table 2.3 presents the main channels of information assistance, with their corresponding functions.

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<sup>31</sup> E-Filing was introduced in February 2006 to facilitate the submission of return forms electronically (Inland Revenue Board of Malaysia 2009, 46).

<sup>32</sup> As at 2013, over 600 pieces of tax information prepared bilingually (Bahasa Malaysia and English), were available in audio format (Inland Revenue Board of Malaysia 2013, 46).

<sup>33</sup> In 2012, approximately 2,250 Taxpayer Relation Officers had been appointed and trained by the IRBM (Inland Revenue Board of Malaysia 2012, 45).

**Table 2.3: Channels of Information Assistance and their Corresponding Functions**

No	Channel	Functions
1	Online Tax Information	<ul style="list-style-type: none"> <li>• Enables easy access to basic tax information, current affairs and schedules of various service programs</li> <li>• Provide hyperlinks to tax law</li> <li>• Provide interactive web service incorporating complain system</li> </ul>
2	Customer Service Centre	<ul style="list-style-type: none"> <li>• Entertain tax related enquiries by telephone (toll-free hotline), fax and emails.</li> <li>• Provide specific service to explain process and procedures of SAS</li> </ul>
3	One Stop Centre (Under Customer Service Unit)	<ul style="list-style-type: none"> <li>• Allows taxpayers resolve variety of tax issues at single location, realising the concept of 'one service, one delivery, one call'</li> </ul>
4	Talk, Briefings, Workshops and Seminar	<ul style="list-style-type: none"> <li>• To improve tax awareness and enhance voluntary compliance among taxpayers</li> <li>• To ensure effective dissemination of tax information by designing appropriate modules catered for different categories of taxpayers</li> </ul>
5	Media Announcement and Publicity	<ul style="list-style-type: none"> <li>• To increase the public awareness on tax education and enforcement activities carried out by IRBM</li> <li>• Disseminate the latest tax information to the public</li> <li>• Disseminate information on submission deadline of tax return and off-site services provided by the IRBM</li> </ul>
6	IRBM Publications	<ul style="list-style-type: none"> <li>• The Public Rulings: Outline the interpretation of certain provisions of tax laws, policies and applicable procedures</li> <li>• Tax Publications (Books): Provide tax education to taxpayers and the public at large concerning the role of tax in macro-development</li> <li>• Tax Guide: Explain the method of calculating taxes for individuals.</li> <li>• Brochures: Enhance knowledge on taxation using a more concise and easy format</li> <li>• Articles in magazines: Discuss specific tax topics as part of tax education program</li> </ul>
7	Business Census	<ul style="list-style-type: none"> <li>• To collect the taxpayer's basic information.</li> <li>• Provide tax advisory service on record keeping, laws and regulations that need to be complied with and lessons on accurate tax deductions</li> <li>• Report cases fit to be selected for audit</li> <li>• Enhance development of 'Data Warehouse' system</li> <li>• Broaden government agencies' access to information</li> </ul>
8	Call Out Centre (Under Customer Service Unit)	<ul style="list-style-type: none"> <li>• Remind taxpayers of responsibilities to settle their debt</li> <li>• Inform the enforcement action for non-compliance</li> <li>• Offers tax advisory support</li> </ul>
9	Revenue Service Centre	<ul style="list-style-type: none"> <li>• Initiatives to bring the IRBM services closer to small districts</li> <li>• Provide stamp duty services</li> <li>• Provide tax advisory services</li> </ul>
10	Information Counters/Expos	<ul style="list-style-type: none"> <li>• Served as an outreach activity which is opened during trade expos, exhibitions and public functions</li> <li>• Offers services such as registration of files, verification of tax accounts, receipt of tax returns and advisory services</li> </ul>
11	Small Traders/ Business support services	<ul style="list-style-type: none"> <li>• Offers consultation to small and medium scale traders not presented by tax agent</li> <li>• Offers education about business record keeping method, business accounts preparations and calculation and tax payment</li> <li>• Offers practical training to reinforce traders' tax knowledge</li> </ul>

**Table 2.3: Channels of Information Assistance and their Corresponding Functions (continue)**

No	Channel	Functions
12	Taxpayer Service Month	<ul style="list-style-type: none"> <li>Assist taxpayers with various activities such as filing, request for forms, obtaining advisory services on taxation and registering tax files.</li> <li>Open off-site service counters (<i>Example: shopping malls, government offices, private company offices, hospitals, schools, banks, and community halls</i>)</li> </ul>
13	Tax Relations Officers (TRO)	<ul style="list-style-type: none"> <li>Serve as intermediaries between tax authority and employees of public and private companies in delivering tax information, carrying out the taxpaying function and improving employees' understanding of tax.</li> </ul>
14	SMS facility	<ul style="list-style-type: none"> <li>Provide information in demand such as access to addresses, telephone number and fax numbers of all branches</li> </ul>
15	24 hour paid Infoline	<ul style="list-style-type: none"> <li>Provide 24 hour services, operated seven days a week</li> <li>Provide 600 pieces of tax information with 30 lines provided in 2008 enabling it to handle 30 calls simultaneously</li> </ul>
16	Video TV HASIL	<ul style="list-style-type: none"> <li>Broadcast information at all IRBM service counters</li> <li>Disseminate tax information, electronic services, counter services, IRBM's corporate culture and 1Malaysia concept</li> </ul>

Source: Inland Revenue Board Malaysia (2002 – 2013)

Publicity through television and radio is one of the most effective means of communication for conveying tax information (Inland Revenue Board of Malaysia 2006, 43). A Malaysian survey conducted by Kamaluddin and Madi (2005) revealed that the most popular means of obtaining tax information were via printed tax materials (68%), followed by national budgets (56.3%), TV talks (50.3%), counters (49%), press releases (49%), radio talks (35.2%) and tax seminars or workshops (30.3%). The IRBM's website was the least popular vehicle, which only accounted for 29% usage preference. Table 2.4 presents the total visitors to the IRBM's facilities. While the statistics offer little information regarding the types of visitor and the purposes of their visits, the statistics provide an indication of the growing importance of the IRBM website as the main source of tax information.

**Table 2.4: Total Visitors to the IRBM's Facilities**

<b>Year</b>	<b>Counters<sup>1</sup></b>	<b>Website</b>	<b>Infoline</b>	<b>Customer Service Centre<sup>2</sup></b>	<b>Briefings/ Workshops/ Talks</b>	<b>Business Support Service</b>
2007	884,748	n.a	n.a	247,202	314,426	n.a
2008	721,833	n.a	n.a	306,087	389,191	n.a
2009	717,090	3,587,573	34,549	510,352	222,951	8,304
2010	410,672	4,834,065	72,186	568,278	118,592	5,545
2011	411,410	15,111,498	90,800	556,802	111,424	2,637
2012	390,177	15,997,617	137,267	625,398	69,317	4,714
2013	392,073	21,911,166	63,947	487,438	121,770	6,506

Source: IRBM Annual Report (2007 – 2013)

<sup>1</sup> During Taxpayer Service Month

<sup>2</sup> Fax/ Letter/ Email/ Phone/ Consultation

Over the last decade, it is evident that the IRBM has continuously placed an emphasis on the inculcation of quality service and it has remained committed to provide the best service. Despite having laid a solid foundation in tax education strategies, the IRBM continued to expand its approach consistent with the advancement in technology. It is also observed that it has taken the approach to involve and interact with the taxpayer's environment by training unemployed graduates as a vehicle to disseminate proper tax information. Additionally, the IRBM has extended its approach in educating the future taxpayer generation through the conduct of speech and essay writing competitions among students in an effort to stimulate their interest in taxation, and to create awareness and understanding of the functions of tax and the responsibilities of taxpayers.

## **2.4 Taxpayers' Help-Seeking Behaviour**

Help-seeking can be defined as the ability to employ the help of others as a way of coping with ambiguity and difficulty (Ryan and Pintrich 1998, 117). The review of the literature on help-seeking behaviour has been impeded by the lack of literature in the field of taxation, particularly in seeking help from the tax authority, as studies were mainly dominated by the fields of health and social psychology.<sup>34</sup> Since approximately 88% of Malaysian taxpayers are individual taxpayers, and that, 66% of this estimated figure self-prepare their own tax returns (Inland Revenue Board of Malaysia 2010, 34-38), imparting the responsibility for seeking assistance from the tax authority is important to reduce unintentional non-compliance. Hence, it should be discussed accordingly.

### **2.4.1 The Relevance of and Barriers to Help-Seeking**

People generally seek assistance in pursuit of comfort, assurance and advice (Kuhlthau 1993, 346-347; Noga and Arnold 2002, 126). For instance, Noga and Arnold (2002, 126) affirmed that reliance on expert assistance relieves the taxpayers' anxieties about making mistakes and offers the confidence to self-prepare their tax returns. A survey conducted by Yankelovich, Skelly, and White Inc. (1984) in the US, documented 'fear of making mistakes' as the main reason for seeking assistance, consistent with the findings of Hite, Stock, and Cloyd (1992, 21), which indicated 'to have return prepared correctly' as the most important reason for using a paid preparer.

Under the SAS, the tax authority's information assistance is an important component of the compliance strategy of the Malaysian tax system. However, the mere provision of information assistance may not acquaint taxpayers with its usage. Hence, the role of the tax authority in fostering taxpayers' help-seeking responsibility is imperative to minimise unintentional error and to ensure that taxpayers stay functionally tax literate. Most importantly, when taxpayers take advantage of the information assistance provided, the costs incurred by the tax authority in training tax personnel, improving taxpayer service and frequently updating and simplifying its tax-related information are justified. As the gatekeeper of tax information, the IRBM

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<sup>34</sup> Research in the field of taxation has mainly focused on seeking assistance from tax practitioners for tax reporting (see, for example, Jackson and Milliron 1989; Klepper and Nagin 1989; Christian, Gupta and Lin 1993; Hite and Hasseldine 2003; McKinstry and Baldry 1997; McKerchar 2005; Fleischman and Stephenson 2012).

plays a significant role in creating awareness, in educating and assisting taxpayers under the self-assessment regime (Palil 2005, 131) and in ensuring the smooth transition of the two major tax reforms in the Malaysian tax system.<sup>35</sup> Hence, realising this significance, the role of the tax authority in instilling the responsibility for help-seeking among self-lodgers needed to be revisited.

Several reasons have been identified in explaining why help-seeking is difficult to impart. According to Babin, Tricot, and Marine (2009, 1031), individuals in need of assistance may not systematically use or seek assistance, even when the tools are available. The reasons included, among others, are lack of awareness of the functions and types of services provided (Cherry 2002, 551; Koydemir et al. 2010, 284), preference for informal advice from friends and family members (Rickwood and Braithwaite 1994, 563; Koydemir et al. 2010, 279), technicality and urgency levels (Snizek and Buckley 1995), and uneasiness about being visible to the tax authority (LeBaube and Vehorn 1992, 316; McKerchar 2007, 193; Koydemir et al. 2010, 280-283).

Despite these barriers, efforts must be made to inculcate help-seeking among taxpayers to resolve unintentional non-compliance. Since previous findings have documented 'fear of making mistakes' as a strong reason for seeking assistance,<sup>36</sup> it is suggested that an individual's help-seeking behaviour can be motivated by the desire to protect oneself from threat, which is consistent with the Protection Motivation Theory (PMT) that was introduced by Roger (1975, 1982), which is discussed next.

#### **2.4.2 Protection Motivation Theory**

The Protection Motivation Theory (PMT) was originally proposed by Rogers in 1975 to provide an understanding of how the fear element affects an individual's change in attitude by initiating protection motivation. The PMT (Rogers 1975) posited that, when individuals face threat through fear communication, the individuals' adoption of preventive behaviours will be motivated by their assessments of threat and coping elements. The PMT was originally applied in health behaviour studies and has since

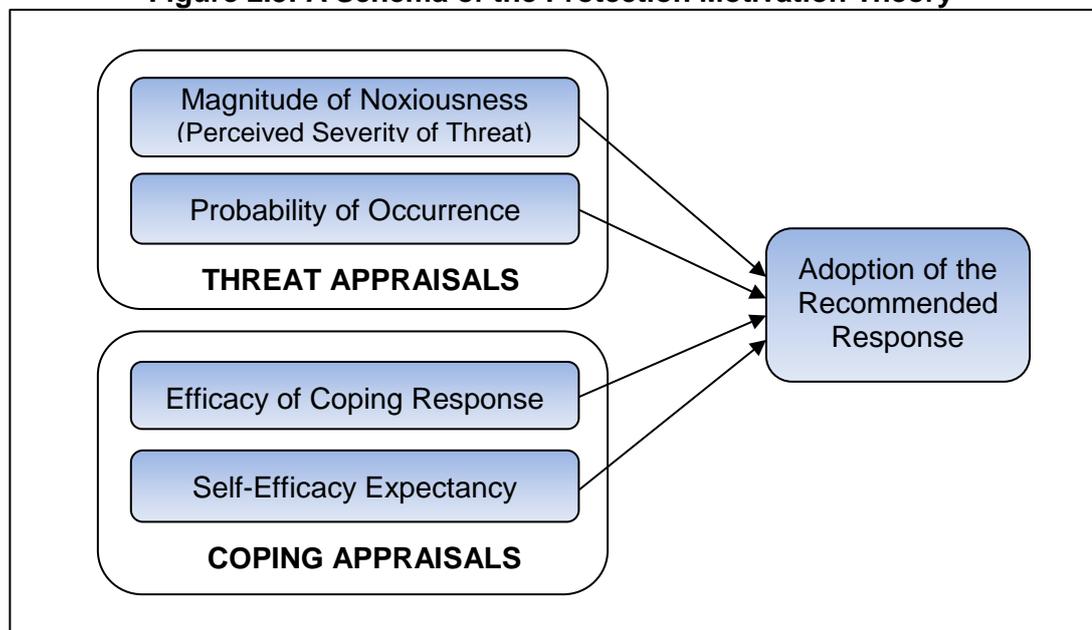
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<sup>35</sup> Please refer to Section 2.3.4.

<sup>36</sup> Yankelovich, Skelly, and White Inc. (1984) and Noga and Arnold (2002, 126)

received wide recognition within various fields.<sup>37</sup> Rogers (1975, 93) identified three important factors in threat communication: namely, the perceived severity of threats, the probability of the event's occurrence and the efficacy of the coping response. The PMT was subsequently revised in 1983 to include the self-efficacy expectancy, as proposed by Bandura (1977). According to Bandura (1982, 122), self-efficacy expectancy relates to an assessment of how well one can undertake the necessary action to deal with a possible situation. In the current study, the taxpayers' usage of tax information assistance will be guided by the four variables of the PMT instead of the original three in view of the considerable recognition of self-efficacy expectancy.<sup>38</sup> A schema of the PMT is presented in Figure 2.3, while the discussion of each element is presented in the next section.

**Figure 2.3: A Schema of the Protection Motivation Theory**



*Source: Adapted from Rogers (1975, 1983). The four main variables were retained, while the cognitive mediating process was excluded, to suit the needs of this study.*

#### **2.4.2.1 Perceived Severity of Threat**

Rogers (1975, 97) described the perceived severity of threat as an individual's perception of the degree of harm or loss. In the context of taxation, the severity of threat perceptions can be understood as the perceived anxiety in relation to tax

<sup>37</sup> The PMT has been used to support studies in environmental concerns (Neuwirth, Dunwoody and Griffin 2000; Kim, Jeong and Hwang 2012), security policies compliance (Sikolia 2013), waste prevention (Bortoleto 2015), nuclear war (Wolf, Gregory and Stephan 1986) and many more.

<sup>38</sup> For example, a review of 65 studies using a meta-analysis by Floyd, Prentice-Dunn, and Rogers (2000) consistently found both perceived efficacy of recommended response and perceived self-efficacy to be significant in adopting the recommended response.

audit and tax penalty. While Neuwirth, Dunwoody, and Griffin (2000, 728) found that fear was significantly associated with information seeking, they asserted that individuals must first believe that a threat is relevant, prior to contemplating a preventive behaviour to address that threat, consistent with an earlier statement by Janis and Feshbach (1953, 78) that fear appeal may not be effective if some degree of arousal is not present. Similarly, Nabi, Roskos-Ewoldsen, and Carpentier (2008, 191) asserted that fear appeal should contain sufficient risk to evoke anxiety. On that note, it is presumed that an individual is likely to address fear when the outcome is considered to be arduous. For example, through fear communication,<sup>39</sup> a taxpayer may agonise that non-compliance brings about the anxiety of being questioned by tax officers during a tax audit and having to deal with a penalty. Consequently, taxpayers may then have more incentive to rely on information assistance in minimising misstatements.

Threats have been widely used by tax authorities in their compliance strategies, arguably because the presence of threat is believed to help deter non-compliance (Slemrod, Blumenthal and Christian 2001; Alm, Jackson and McKee 2009). Hence, intimidated by the consequences, it is believed that threats generate anxiety, which coerces individuals to adhere to rules and acceptable behaviours (Hasseldine et al. 2007, 712). In particular, the anxiety of tax audit includes the consequence of having to gather all the necessary documents and financial records, the thought of being probed by lowly government auditors, and dealing with the audit outcome, although it has been argued that certain taxpayers believe they can attain respect if their cheating is made known (Carroll 1992, 46). On the other hand, anxiety about receiving a tax penalty may include, but is not restricted to, the inconvenience of having to deal with a penalty payment and its unaffordable cost.

Despite the significance of threats, studies from various fields have revealed inconclusive findings about its association with taking preventive action. Neuwirth, Dunwoody, and Griffin (2000, 727) documented that the intention to adopt preventive action was lowest among subjects experiencing high severity threats, although a meta-analysis study by Floyd, Prentice-Dunn, and Rogers (2000, 416) found that an increase in the gravity of threat facilitated the decision to adopt precautionary action. Similarly, studies in the taxation field have revealed that threat

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<sup>39</sup> Threat information can be communicated through verbal persuasion, observational learning and prior experience. In the context of this study, verbal persuasion originated from the reminder of penalty and audit from talks, seminars, and media campaigns. Observational learning of communication appeal can often be found in the return forms, newspapers, manuals and other written documents.

influenced taxpayers' decisions to seek help, but findings have been mixed. For example, the decision to hire professional tax preparers was found to be positively linked with fear of tax penalty (Long and Caudill 1993, 513) but unrelated to audit anxiety (Collins, Milliron and Toy 1992), although it has been claimed that taxpayers seek the help of tax preparers in the hope of protecting themselves from the tax authority, specifically from tax audit (see, for example, McKinstry and Baldry 1997, 140; Hite and Hasseldine 2003; Nichols and Price 2004). Similarly, it was documented that a taxpayer's anxiety of making mistakes is among the important reasons to hire a tax preparer (see, for example, Yankelovich, Skelly and White Inc. 1984; McKinstry and Baldry 1997).

Despite the mixed findings, it was generally agreed that the provision of assistance relieved the taxpayers' anxiety, in part, by having their return prepared confidently (see, for example, Yankelovich, Skelly and White Inc. 1984; Hite, Stock and Cloyd 1992, 21; Noga and Arnold 2002, 126). However, the review of literature in this area has been impeded by the dearth of literature focusing on the effect of tax audit and penalty anxieties upon taking precautionary action by seeking assistance from the tax authority. Hence, further investigation is warranted in this study.

#### **2.4.2.2 Perceived Probability of an Event's Occurrence**

The perceived probability of an event's occurrence can be understood as the perceived exposure to risk if the recommended response is not carried out (Rogers 1975, 97). Applied in the current study, it can be comprehended as the perceived probability of being audited and detected for non-compliance, if the precautionary action of using information assistance is not taken when uncertainty arises.

Reviews of the tax literature revealed that the probability of threat can influence the taxpayers' decisions to seek help, but findings have been mixed. For example, the decision to hire professional tax preparers was found to be positively linked with audit rate (Dubin et al. 1992, 79; Erard 1993, 187; Long and Caudill 1993, 513). However, the finding was not supported in the study of Christian, Gupta, and Lin (1993, 500). Another study, by Fleischman and Stephenson (2012, 434), revealed that respondents with complex returns were less likely to desire lodging an accurate return due to their awareness that audit probability is extremely low, being approximately 1%. However, studies from other fields have documented inconsistency in findings. Neuwirth, Dunwoody, and Griffin (2000, 727) found the

intention to adopt precautionary behaviour was least among subjects with high threat likelihood, while a meta-analyses study conducted by Floyd, Prentice-Dunn, and Rogers (2000, 416) revealed that increased threat likelihood facilitated adaptive behaviour.

While the findings were inconclusive, the above literature generally agrees that the possibility of threat is important in coercing desirable and preventive action. However, the relationship between the likelihood of being audited and detected for non-compliance in association with the decision to take precautionary action, through usage of tax authority information assistance, has received little attention evident by the lack of literature in this field. Hence, the current knowledge gap deserves further attention, which will be explored in this study.

#### **2.4.2.3 Efficacy of Coping Response**

Instilling the responsibility for seeking assistance may suffer a setback if the sole emphasis is focused on threat elements. Hence, coping elements are undoubtedly important because they provide some degree of comfort among those who wish to comply, but are unable to do so. The efficacy of coping response can be comprehended as the effectiveness of the recommended coping mechanism in preventing harm or loss (Rogers 1975, 97). Measuring effectiveness is particularly challenging because perceived effectiveness varies among individuals. However, there is a growing consensus supporting the notion that an approach is considered to be effective when it succeeds in accomplishing the intended objective (see, for example, Australian Tax Office 2007; du Plessis 2007; Aujirapongpan, Vadhanasindhu and Achara 2010, 191; Australian Tax Office 2012).<sup>40</sup> Hence, within the context of taxation, the efficacy of coping mechanism can be understood as the effectiveness of the tax authority information assistance in assisting taxpayers with their tax reporting obligations.

In the taxation field, most factors contributing to desirable information assistance appear to be quality-centric. For instance, the elements of improved service, certainty, timeliness, accessibility, feasibility, accuracy and reliability were repeatedly emphasised as the core criteria of desirable assistance (see, for

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<sup>40</sup> ATO 2007: Guide for Researcher: Measuring Compliance Effectiveness (2007, 8), [www.ato.gov.au](http://www.ato.gov.au) and ATO 2012: Guide for Risk Managers and Evaluators: Measuring Compliance Effectiveness (2012, 3), [www.ato.gov.au](http://www.ato.gov.au)

example, Baurer 2005, 27; OECD 2007, 13; Dohrmann and Pinshaw 2009, 33; OECD 2010). By the same token, Alm et al. (2010, 578) posited that the availability of information assistance through a variety of service channels, as well as the credibility and accuracy of tax information, helped to reduce tax uncertainty, although Vossler, McKee, and Jones (2011, 8) found no significant association between the quality of information and tax under-reporting. In the health services, for instance, Cherry (2002, 567) found that an enabling environment was significantly associated with an individual's information usage. Similarly, a meta-analysis conducted by Sutton (1982), revealed that perceived effectiveness of the coping mechanism was linked with the individuals' intentions to adopt the preventive action.

Understanding the critical determinants of website success and service usage is crucial because demand for indirect assistance among self-lodgers is on the rise (OECD 2007, 59; Inland Revenue Board of Malaysia 2011). Connolly, Bannister, and Kearney (2010, 656) found that taxpayers' perceptions of value and their intentions to use the online taxation system were strongly influenced by efficiency such as the ease of navigating the site to find information, comprehensive FAQs, useful online demonstrations, overall ease to use and a well organised format. Additionally, the social sciences field found that information richness influenced users' behaviours (Jahng, Jain and Ramamurthy 2007, 263) while Negash, Ryan, and Igbaria (2003, 766) discovered that information quality and system quality were significantly associated with information users' satisfaction levels.<sup>41</sup> However, the latter findings did not support the link between service quality and user satisfaction, despite the long held belief that quality of service is central to overall customer service (Parasuraman, Berry and Zeithaml 1991; Asubonteng, McCleary and Swan 1996).

Relevant literature in taxation, at present, predominantly has focused on the external features of the taxpayer services (see, for example, Alm et al. 2010; Bruch, Cico and Mehmood 2011; Vossler, McKee and Jones 2011) with little attention applied to understand the internalised aspects, such as the individual's attitude towards the monetary benefit of using information assistance. The monetary benefit can be understood as the benefit of using the provided tax information assistance in terms of minimising the risk of penalty and overpayment of tax, which should not be seen

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<sup>41</sup> Negash, Ryan, and Igbaria (2003, 764) identified the basic dimensions of information quality (accuracy, timeliness and updated information), system quality (interactivity and access) and service quality (features, reliability, responsiveness, assurance and empathy).

as a separate element of effective information assistance. Hence, this study seeks to explore, among other factors, the significant role of attitude towards monetary risk minimisation in influencing the use of tax authority information assistance.

#### **2.4.2.4 Self-Efficacy Expectancy**

According to Bandura (1982, 122), self-efficacy expectancy relates to an assessment of how well one can undertake the necessary action to deal with a possible situation. It can be understood as the ability of an individual to perform a specific task that is essential in solving a problem (Bandura 1982, 122; Schmidt and Karsten 2004, 85). From the perspective of this study, it can be referred to as the taxpayers' capabilities to understand and use the provided tax information in resolving their tax issues.

A Malaysian study conducted by Loo (2006a, 174) revealed that approximately 30.3% of the respondents encountered difficulty in understanding the accompanying instructions, while 45.5% of respondents found the terms used rather confusing. This is consistent with another Malaysian study conducted by Abdul-Latiff et al. (2005, 6), which documented that over 34% of total respondents, including 88% of the business owners, were found to be tax illiterate and, hence, preferred the services of paid preparers. Additionally, 21% of the business owners had the highest incidence of filing errors. This study suggested that the capability to comprehend and use tax information remained a challenge, particularly among the small business and novice taxpayers, which could impede their use of tax information assistance. Since the uncertainties generated by the frequent changes in tax law led to an increased complexity in tax law (McKerchar 2005, 542), possessing the capability to understand and use new tax information is indispensable among self-prepared taxpayers under the SAS.

According to McKee, Simmers, and Licata (2006, 209), individuals are more likely to take action when they believe they have the competency to complete a specific task, compared to those who doubt their own abilities. On that note, taxpayers are more likely to use information assistance if they possess the capability to comprehend and use tax information, consistent with the findings of Wen-Hua (1999, 290), which documented that the use of government information was related to the individuals' level of self-efficacy. Similarly, tax knowledge was found to be negatively associated with the demand for paid preparers, which implies that taxpayers who are confident

in solving tax matters are less likely to seek assistance from a tax expert (Long and Caudill 1987; Dubin et al. 1992; Christian, Gupta and Lin 1993).

In the psychological field, Norman, Boer, and Seydel (2005, 109) discovered that self-efficacy had the strongest correlation with the individual's intention to adopt a recommended action, consistent with the meta-analyses studies conducted by Floyd, Prentice-Dunn, and Rogers (2000, 416) and Milne, Orbell, and Sheeran (2002, 174). However, findings have been mixed. Zhao, Li-Shan, and Mattila (2008, 500-501) found no significant relationship between perceived ability to carry out a specific task after receiving training, and the intention to adopt a recommended action, while Langham, Paulsen, and Hartel (2012, 381) discovered that taxpayers' beliefs in their capabilities to correctly report did not support their intentions to comply.

Additionally, the lack of confidence in one's ability to obtain information may also affect the information searching task and, consequently, the quality of a decision. Zha, Li, and Yan (2013, 882) discovered that self-efficacy in obtaining information, reflected by confidence in searching, comparing, and evaluating information, significantly affected the decision quality of individuals. Hence, the taxpayers' abilities to effectively obtain tax information, in due course, is important in affecting their decisions to use tax information (Schmidt and Karsten 2004, 85). Despite the abundance of literature from various fields, the role of self-efficacy in influencing preventive action, by seeking tax authority information assistance, is not well understood due to the little attention that has been applied to this area. Hence, the current knowledge gap merits further investigation, which will be undertaken in this study.

## 2.5 Tax Compliance

### 2.5.1 Definition and Forms of Tax Compliance

The subject of tax compliance has existed for over four decades (see, in, Allingham and Sandmo 1972), yet, it still attracts considerable interest due to the unresolved issue of tax gaps<sup>42</sup> (see, for example, Feld and Frey 2006; Braithwaite, Murphy and Reinhart 2007; Kirchler and Wahl 2010; Gangl, Hofmann and Kirchler 2015). McKerchar and Evans (2009, 175) recognised the issue of non-compliance as a ‘continual and growing global problem’ and noted that concurrence on why people comply with their tax obligations is limited.

Tax compliance can be referred to as meeting the four broad categories of tax obligations: namely, registration in the tax system, timely filing of tax return, accurate reporting and timely payment of tax (OECD 2004, 7; Slemrod, Blumenthal and Christian 2001, 464). Alternatively, Roth, Scholz, and Witte (1989, 21) described tax compliance as having submitted a tax return within the stipulated time, with accurate reporting of tax liability upon adherence to the tax law that is relevant at the time of filing the return. The most common forms of taxpayers’ compliance are voluntary, enforced, avoidance and evasion (see, for example, Kirchler, Hoelzl and Wahl 2008; Alm et al. 2010). Notably, these forms of compliance are categorised based on taxpayers’ responses towards their statutory tax obligations. Similarly, taxpayers’ compliance can be categorised into four broad types contingent upon their views towards taxpaying, namely: 1) committed - for those who wish to comply willingly; 2) capitulated – for those who choose to comply unwillingly; 3) creative - for those who take full advantage of the law; and 4) non-compliant - for those who do not wish to comply (McBarnet 2003 and 2004, quoted in Alm et al 2010, 577). Alternatively, Braithwaite (2003a, 18) categorised taxpayers’ compliance based on their social distance from the tax authority. As such, taxpayers’ compliance levels are grouped under committed, capitulated, resistance, disengaged and game-playing.<sup>43</sup>

Tax non-compliance represents the disparity between the actual taxes paid and the taxes owed, as claimed by Kamleitner, Korunka, and Kirchler (2012, 332). Several scholars have suggested that the disparity may have been intended or unintended.

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<sup>42</sup> Tax gap is the difference between the tax owed by taxpayers and the actual tax paid to the tax authority (Hanefah 2007, 30)

<sup>43</sup> Please refer to Section 2.5.3.1 (Figure 2.5) for detailed discussion.

For instance, Antonides and Robben (1995) insisted that taxpayers' mistakes do not necessarily suggest attempts to elude tax. Webley (2004), Hanefah (2007, 29) and Kamleitner, Korunka, and Kirchler (2012, 332) argued that taxpayers' mistakes could be due to carelessness in the preparation of their tax returns, calculation errors or inadequate knowledge of the tax laws. In contrast, intentional non-compliance includes deliberate under-reporting of tax burden, either through excessive claiming of reliefs and deductions, or concealment of income (Hanefah 2007, 29) but 'does not include situations lacking a clear legal practice where compliance status is ambiguous' (Roth, Scholz and Witte 1989). Regardless of the taxpayers' intentions, tax non-compliance represents a challenge for any tax authority because it increases the administrative costs and undermines the fairness of a tax system (Birskyte 2008, 1).

Tax compliance studies have been dominated by two schools of thought, namely, the 'economic' and 'psychology' schools (Devos 2009; McKerchar and Evans 2009).<sup>44</sup> The psychology concept is further categorised under 'social psychology' and 'fiscal psychology' (McKerchar and Evans 2009, 176-177). According to McKerchar and Evans (2009, 176), the 'social psychology' concept stemmed from the idea that individual behaviour can be moulded by attitudes and beliefs, internal and external characteristics, and perceptions of the system as biased or unbiased. On the other hand, the concept of 'fiscal psychology' is derived from the understanding that improved cooperation can be attained through integration of economic deterrence within the social psychology concept (McKerchar and Evans 2009, 177).

Since a sole reliance on heavy enforcement creates hostility among taxpayers, it is believed that the tax authority can help to address this dilemma, in part, by introducing leniency (McKerchar and Evans 2009, 177) and integration of excellent service delivery within the existing enforcement mechanism (see, also, Kirchler, Hoelzl and Wahl 2008; Alm and Torgler 2011). Evidently, revenue bodies began appreciating this concept by embedding a holistic approach into their compliance programs.<sup>45</sup> Similarly, scholars began acknowledging various paradigms in their frameworks (Braithwaite 2003b; Kirchler, Hoelzl and Wahl 2008; Alm and Torgler 2011; Gangl et al. 2012), which will be discussed in the following sections. In

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<sup>44</sup> Please refer to Section 2.5.2.

<sup>45</sup> For example, the Internal Revenue Authority of Singapore (IRAS) Customer Relationship Framework (OECD 2013, 27); Compliance Pyramid of ATO ([www.ato.gov.au](http://www.ato.gov.au)); and Revenue Compliance Pyramid of HMRC ([www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk)).

studying the association between the use of tax authority assistance and tax compliance, this study will be supported by the economic deterrent approach and the accommodative approach, which are discussed next.

### **2.5.2 Economic Deterrent Approach**

The use of a deterrence mechanism is pertinent to many regulatory agencies, perhaps because the presence of threat is believed to help encourage voluntary compliance (see, for example, Braithwaite 2003b; Kirchler, Hoelzl and Wahl 2008) and the persistence of threat is thought to enforce compliance (see, for example, Slemrod, Blumenthal and Christian 2001, 456; Slemrod 2007, 45; Alm, Jackson and McKee 2009, 392). The study of economic deterrence in the field of taxation was pioneered by Allingham and Sandmo (1972), which is discussed below.

The Allingham and Sandmo economic approach or A-S economic approach (Allingham and Sandmo 1972) was based on the studies of economic criminal activity by Becker (1968).<sup>46</sup> This approach was first applied by Allingham and Sandmo (1972) and later Yitzhaki (1974) in the field of taxation, and has since served as the base for numerous studies in tax compliance. According to Allingham and Sandmo (1972, 324), an individual has the choice between declaring his or her true income, and declaring a reduced amount of income. In this regard, Allingham and Sandmo (1972) presumed that the individuals' behaviours followed the expected utility theory that was proposed by Von Neumann and Morgenstern (1947), which claimed that individuals were rational creatures and that their actions were determined by their perceptions of what benefited them most.

Appropriately applied within the context of taxation, the A-S economic approach by Allingham and Sandmo (1972) posited that an individual is presumed to make the most of the expected utility of evasion by logically comparing the possibility of a successful evasion against the risk of being caught. If the individual chooses to evade and is subsequently detected, then a loss is suffered in the form of tax paid and penalty. On the other hand, if the evasion remains successful, the gain is in the form of tax evaded (see, for example, discussion in Murphy 2004b, 1). In short, individuals will consider disobeying the law when the likelihood of being caught is considered to be remote. Since the approach implies that individuals conform out of

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<sup>46</sup> The A-S economic approach also is related to the work of Arrow (1970), Mossin (1968) and Tulkens and Jacquemin (1971).

fear of being discovered and punished, it is believed that tax compliance can be attained by intensifying the deterrence. Hence, Allingham and Sandmo (1972, 330) asserted that an increase in the penalty rates and the probability of detection would raise compliance among tax evaders.<sup>47</sup>

Over the years, the economic model has been revisited to include a wider range of factors (see, for example, Spicer and Thomas 1982; Slemrod, Blumenthal and Christian 2001; Birskyte 2008; Appelgren 2008; Alm, Jackson and McKee 2009; Devos 2009; Fleischman and Stephenson 2012). However, debates over tax auditing, detection probability and penalty levels have persisted due to contradictory findings. Hence, they shall be discussed accordingly.

### **2.5.2.1 Probability of a Tax Audit**

Tax auditing is a crucial aspect of the tax system in most countries because the threat of a possible audit serves to encourage voluntary compliance (Hasseldine et al. 2007, 176; Birskyte 2008) and frequent audits are believed to reduce tax evasion (Alm, Jackson and McKee 2009, 392). Nevertheless, reviews of the literature have revealed mixed findings. For instance, the probability of being audited was found to be significantly related with tax compliance in the studies of Witte and Woodbury (1985); Beck, Davis, and Jung (1991) and Webley et al. (1991), while no significant associations were observed in other studies (see, for example, Friedland, Maital and Rutenberg 1978; Forest and Sheffrin 2002, 85; Alm et al. 2010, 585).

The inconsistency in methods of data collection has been regarded as the possible contributor to the contradictory findings (see, for example, Spicer and Lundstedt 1976; Song and Yarbrough 1978; Friedland 1982; Slemrod, Blumenthal and Christian 2001; Alm, Jackson and McKee 2009). Nevertheless, several factors began to emerge as probable reasons for the mixed findings, suggesting that audit probability should not be examined as a single dimension. Among these reasons were included: objectivity versus subjectivity of audit probabilities (Andreoni, Erard and Feinstein 1998); official versus social dissemination of information (Alm, Jackson and McKee 2009); increased audit probability (Dubin, Graetz and Wilde 1990; Beck, Davis and Jung 1991; Birskyte 2008; Fleischman and Stephenson 2012); precise or imprecise audit information (Friedland 1982; Spicer and Thomas

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<sup>47</sup> Devos (2007, 185) defines deterrence as the act of punishment which attempted to create a deterring effect not only for potential criminals but also for those who were punished.

1982); prior audit experience (Slemrod, Blumenthal and Christian 2001; Alm, Jackson and McKee 2009); and level of income (Slemrod, Blumenthal and Christian 2001; Alm, Jackson and McKee 2009).

Andreoni, Erard, and Feinstein (1998, 845) argued that, since taxpayers do not possess the objective knowledge of audit risk, their subjective views of the probability are important in understanding their behaviours. This view is consistent with the findings of Christensen and Hite (1997, 12) and Fleischman and Stephenson (2012, 434), which documented that taxpayers' awareness of the probability of audit had an influence on their tax reporting. This statement is further reinforced by Kirchler, Hoelzl, and Wahl (2008, 215) asserting that a taxpayer's interpretation of audit probability is crucial in comprehending his or her compliance behaviour. Andreoni, Erard, and Feinstein (1998, 844-845) concluded that subjectively perceived audit probability has greater significance than objectively perceived audit probability since it is mediated by psychological variables, although Scholtz and Pinney (1995) found no significant correlation between audit probability and taxpayers' subjective assessments.

The frequency of a tax audit has also been claimed as a significant factor in fostering tax compliance (Dubin, Graetz and Wilde 1990; Beck, Davis and Jung 1991; Plumley 2002, 10; Birskyte 2008, 82; Fleischman and Stephenson 2012, 434). Plumley (2002, 2) asserted that an increase in tax audit leads to a change in people's perceptions, reduces misunderstanding and helps to shape taxpayers' attitudes. Hence, its effect is argued to be in an indirect form, although Friedland, Maital, and Rutenberg (1978) found no significant increase in tax compliance. Accordingly, Carroll (1992, 47) cautioned against conveying precise information about audit probability because taxpayers may become aware of the low chances of being audited. This is supported by previous findings, whereby imprecise audit information was found to be significantly related with a taxpayer's compliance (see, for example, Friedland 1982; Spicer and Thomas 1982).

Conversely, taxpayers' actual audit experiences have provided mixed findings in relation to their subsequent compliance (Slemrod, Blumenthal and Christian 2001; Alm, Jackson and McKee 2009). Alm, Jackson, and McKee (2009, 401) concluded that audit experience has no effect on a taxpayer's subsequent compliance. The insignificant effect may have been influenced by favourable initial audit experiences or the assumption by previously audited taxpayers that they would be spared from

future audit (Andreoni, Erard and Feinstein 1998, 843). Nevertheless, Alm, Jackson, and McKee (2009, 401) found that the pre-announcement of audit, prior to any decision about compliance and announcement of the conforming behaviour of other taxpayers, were both consistent with higher compliance among taxpayers with audit experience. Additionally, the taxpayer's level of income was found to moderate the relationship between audit probability and tax compliance (see, for example, Slemrod, Blumenthal and Christian 2001, 459; Alm, Jackson and McKee 2009, 401).

While the probability of audit has been widely studied, its association with tax compliance remains inconsistent. Furthermore, its significance in persuading compliance among taxpayers, in comparison with the accommodative approach,<sup>48</sup> needs further consideration when determining which approach is perceived as more successful in influencing tax compliance.

#### **2.5.2.2 Probability of Detection**

The probability of detecting a taxpayer's non-compliance can be influenced by the probability of tax audit (Dubin, Graetz and Wilde 1990), proficiency of tax officers (Raig, Pope and Pinto 2014), and sufficiency of the tax authority's resources (Slemrod, Blumenthal and Christian 2001). Dubin, Graetz, and Wilde (1990) documented that an increase in the number of tax audits increases the probability of detecting non-compliance. On that note, Slemrod, Blumenthal, and Christian (2001, 480) argued that taxpayers are becoming increasingly aware that, if they change their reporting pattern, it will give away their history of non-compliance (Slemrod, Blumenthal and Christian 2001, 481). Hence, by declaring the same level of income, it minimises the probability of being audited (Slemrod, Blumenthal and Christian 2001, 480), which subsequently reduces the probability of being detected for non-compliance. Additionally, Slemrod, Blumenthal, and Christian (2001, 481) asserted that the probability of detecting or uncovering evasion is hindered by resource constraints. This is evidenced by the extremely low probability of audit, which is approximately 1% or less (Erard and Feinstein 1994, 78; Alm, Jackson and McKee 2009, 392). Furthermore, the cost of monitoring and deterring by way of audit is too costly (Hasseldine et al. 2007, 173), hence, it has been argued as having limited success in deterring taxpayers.

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<sup>48</sup> Please refer to Section 2.5.3.

The review of literature on detection probability and tax compliance has revealed inconsistent findings. While the perceived probability of detection has been found to be associated with taxpayers' compliance (Witte and Woodbury 1985; Dubin, Graetz and Wilde 1990; Beck, Davis and Jung 1991; Carnes and Englebrecht 1995; Birskyte 2008), earlier findings revealed that increased detection probability via high audit probability did not lead to a significant increase in tax compliance (Friedland, Maital and Rutenberg 1978). This finding is further supported by Christensen and Hite (1997, 12) who discovered that detection probability was unrelated to a taxpayer's income and deduction decisions. Realising the inconsistency in findings, the role of threat in the form of detection probability should be reassessed by examining its significance in comparison with the accommodative approach.

### **2.5.2.3 Tax Penalties**

Tax penalties continue to be the subject of debate in tax compliance studies (Devos 2004, 32), evidenced by the inconsistent findings of the effects of tax penalties on tax compliance. Several studies noted fines to be significantly related to tax compliance (see, for example, Friedland, Maital and Rutenberg 1978; Grasmick and Bursik 1990; Beck, Davis and Jung 1991; Carnes and Englebrecht 1995; Christensen and Hite 1997, 13; Park and Hyun 2003), while other findings failed to support the relationship (see, for example, Schwartz and Orleans 1967; Webley et al. 1991; Devos 2008, 32). In particular, Park and Hyun (2003) revealed that the impact of fines on tax compliance is slightly higher than audit probabilities, while Friedland, Maital, and Rutenberg (1978) and Beck, Davis, and Jung (1991) found that taxpayers reported higher levels of income when penalty rates were increased. On the other hand, Christensen and Hite (1997, 13) found that taxpayers' income reporting decisions were influenced by their own perceptions of the severity of penalty.

Despite the importance of threat in coercing taxpayers' compliance, its cost-ineffectiveness (Hite 1997; Hasseldine et al. 2007, 173), psychological effect (Togler 2002, 2; Feld and Frey 2006, 139; Kirchler 2007, 168) and ineffectiveness to ensure a long term compliance (Kirchler, Hoelzl and Wahl 2008, 215) remained debateable. For instance, Hasseldine et al. (2007, 173) underscored the fact that actual monitoring costs may surpass the tax revenue collected, and that unjust enforcement could easily raise suspicion among taxpayers (Togler 2002, 2; Kirchler 2007, 168; Feld and Frey 2006, 139). Hence, the conventional paradigm is deemed

to be inadequate because it is based on the presumption that taxpayers are opportunistic and should be dealt with via a threat mechanism. This method has been criticised as being ineffective in fostering and sustaining dutiful behaviours (Tyler 2001, 397-398; Kirchler and Wahl 2010, 211). Therefore, the realisation of the need to move beyond the conventional economic deterrent to encourage tax compliance has been supported (see, for example, Feld and Frey 2006; Torgler 2006; Kirchler 2007; Hasseldine et al. 2007, 173), which will be discussed next.

### **2.5.3 Accommodative Approach**

The accommodative approach can be regarded as an approach which is associated with the execution of services in a helpful, respectful and fair manner, and it is linked to an enhanced trust in the system and an appeal to the conscience (Doyle, Gallery and Coyle 2011, 51). The accommodative approach, which encompasses the service, knowledge and trust approaches, is discussed below.

#### **2.5.3.1 Service Approach**

The move towards a service paradigm has been welcomed by most revenue bodies, due to the strong belief that it will enhance voluntary compliance (see, for example, Murphy 2005; Kirchler, Hoelzl and Wahl 2008; Alm and Torgler 2011; Vossler, McKee and Jones 2011; Gangl et al. 2012). Up until the most recent decade, frameworks accentuating the service paradigm have been emphasised by several scholars. This has included the responsive regulation approach (Braithwaite and Braithwaite 2001; Braithwaite 2003b), the slippery slope framework (Kirchler, Hoelzl and Wahl 2008) and the multi-faceted approach (Alm and Torgler 2011).

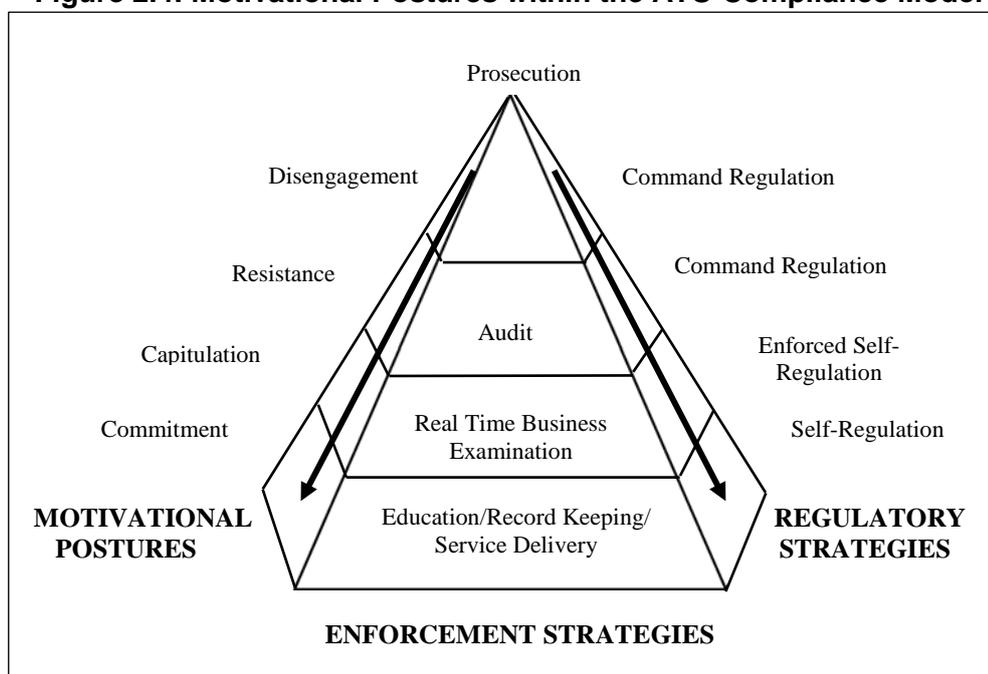
The responsive regulation approach (Braithwaite and Braithwaite 2001; Braithwaite 2003b) is based on the understanding that each individual differs in their motivational postures or attitudes towards the tax authority.<sup>49</sup> This understanding was subsequently incorporated into the ATO compliance model, as depicted in Figure 2.4. In particular, compliance among obedient taxpayers and those who wish to comply can be attained by emphasising good service through the provision of tax education, taxpayer assistance and support, while disobedient taxpayers are dealt with via enforcement means (Braithwaite 2007, 138). A similar understanding is put

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<sup>49</sup> Motivational postures are the combination of feelings, beliefs or preferences which are reflected in a positive or negative attitude towards taxpaying (Braithwaite, Murphy and Reinhart 2007, 138).

forward under the multi-faceted approach (Alm and Togler, 2011), whereby excellent service is noted as one of the paradigms for attaining taxpayers' compliance.

**Figure 2.4: Motivational Postures within the ATO Compliance Model**



Source: Braithwaite (2003b, 3)

An enhanced taxpayer service is believed to improve voluntary compliance, based on the understanding that a favourable interaction between the revenue authority and taxpayers helps to create value (OECD 2014, 23-24), increase legitimacy (Tyler 1997; Kornhauser 2007) and build trust (Tyler 2001; Gangl et al. 2012; Gangl, Hofmann and Kirchler 2015). In Malaysia, it was reported that taxpayers have responded well to friendly and helpful verbal reminders made by the IRBM's staff at call out centres, evidenced by the RM343.82 million successfully collected out of the RM575.40 million tax arrears (Inland Revenue Board of Malaysia 2012, 32). However, a study conducted by Alm et al. (2010, 584), in the US, failed to find any significant difference in the filing probability between recipients and non-recipients of information services, although they did find a significant effect on reporting compliance among those who chose to file a return. On the other hand, Bruch, Cico, and Mehmood (2011, 23-33) observed a lack of significant difference between those who used and did not use services in terms of overall return accuracy. In the same way, Devos (2009, 20) found no significant relationship between improved taxpayer service and individuals' compliance behaviours, while (Kamil 2015, 108) observed a significant positive relationship between service quality and tax compliance among Indonesian respondents.

The lack of consistency in the above findings indicates that the effect of taxpayer service on tax compliance may not be as direct as has been put forward by several studies. For instance, the effect of service on voluntary compliance can be of an indirect form, as indicated in the study of Gangl et al. (2012), whereby trust is found to mediate the relationship. On the other hand, Kornhauser (2007, 631) maintained that gender differences should be considered, since women responded better to the friendly persuasion of services than men. The literature has also emphasised the quality of interaction between the taxpayers and their tax authority, citing an individual's history of experience (see, for example, Murphy 2005; Wenzel 2006; Doyle, Gallery and Coyle 2011), an individual's perceptions (Wenzel 2006) and the experience of individuals (Worsham 1996) as significant aspects in influencing tax compliance.

The quality of interactions between a tax authority and its taxpayers can be broadly determined, both explicitly (Niemiowski, Baldwin and Wearing 2003) and implicitly (Tyler 1997). For example, the quality of interaction can be explicitly affected by time delays, lack of quality advice and difficulty in accessing advice (Niemiowski, Baldwin and Wearing 2003, 156-157). Conversely, it can be influenced implicitly, through procedural justice (Tyler 1997). Procedural justice is an important element of services and it is based on a strong belief that, when taxpayers experience fair treatment from the tax authority, the authority is being perceived as having lawful power and, hence, should be obeyed (Tyler and Lind 1992; Tyler 1997). Procedural justice further comprised of interpersonal or interactional justice (Tyler and Bies 1990) and informational justice (Greenberg 1993). Interpersonal justice is based on a belief that cooperation from the taxpayers can be attained by fair and respectful treatment towards them (Tyler and Bies 1990; Tyler and Lind 1992). On the other hand, informational justice can be attained when information is provided and explained in an unbiased (Tyler 1989, 831) and transparent manner (Wenzel 2006, 348), which leads to a perception of increased fairness (Tyler and Bies 1990; Greenberg 1993).

The literature on interpersonal justice has provided support for the view that individuals are more likely to cooperate when they view the authority as being fair and respectful (see, for example, Murphy 2005; Wenzel 2006; Doyle, Gallery and Coyle 2011). A field experiment conducted by Doyle, Gallery, and Coyle (2011, 58), in Ireland, noted a positive relationship between taxpayers' compliance and the use of friendly reminders. In Australia, Wenzel (2006, 352) discovered that the

taxpayers' compliance was linked to their perception of good service, while Murphy (2005, 576) found that negative views of the ATO were prevalent among the unfairly treated taxpayers. On the contrary, Worsham (1996, 19) revealed that the subjects' compliance behaviours did not differ significantly between those who did and did not endure procedural unfairness. Similarly, the association between taxpayers' perceptions of the tax office and their intentions whether or not to comply, was not supported in the study of Langham, Paulsen, and Hartel (2012, 381). Table 2.5 presents the main findings of the studies on service and tax compliance.

**Table 2.5: Main Studies on Tax Authority Service and Tax Compliance**

<b>Year</b>	<b>Author</b>	<b>Samples</b>	<b>Approach</b>	<b>Key Findings</b>
1996	Worsham	Individual taxpayers (US)	Experiment	Procedural injustice did not increase level of non-compliance
2005	Murphy	Individual taxpayers (AUS)	Survey	Poor treatment by ATO lead to resistance and non-compliance
2007	Holland and Rasey	Individual taxpayers (US)	Experiment	Unable to draw conclusion due to low service usage rate
2010	Alm et al	University students and staff (US)	Experiment	Agency-provided information have a significant impact on filing and reporting
2011	Doyle, Gallery and Coyle	Individual taxpayers (Ireland)	Experiment	Positive relationship between friendly reminder and taxpayers' compliance
2011	Bruch et al	Individual taxpayers (US)	Experiment	Lack of significant difference between groups on return accuracy
2011	Vossler, McKee and Jones	University students and staff (US)	Experiment	Quality of service has no effect on tax underreporting. Acquisition of tax information reduced underreporting
2012	Gangl et al	Individual taxpayers (Netherland)	Survey	Service orientation effect on tax compliance is mediated through trust
2012	Langham, Paulsen and Hartel	Business Owners (AUS)	Survey	Association between taxpayers' perception of tax office and taxpayers' compliance was not supported
2015	Kamil	Individual Taxpayers (Indonesia)	Survey	Service quality is positively related to tax compliance

As can be seen in Table 2.5, the studies on taxpayer service were mainly quality interaction-centric (see, for example, Worsham 1996; Murphy 2005; Vossler, McKee and Jones 2011; Gangl et al. 2012; Kamil 2015). On that note, little attention has been given to understand the association between the use of information assistance and the taxpayers' willingness to comply, with the exception of Alm et al. (2010). However, that particular study had been conducted in an experimental setting, which failed to consider the taxpayers' perceptions of the unacceptability of tax non-compliance. Since a survey study allows the consideration of taxpayers' perceptions, particularly towards the tax authority (Prinz, Muehlbacher and Kirchler 2013, 12), it contributes to the literature by examining whether a similar conclusion can be drawn from a survey.

### **2.5.3.2 Motive-Based Trust**

While the move towards service orientation has gained wide acceptance among revenue agencies, an emphasis on service alone may not guarantee long term cooperation from taxpayers, substantiated by the lack of consistency in findings.<sup>50</sup> In this regard, a deeper form of motivation is necessary to effectively shape the individual's behaviour (Tyler 2001, 366). Therefore, in the hope of gaining and maintaining cooperation from the taxpayers, a strong sense of loyalty, which is built upon trust, is pertinent (see, for example, Makkai and Braithwaite 1996; Feld and Frey 2002; Kirchler 2007; Kirchler, Hoelzl and Wahl 2008; Alm and Torgler 2011).

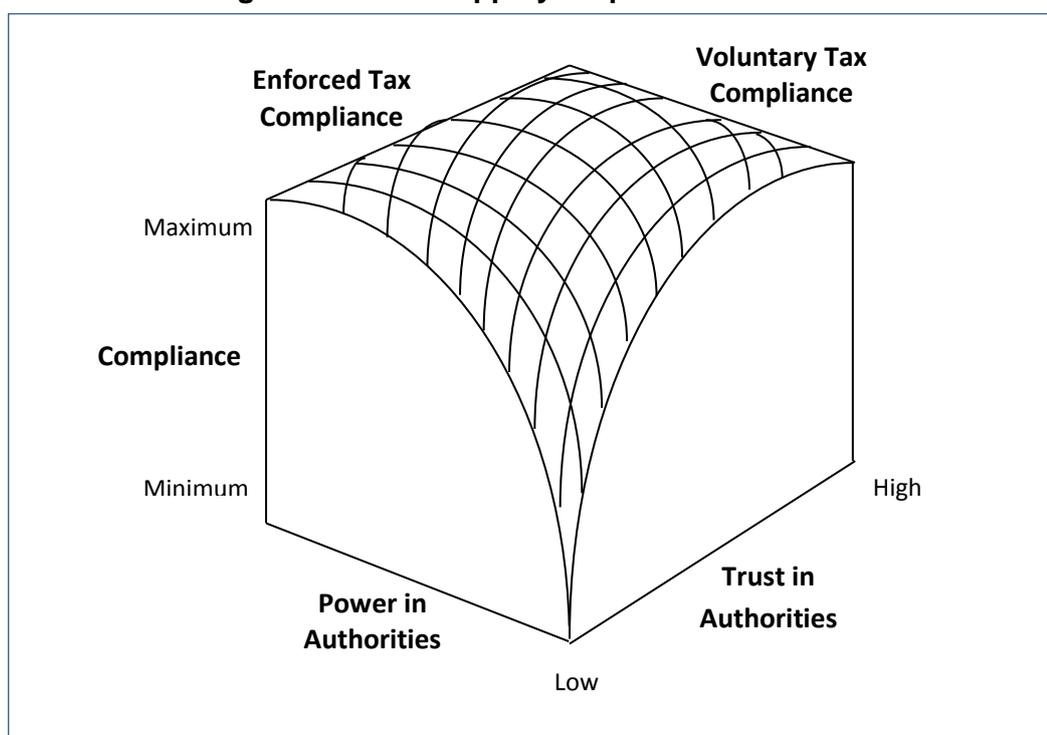
Despite the varying definitions of trust provided in the literature, the main goal of trust appears to be similar in that it emphasises the gaining of acceptance in order to obtain cooperation, for example: offering discretion to influence one's interest (Hardin 2001, 507); expectation that the other person will execute a desired action (Mayer, Davis and Schoorman 1995, 712); and a recognised relationship (Ayres and Braithwaite 1992). However, the definition of trust by Ayres and Braithwaite (1992), is probably the one that most aptly captures the relationship between tax authority and taxpayer, in which, trust was described as "the relationship where the other player can be taken at his or her word, where there is a commitment to honest communication, to understand the needs of the other, to agreed rules of fair play and preference for cooperation". Feld and Frey (2002, 94) asserted that, for trust to exist, a deeper level of understanding known as the 'psychological contract' must be attained between the tax authority and the taxpayers.

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<sup>50</sup> Please refer Section 2.5.3.1

Scholars have emphasised the need to incorporate ‘trust’ within the regulatory framework. For example, the slippery slope framework (Kirchler, Hoelzl and Wahl 2008), the extended slippery slope framework (Gangl et al. 2012) and the multi-faceted approach (Alm and Torgler 2011) have all suggested that trust is important for tax compliance. The slippery slope framework suggested that tax compliance can be enhanced by: the power of the tax authority, trust in the tax authority and the interaction between power and trust (see also, in, Kirchler 2007; Kirchler, Hoelzl and Wahl 2008, 212; Muehlbacher and Kirchler 2010, 608). A graphical representation of the framework is depicted in Figure 2.5.<sup>51</sup>

**Figure 2.5: The ‘Slippery-Slope’ Framework**



*Source: Kirchler, Hoelzl, and Wahl (2008, 212)*

A holistic approach to enhancing tax compliance was subsequently introduced by Alm and Torgler (2011) in the multi-faceted approach, and Gangl et al. (2012) in the extended slippery slope. Both approaches displayed a striking resemblance in that service, enforcement and trust were equally emphasised. However, Alm and Torgler (2011, 646) posited that trust has a direct impact upon attaining the desired

<sup>51</sup> According to Kirchler (2007) and Kirchler, Hoelzl, and Wahl (2008), taxpayers will try to elude tax when the tax authority is perceived as being weak, in terms of trustworthiness and power. They argued that compliance in an enforced form is likely to be achieved with an increase in power, signified by the imposition of severe tax penalties, and an increase in audit and detection probabilities, consistent with a statement by Turner (2005). In contrast, increased trust, with minimal power of the authority, may likely lead to voluntary compliance.

taxpayers' compliance, while Gangl et al. (2012, n.a) postulated that trust functions as a mediator between excellent service and taxpayers' compliance. Both approaches offer a more rounded approach and a better persuasion strategy because they help to deter through enforcement, while supporting compliance through delivery of services and consideration of trust in fostering long term compliance.

Revenue agencies, worldwide, have also begun to acknowledge the significance of 'trust', as part of their compliance strategies. In Australia, the ATO has emphasised trust in its effort to foster 'willing participation' in the system. The following message is quoted from the speech of the Commissioner of Taxation: <sup>52</sup>

*"...To maintain trust and confidence in the ATO, we need to understand the drivers and numbers of disputes, and manage them in a way that is efficient, respectful and fair – and as early as possible. Early resolution not only saves time and money for the taxpayer and the ATO, it also provides certainty for taxpayers for future compliance ..."*

In the United States, the rigorous deterrence-based approach has been criticised for yielding unsatisfactory outcomes (see, for example, Leviner 2006; Kornhauser 2007; Holmes 2011). Therefore, Leviner (2006) and Holmes (2011, 1436) recommended adopting the cooperative approach currently embraced by the ATO in gaining taxpayers' trust. In Canada, an element of trust has been incorporated by the Revenue Canada Taxation in guiding the organisation. The organisation has four core values, namely: integrity, professionalism, respect and cooperation (McCloskey 1999). In Switzerland, a respectful treatment of the taxpayers by the Swiss cantonal tax authorities has been emphasised as an important element in enhancing tax compliance among the taxpayers, reflected by the existence of a 'psychological contract' that is built upon trust between the taxpayers and the Swiss cantons (Feld and Frey 2002, 94). In Singapore, the tax authority and taxpayer relationship is based upon a strong belief that the taxpayers are generally compliant and, hence, trust is indirectly created when service and assistance is provided to compliant taxpayers (OECD 2013, 27). In Malaysia, the tax authority's efforts in building trust have been emphasised through the provision of friendly, helpful, and satisfying services (Inland Revenue Board of Malaysia 2005, 122).

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<sup>52</sup> Commissioner Chris Jordan's address to the Tax Bar Association, Melbourne, 6 November 2014 (available at <https://www.ato.gov.au>)

In a traditional environment, individuals may rely on their previous interactions with the tax authority as the base upon which to build trust (Tyler 2001, 567). However, using a similar mechanism in gaining trust is difficult in the absence of direct interactions (Tyler 2001, 567), whereby taxpayers rely on indirect assistance such as internet-based information and circulated references. In such instances, the motive-based trust approach is deemed to be more appropriate. Motive-Based Trust (Tyler, 2001) suggests that, if individuals believe the authorities are acting in “good faith”, they will be more inclined to give their cooperation (Tyler 2001, 366).

According to Tyler (2001, 366), since the authorities generally possess the expertise and resources, it provides them the necessary ground to demonstrate desirable behaviour, such as acting in the best interests of the community. In the context of taxation, since the tax authority is known to possess the necessary resources and knowledge in assisting taxpayers, Motive-Based Trust (Tyler 2001, 367; 2003, 7) theorised that the tax authority can deter hostility and promote obedience by behaving in ways that demonstrate good faith, such as revealing genuine concern by helping taxpayers in a respectful manner. Additionally, the tax authority can demonstrate its concern to help the taxpayers by: consistently pursuing good service, manifested by the smooth accessibility of information, which is updated and simplified that allows confidence in interpretation; the availability of various service channels; and information being obtainable at minimal cost.

In line with the Motive-Based Trust approach, when these efforts are demonstrated, the taxpayers are then able to place confidence in the tax authority and make inferences that it is trustworthy (Tyler 2001, 367). Similarly, Kirchler, Hoelzl, and Wahl (2008, 217) believed that improvement in the taxpayers’ literacy levels and the services provided are likely to enhance trust in the tax authority. In reality however, individuals rarely monitor the conduct of the tax authority. Therefore, Tyler (2001, 366) maintained that the individuals are only able to presume that the tax authority is acting in ‘good faith’, validated by its efforts in assisting the taxpayer community. This is consistent with the strong statement by Baurer (2005, 15) and Bergman (2003), asserting that the type of treatment received will help to shape the taxpayers’ impressions of tax administration.

Tyler (2001, 567) asserted that a lack of social connection, due to distinct background differences, makes the realisation of trust particularly challenging. Since the tax authority and taxpayers are two distinct groups, in the sense that one is seen

as the enforcer and collector while the other is the payer, building and maintaining trust is increasingly challenging. Other impeding reasons included unfavourable past experiences (Murphy 2004a, 13), dispositional or personality factors (Kee and Knox 1970), a self-interested society (Hammar, Jagers and Nordblom 2008, 539), deterrence factors (Ribstein 2001, 560; Dunning, Fetchenhauer and Schlösser 2012, 687), fairness issues (Murphy 2004b, 5), poor knowledge of the tax system (Hofmann, Hoelzl and Kirchler 2008; Kirchler, Hoelzl and Wahl 2008, 217), breach of trust (Alm, Sanchez and De Juan 1995, 6; Feld and Frey 2002, 91; Murphy 2004b, 21), and attitudes towards tax (Hammar, Jagers and Nordblom 2008, 525).

**Table 2.6: A Summary of the Main Studies on Trust and Tax Compliance**

Year	Author	Samples	Approach	Key Findings
2002	Feld and Frey	Individual taxpayers (Sweden)	Survey	Trust is associated with tax compliance
2004	Murphy	Individual taxpayers (AUS)	Survey	Trust mediates procedural justice and tax compliance
2008	Murphy and Tyler	Individual taxpayers (AUS)	Survey	Trust mediates procedural justice and tax compliance
2010	Wahl et al	Students and individual taxpayers (n.a)	Experiment	Trust mediates procedural fairness and tax compliance
2010	Van Dijke and Verboon	Students and individual taxpayers (Netherland)	Survey and experiment	Trust moderates procedural justice and tax compliance
2011	Muehlbacher et al	Individual taxpayers (Austria, UK & Czech Republic)	Survey	Trust is positively related with voluntary compliance but negatively related with enforced compliance
2012	Benk and Budak	Individual taxpayers (Turkey)	Survey	Trust is significant predictor of voluntary compliance
2012	Gangl et al	Individual taxpayers (Netherland)	Survey	Trust mediates service orientation and voluntary compliance
2013	Kogler et al	Students (Austria, Hungary, Romania and Rusia)	Experimental survey	High trust indicated higher voluntary compliance but high power indicated higher enforced compliance
2014	Eichfelder and Kegels	Individual taxpayers (Belgium)	Survey	Taxpayer service has an effect on trust
2014	Ali and Ahmad	Individual taxpayers (Malaysia)	Survey	Trust is a significant determinant of tax compliance
2014	Mas'ud, Abd Manaf and Saad	Individual taxpayers and students (Malaysia)	Survey	No significant relationship between trust and tax compliance

Table 2.6 presents some of the main studies on the effect of trust on tax compliance. The studies of Pommerehne and Weck-Hannemann (1996), Feld and Frey (2002), Muehlbacher, Kirchler, and Schwarzenberger (2011, 94), Benk and Budak (2012, 1504) and Kogler et al. (2013, 176) for instance, found that trust is directly associated with voluntary tax compliance. Trust may also function as a mediator, as claimed by Murphy (2004b), Murphy and Tyler (2008), Wahl, Kastlunger, and Kirchler (2010), Muehlbacher, Kirchler, and Schwarzenberger (2011, 95) and Gangl et al. (2012), while Van Dijke and Verboon (2010) discovered that taxpayers' compliance is conditional upon the level of trust held by each individual.

While the above findings imply that trust functions in various ways, a vast majority of these studies have remained within the ambit of procedural justice, in relation to tax compliance (see, for example, Murphy 2004b; Murphy and Tyler 2008; Wahl, Kastlunger and Kirchler 2010; Van Dijke and Verboon 2010). The association between the use of tax information assistance and tax compliance, under different levels of trustworthiness perception of the tax authority, appears to have received little attention. Here, the question remains as to whether the same relationship holds between the use of information assistance and tax compliance, under different levels of trust. Hence, a further examination is warranted to explore this relationship.

In summary, it has been claimed that trust affects taxpayers' compliance in different ways<sup>53</sup>. Despite these differences, its main objective remains identical that is, to seek cooperation and acceptance from the relevant party. In the taxation field, the recognition of the element of trust has become more important than ever in eliciting the taxpayers' cooperation. Since trust plays a minor role within the economic deterrent view (Kirchler, Hoelzl and Wahl 2008, 213; Dunning, Fetchenhauer and Schlösser 2012, 687), the incorporation of trust under the service paradigm offers a more promising resolution in penetrating the taxpayers' dispositions (Tyler 2001, 377).

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<sup>53</sup> Please refer to Section 2.5.3.2 (Table 2.6).

### **2.5.3.3 Knowledge Approach**

Tax authority information assistance is an agency-based form of assistance, which provides assistance and knowledge to self-lodgers in relation to their tax filing and reporting obligations. Since the provision of client services by a tax authority is strongly associated with tax knowledge (see, for example, Niemirowski, Baldwin and Wearing 2003, 161), tax knowledge will be discussed accordingly.

Information is important in influencing an individual's behaviour (Vogel 1974; Balch 1980; Lewis 1982; Hammar, Jagers and Nordblom 2008). It has also been claimed that individuals would be more satisfied and supportive in regard to their payment of taxes if they were better informed (Hammar, Jagers and Nordblom 2008, 540). An eloquent statement by Lewis (1982, 71) reads: "When myths and misperceptions are replaced by knowledge, we expect a change in attitude towards taxation, even if the subjects' basic ideology and values remain unchanged and the tax law is unchanged." These views suggest the significance of knowledge in minimising misunderstanding of the tax system, consistent with the views provided by Balch (1980, 44), Devos (2009, 7) and Niemirowski, Baldwin, and Wearing (2003, 154).

Competency in relation to tax is important in influencing a taxpayer's compliant behaviour (Ho et al. 2006; Kornhauser 2007). In particular, Kornhauser (2007, 629) asserted that taxpayers' comprehension of tax laws and their consequences, and their capability to apply that knowledge in managing their tax affairs, minimises dissatisfaction. A survey in Sweden revealed that knowledge of the tax system is positively associated with the subjects' compliance attitudes (Vogel 1974, 512). Similarly, Song and Yarbrough (1978, 447) found that subjects, in the US, who were knowledgeable on fiscal and tax matters tended to have better attitudes towards tax, in terms of higher ethics scores. Additionally, Eriksen and Fallan (1996, 397) discovered that Norwegian subjects who chose tax law as an elective developed a better attitude towards taxation and perceived tax evasion as a serious offense. A similar finding was drawn by Vossler, McKee, and Jones (2011, 8) in that the acquisition of tax information was significant in reducing under-reporting of tax, although the effect of information quality was negligible. A survey conducted in Australia by Niemirowski, Baldwin, and Wearing (2003, 142) also documented tax knowledge as being significantly related to attitudes towards tax compliance and behavioural intentions. In Malaysia, Kasipillai, Aripin, and Amran (2003, n.a) observed an improved attitude towards general avoidance and personal evasion

among subjects who participated in tax education. In the same way, Loo, McKerchar, and Hansford (2009, 189) revealed that knowledgeable taxpayers exhibited compliance commitment, while those lacking so demonstrated incompetency in tax reporting.

However, several studies have emphasised that the effect of tax knowledge on an individual's compliance attitude was, in fact, conditional (see, for example, Roberts, Hite and Bradley 1994; Kaplan, Newberry and Reckers 1997; Kornhauser 2007; Hammar, Jagers and Nordblom 2008; Palil 2010), and not as straightforward as suggested by several scholars (see, for example, Vogel 1974; Song and Yarbrough 1978; Eriksen and Fallan 1996; Niemiowski, Baldwin and Wearing 2003; Kasipillai, Aripin and Amran 2003; Vossler, McKee and Jones 2011). Kornhauser (2007, 630) further supported that 'knowledge of mere facts' does not necessarily increase compliance with laws, given that individuals are often guided by their own experiences, reasoning factors and other guidelines.

Similarly, Kaplan, Newberry, and Reckers (1997, 48) revealed that educational communication of legal sanctions significantly lowers tax evasion intentions, but is moderated by low moral reasoning, while Roberts, Hite, and Bradley (1994, 173) argued that tax attitudes depended upon how educational communication is framed. Interestingly, Hammar, Jagers, and Nordblom (2008, 540) discovered that tax attitudes are ideologically motivated. They found that individuals with greater knowledge of the local public sector in Sweden, remained supportive of the municipal income tax. A Malaysian study conducted by Palil (2010) documented that taxpayers' compliance is contingent upon the types of tax knowledge. Specifically, taxpayers' awareness of their rights and responsibilities, child reliefs and rebates, and their awareness of employment income, were significantly related with tax compliance (Palil 2010, 327-332).<sup>54</sup>

While studies have generally supported the view that tax knowledge is linked to favourable attitudes towards tax (see, for example, Vogel 1974; Song and Yarbrough 1978; Eriksen and Fallan 1996; Niemiowski, Baldwin and Wearing 2003; Kasipillai, Aripin and Amran 2003; Loo, McKerchar and Hansford 2009), several contradictory findings have been identified (see, for example, Jackson and Jaouen 1989; Hasseldine and Kaplan 1992; Antonides and Robben 1995; Tan and Chin-

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<sup>54</sup> Interestingly, his findings documented inconsistent result between hypothetical and direct questions.

Fatt 2000; Devos 2009; Kamil 2015). In particular, it was found that knowledge about sanctions did not have a significant effect on a taxpayer's compliance (Jackson and Jaouen 1989), nor did it improve an individual's belief that tax evasion is unacceptable (Hasseldine and Kaplan 1992). Notably, Antonides and Robben (1995, 633) observed that higher levels of education were consistent with an increase in tax evasion among the subjects of the Netherlands, plausibly explained by the supposition that better tax knowledge can be used to facilitate tax evasion, consistent with the findings of Dubin and Wilde (1988, 16).

Similarly, Tan and Chin-Fatt (2000, 53) noted that an increase in tax-specific knowledge among subjects in New Zealand, made no significant impact upon their tax compliance, while an Australian study by Devos (2009, 22) found no significant relationship between subjects' knowledge of their own tax rate, the likelihood of being audited and the number of people convicted of evasion in relation to their compliance behaviour. In contrast, knowledge of the penalties for evasion and the numbers of tax evaders was significantly related to compliance behaviour (Devos 2009, 22). In Indonesia, Kamil (2015, 107) observed a negative association between taxpayers' tax knowledge and tax compliance, while tax knowledge was not a significant determinant of tax compliance when hypothetical questions were used in Malaysia (Palil 2010, 339). Table 2.7 presents a summary of the main studies of tax education and attitudes towards tax over the last four decades.

**Table 2.7: Tax Educational Knowledge and Attitudes Towards Tax**

<b>Year</b>	<b>Author</b>	<b>Samples</b>	<b>Approach</b>	<b>Key Findings</b>
<b>1974</b>	Vogel	Individual Taxpayers (Sweden)	Survey	Knowledge on tax system is positively associated with attitude towards tax
<b>1978</b>	Song and Yarbrough	Individual taxpayers (US)	Survey	Fiscal and tax-related knowledge have positive impact on tax ethic scores
<b>1989</b>	Violette	Individual taxpayers (US)	Experiment	Communication of legal sanction are effective deterrent
<b>1996</b>	Eriksen and Fallan	Students (US)	Quasi-experiment	Improved tax-specific knowledge had an effect on tax ethic scores
<b>1997</b>	Kaplan, Newberry and Reckers	MBA students and individual taxpayers (US)	Experiment	Educational communications was moderated by moral reasoning
<b>2000</b>	Tan and Chin-Fatt	Students (NZ)	Quasi-experiment	Increased tax-specific knowledge did not have effect on tax compliance

<b>2000</b>	Chan, Troutman and O'Bryan	Student (US and HK)	Survey	Education had positive effect on compliance of US sample but none on Hong Kong sample.
<b>2003</b>	Niemirowski et al	ATO staff, taxpayers, tax agents (AUS)	Survey	Tax knowledge is significantly linked to tax-related values and attitude towards tax
<b>2003</b>	Kasipillai, Aripin and Amran	Students (M'sia)	Quasi-experiment	Tax-specific education improves attitudes towards 'general avoidance' and 'personal evasion'
<b>2007</b>	Hasseldine, Hite, James and Toumi	Individual taxpayers (UK)	Experiment	Knowledge on sanction led to higher compliance among self-prepared taxpayers
<b>2008</b>	Hammar	Public (Sweden)	Survey	Tax attitude is ideologically motivated
<b>2008</b>	Sanders, Reckers and Iyer	Individual and corporate taxpayers (US)	Experiment	Providing information through educational letters increases tax compliance
<b>2009</b>	Loo, McKerchar and Hansford	Individual taxpayers and students (M'sia)	Survey, experiment and case study	Tax knowledge improves compliance behaviour and lack of tax knowledge resulted in numerous errors.
<b>2009</b>	Devos	Individual taxpayers (AUS)	Survey and Interview	Compliance behaviour depended on the types of tax knowledge
<b>2010</b>	Palil	Individual taxpayers (M'sia)	Survey	General tax knowledge is associated with compliance behaviour

The lack of consistency in the above findings may have been contributed by several factors. The use of different dimensions of knowledge, such as 'general' (Vogel 1974), 'fiscal' (Song and Yarbrough 1978), 'tax-specific' (Tan and Chin-Fatt 2000; Kasipillai, Aripin and Amran 2003; Devos 2009; Palil 2010), and 'sanction-related' (Jackson and Jaouen 1989; Violette 1989; Hasseldine and Kaplan 1992; Hasseldine et al. 2007; Sanders, Reckers and Iyer 2008; Devos 2009), and its framing as being abstract or concrete (Roberts, Hite and Bradley 1994), could have led to the mixed and inconclusive results. Additionally, the review of each study has revealed that different dimensions of attitude towards tax were employed, which included but were not restricted to attitudes reflected in: tax ethics scores (Song and Yarbrough 1978; Eriksen and Fallan 1996); fairness of the tax system (Roberts, Hite and Bradley 1994); general avoidance and personal evasion (Kasipillai, Aripin and Amran 2003); and compliance behaviour (Devos 2009; Palil 2010). Furthermore, several studies have been conducted using undergraduate students as subjects (see, for example,

Eriksen and Fallan 1996; Craner and Lymer 1999; Chan, Troutman and O'Bryan 2000; Tan and Chin-Fatt 2000; Kasipillai, Aripin and Amran 2003), which raises concern because their responses may not represent the actual decisions made by the taxpaying community. The different methods adopted in each study, such as experimental (Eriksen and Fallan 1996; Tan and Chin-Fatt 2000; Kasipillai, Aripin and Amran 2003), survey (Palil 2010) and mixed-methods (Devos 2009; Loo, McKerchar and Hansford 2009), were also possible factors contributing to the mixed findings.

Consequently, tax knowledge may not be the sole answer in achieving compliance, given the diversity of personality traits (Buttross 1991; Blicke et al. 2006) and taxpaying cultures (Chan, Troutman and O'Bryan 2000) among individuals. Despite the importance of tax knowledge, scholars have cautioned that enhanced tax knowledge may even lead to unethical tax planning and tax evasion (see, for example, Antonides and Robben 1995, 634; Loo, McKerchar and Hansford 2009, 189), particularly when the knowledge of low detection is attained through improved tax knowledge (Fleischman and Stephenson 2012, 425). Correspondingly, Kornhauser (2007, 630) claimed that the mere provision of information may not necessarily ensure compliance with tax law. Hence, the role of the tax authority in gaining taxpayer's trust and cooperation has been equally emphasised.<sup>55</sup>

## **2.6 Chapter Summary**

This chapter deliberates two distinct but related sets of information: 1) the literature pertaining to the tax system and tax authority information assistance in Malaysia; and 2) the literature on taxpayers' help-seeking behaviour and tax compliance. In regard to the latter, relevant theories and concepts were discussed to support this study.

The Protection Motivation Theory (Rogers 1975, 1983) was used to support the explanation of taxpayers' help-seeking behaviour in terms of their use of tax authority information assistance. The theory explores an individual's perceived severity of threat, perceived probability of an event's occurrence, efficacy of the coping response and self-efficacy as the antecedents for the use of information assistance. Similarly, the A-S economic approach (Allingham and Sandmo 1972),

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<sup>55</sup> Please refer to Section 2.5.3.2 (Table 2.6).

the knowledge approach (Lewis 1971), and the motive-based trust approach (Tyler 2001) were discussed and combined to support views of the taxpayers' willingness to comply.

A review of past literature on the taxpayers' help-seeking behaviours (including the individuals' perceived severity of threat, perceived probability of an event's occurrence, efficacy of the coping response and self-efficacy) and tax compliance (namely, tax knowledge, service, trust, probability of tax audit, probability of detection and tax penalties) were included in this chapter. The findings from past studies were compared and contrasted, which has helped the researcher to understand the current state of the body of knowledge in this area of taxation law, so that the current knowledge gap could be established. Consequently, this has provided an avenue for the development of research questions, the conceptual framework and the hypotheses, as presented in the next chapter.

Generally, this study has identified several knowledge gaps. Previous studies in the field of taxation rarely have explored the presence of threat, the provision of an enabling environment and perceived trustworthiness of the tax authority, as antecedents for the use of tax authority information assistance. Additionally, studies pertaining to the use of information assistance and taxpayers' compliance are still limited. Furthermore, the moderating effect of perceived trustworthiness on the 'information assistance - tax compliance' relationship has yet to be examined. Hence, the present study will contribute to the paucity of literature in this particular field of tax research.

## **CHAPTER THREE THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT**

### **3.1 Chapter Overview**

This chapter presents the operational development of the study. It begins by outlining the research questions and objectives developed for the study, followed by a discussion of the relevant theory and concepts. Thereafter, the constructs and dimensions of the study are identified and hypotheses are outlined. This chapter concludes with a chapter summary.

### **3.2 Research Questions**

This study will address the following research questions:

1. What are the background characteristics of the users of tax authority information assistance?
2. Are the threat appraisals, coping appraisals and perceptions of the trustworthiness of the tax authority significantly associated with the individual taxpayers' usage of tax information assistance?
3. Is the use of tax information assistance significantly associated with the taxpayers' willingness to comply?
4. Do the taxpayers' levels of perceived trustworthiness of the tax authority moderate the relationship between the use of tax information assistance and the taxpayers' willingness to comply?

### **3.3 Research Objectives**

The direction of this study can be summarised by the following objectives:

1. To examine the background characteristics of the users of tax authority information assistance.
2. To explore the relationships among threat appraisals, coping appraisals and perceived trustworthiness in association with the use of tax authority information assistance.

3. To examine the association between the use of tax authority information assistance and taxpayers' willingness to comply.
4. To explore the conditional effect of perceived trustworthiness of the tax authority on taxpayers' willingness to comply.

### **3.4 Motivation to Use Tax Authority Information Assistance**

The literature on help-seeking in the area of taxation has been dominated by studies on seeking assistance from tax preparers (see, for example, Jackson and Milliron 1989, 434; Klepper and Nagin 1989; Christian, Gupta and Lin 1993; Hite and Hasseldine 2003; Fleischman and Stephenson 2012). Seeking assistance from a tax authority - whether directly or indirectly - rarely has been emphasised in the literature. Realising the current knowledge gap, this research was conducted to investigate the factors associated with shaping the help-seeking behaviour of Malaysian self-lodgers.<sup>56</sup> This study employs an individual's use of tax authority information assistance as a proxy for help-seeking behaviour. The review of the literature has revealed that the roles of threat appraisals, coping appraisals and perceived trustworthiness in association with the use of tax authority information assistance have not, to the best of the researcher's knowledge, been examined.

This study employs the guidance of the revised Protection Motivation Theory (PMT), pioneered by Rogers (1975; 1983), in assessing the taxpayers' usage of tax information assistance.<sup>57</sup> A discussion of each variable is presented in the following sub-sections. In view of the limited literature focusing on usage of tax authority-based assistance, the operational development of this study made use of the literature obtained from previous taxation, health behavioural and social psychological studies.

#### **3.4.1 Threat Appraisals**

Threats have been widely included in compliance strategies, arguably, because the mere presence of a threat is believed to help dissuade individuals from tax non-compliance (Slemrod, Blumenthal and Christian 2001; Alm, Jackson and McKee 2009). PMT (Rogers 1975, 1983) postulates that an individual's adoption of the

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<sup>56</sup> The self-lodgers comprised of individuals who independently prepared their tax returns. Additionally, they may have sought advice from their friends, relatives, peers and/ or the tax authority prior to the submission of their tax returns, although the latter case is the central one for this research.

<sup>57</sup> Please refer to Chapter 2, Section 2.4.2 for a detailed discussion of PMT.

recommended mechanism is triggered by the presence of threat. Therefore, when applied in the field of taxation, the theory suggests that when taxpayers are punished for non-compliance, they will have more incentive to use tax information assistance for correct tax reporting. This idea was further supported by Hasseldine et al. (2007, 176) who maintained that the increased likelihood of an audit will have an impact on the execution of taxpayers' obligations. This view was consistent with the meta-analysis findings of Sutton (1982), which revealed that increased levels of fear consistently resulted in increased acceptance of the adaptive, or good, behaviour. The elements of threat in PMT (Rogers 1975, 1983) are comprised of the severity of threat perception and the likelihood of an event's occurrence, both of which are discussed next.

#### **3.4.1.1 Severity of Threat Perception**

The perceived severity of threats can be defined as the individual's perception of the degree of harm or loss (Rogers 1975, 97). Applied in the context of this study, the severity of threat perceptions can be understood as the perceived anxiety of undergoing a tax audit and receiving a tax penalty. Carroll (1992, 46) described audit anxiety as the consequence of having to gather all the relevant documents and financial records, the distressing thought of being probed by the government auditors and having to deal with the audit outcome. On the other hand, anxiety regarding a tax penalty may include, but not be restricted to, the inconvenience of having to deal with penalty payment and its unaffordable cost.

The operational development of information assistance usage was impeded by the limited literature focusing on tax authority-based assistance.<sup>58</sup> Hence, literature regarding the hiring of tax professionals was employed as a guide for this study. While findings revealed that threat generally influences a taxpayer's decision to seek help, the findings were mixed. For instance, the decision to hire a tax return preparer was found to be positively linked with the existence of tax penalties (Long and Caudill 1993) but unrelated to audit anxiety (Collins, Milliron and Toy 1992). While studies have found that taxpayers do desire to have their tax returns prepared correctly (see, for example, Yankelovich, Skelly and White Inc. 1984; Collins, Milliron and Toy 1992; Hite, Stock and Cloyd 1992, 21; Hite and McGill 1992, 399;

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<sup>58</sup> In general, expert assistance in dealing with tax affairs can be sought from licensed tax practitioners (Hite and McGill 1992; McKerchar 2007), the tax authority (Alm et al. 2010; Gangl et al. 2012), and online assistance via software (Noga and Arnold 2002).

Christensen 1992; Hite and Hasseldine 2003), several studies have found 'fear of making a mistake' as an important reason for seeking help on tax matters (see, for example, Yankelovich, Skelly and White Inc. 1984; McKinstry and Baldry 1997, 140; Fleischman and Stephenson 2012, 421). In particular, Fleischman and Stephenson (2012, 421) discovered that taxpayers favoured filing an accurate return because they wished to comply with tax codes and avoid a penalty.

Despite the inconsistencies in the above findings, it was generally agreed that the provision of assistance relieves the taxpayers' anxieties, in part, by having their returns prepared more confidently (see, for example, Yankelovich, Skelly and White Inc. 1984; Hite, Stock and Cloyd 1992, 21; Noga and Arnold 2002, 126). Hence, two dimensions of perceived severity of threat were determined for examination, namely the anxiety of receiving a tax penalty (TPENALTY) and audit anxiety (TAUDIT). The respondents' perceptions of TPENALTY were pursued by seeking their agreement on their anxieties of: 1) being penalised for non-compliance; 2) the unaffordable cost of a tax penalty; and 3) the inconvenience caused by a penalty. The respondents' levels of audit anxiety were assessed using anxiety as a result of: 1) tax audit selection; 2) being questioned by a tax auditor for incorrect tax reporting; 3) loss of respect due to non-compliance; and 4) being labelled as a tax offender. These items were measured using a five-point Likert-type scale ranging from 'Strongly Disagree' to 'Strongly Agree'.

#### **3.4.1.2 Likelihood of Event's Occurrence**

The likelihood of an event's occurrence can be understood as the perceived exposure to risk when the recommended response is not carried out (Rogers 1975, 97). In the context of this study, it can be viewed as the taxpayer's perception of the likelihood of being audited and detected for non-compliance if the recommended mechanism is not undertaken when encountering a tax problem.

Studies from various fields have documented inconsistencies in their findings. For instance, Neuwirth, Dunwoody, and Griffin (2000, 727) discovered that the individual's adoption of a preventive mechanism was negatively correlated with threat likelihood, while a meta-analysis study conducted by Floyd, Prentice-Dunn, and Rogers (2000, 416) suggested that the increased threat likelihood facilitated the adoptive behaviour. In the taxation field, the notion that a taxpayer will seek assistance from a tax return preparer to protect themselves from the tax authority,

specifically in regard to tax audit, has been emphasised in several studies (see, for example, McKinstry and Baldry 1997, 140; Hite and Hasseldine 2003; Nichols and Price 2004). However, while the decision to hire a tax professional has been positively linked with audit rate (see, for example, Dubin et al. 1992, 79; Erard 1993, 187), Christian, Gupta, and Lin (1993, 500) and Long and Caudill (1993) found no significant relationship in their studies.

Despite the mixed findings, it was generally agreed that the likelihood of a threat occurrence played an integral role in persuading taxpayers to seek help. However, its effect on the usage of tax authority information assistance is not well understood due to the dearth of knowledge in this area. Therefore, the probability of being audited (PAUDIT) and detected (PDETECT) were examined in association with the use of tax authority information assistance (USAGE). Several items, in the form of statements, were developed to reinforce the respondents' concurrence with each dimension. The items for PDETECT were measured using a five-point Likert-type scale, ranging from strongly agree to strongly disagree, while the scale for PAUDIT ranged from very low possibility to very high possibility. The probability of being audited was rated by the respondents' levels of agreement with: 1) the likelihood of a tax audit for individual taxpayers;<sup>59</sup> and 2) the likelihood of an audit for oneself. On the other hand, the perceived probability of being detected was reflected in the respondents' levels of agreement on the likelihood of: 1) being detected for a false deduction; 2) being detected for underreported income; and 3) tax officers being thorough in their conduct of tax audits.

### **3.4.2 Coping Appraisals**

The importance of a service-orientated paradigm in promoting voluntary compliance has been consistently emphasised by scholars within the taxation field (see, for example, Kirchler, Hoelzl and Wahl 2008; Alm et al. 2010; Alm and Torgler 2011; Gangl et al. 2012) and the Organisation for Economic Cooperation and Development (OECD 2010, 2007). Alm et al. (2010, 580) asserted that compliance was likely to be higher when services were viewed as helpful and were provided in an appropriate manner. Therefore, in an effort to persuade individuals to seek help, it is important to identify the characteristics of an effective coping mechanism. The

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<sup>59</sup> The term 'small business proprietor' was indicated in the questionnaires distributed to small business proprietors while 'salaried taxpayers' was indicated in those distributed to salaried groups.

coping appraisals under PMT (Rogers 1975, 1983) were comprised of the efficacy of the coping mechanism and the self-efficacy expectancy, which are discussed below.

### **3.4.2.1 Efficacy of Coping Response**

The efficacy of a coping response can be defined as the effectiveness of the coping mechanism in preventing harm or loss (Rogers 1975, 97). From the viewpoint of this study, the efficacy of a coping mechanism can be understood as the effectiveness of the tax authority information assistance in assisting taxpayers to meet their tax reporting obligations.

Reviews of literature from various fields suggested that an individual's perception of the effectiveness of a coping mechanism is closely linked to the individual's intention to adopt preventive action (Sutton 1982; Cherry 2002, 567; Jahng, Jain and Ramamurthy 2007, 263; Khalifa and Liu 2007; Connolly, Bannister and Kearney 2010, 656). In the field of tax compliance, the move towards providing an excellent service has been widely welcomed (see, for example, the compliance strategies of tax authorities in Australia, New Zealand, Singapore, Canada, and the UK). However, there appears to be a tendency to place an overwhelming emphasis on the external features of taxpayer services, presumably because an improvement in the external features is believed to enhance voluntary compliance. On that note, a vast majority of taxpayer service reports have been quality-centric (see, for example, Singh 2004; Baurer 2005; Hanefah 2007; Dohrmann and Pinshaw 2009; Alm et al. 2010; Bruch, Cico and Mehmood 2011; Vossler, McKee and Jones 2011) where the effectiveness of a coping mechanism is reflected in the aspects of improved service, feasibility, accuracy, accessibility, timeliness and certainty. While the external qualities remain essential, the enthusiasm to provide excellent service has overshadowed the need for a greater emphasis on the internalised aspect of the coping mechanism, that is, in understanding the taxpayers' attitudes towards monetary risk minimisation. This can be understood as the taxpayers' attitudes towards the benefit of using tax information assistance in terms of minimising monetary risk.

Realising the current knowledge gap, in this study, the perceived effectiveness of information assistance in assisting with tax reporting (RES\_EFFI) was integrated with the monetary risk minimisation attitude (ATTITUDE) in examining the individual's usage of tax information assistance. In order to measure each

dimension, several items (in the form of statements) were developed to strengthen the respondents' levels of agreement with each variable. The respondents' levels of agreement with each statement were measured using a five-point Likert-type scale ranging from 'Strongly Disagree' to 'Strongly Agree'. The efficacy of the supplied coping mechanism to assist with tax reporting was captured by seeking the respondents' levels of agreement with items pertaining to: 1) minimisation of unintentional mistakes; 2) assistance with tax reporting; 3) help in completing the tax return; 4) opportunity to reduce tax liability; 5) reliability of information; 6) accuracy of information; and 7) availability of various service channels.<sup>60</sup> Alternatively, the benefit of information assistance in minimising monetary risk was measured based on the respondents' levels of agreement in terms of: 1) minimising the risk of incorrect payment of tax; 2) minimising overpaid tax; and 3) minimising penalty costs for non-compliance.

#### **3.4.2.2 Self-Efficacy Expectancy**

Self-efficacy expectancy can be understood as the ability of an individual to perform a specific task that is essential in solving a problem (Bandura 1982, 122; Schmidt and Karsten 2004, 85). From the perspective of this study, it can be referred to as the taxpayer's ability to understand and use tax information in resolving tax problems. Collectively, reviews of literature from various fields have supported self-efficacy as being significantly correlated with an individual's intention to adopt a recommended action (Wen-Hua 1999; Floyd, Prentice-Dunn and Rogers 2000; Milne, Orbell and Sheeran 2002; Norman, Boer and Seydel 2005; McKee, Simmers and Licata 2006), although Zhao, Li-Shan, and Mattila (2008, 500-501) found no significant relationship between self-efficacy and intention to adopt a recommended action. Similarly, Langham, Paulsen, and Hartel (2012, 381) discovered that taxpayers' beliefs in their capability to perform correct reporting did not support their intentions to comply. On a different note, a lack of confidence in obtaining information may affect the decision quality of an individual. Zha, Li, and Yan (2013, 882) discovered that self-efficacy in obtaining information is reflected by confidence in searching, comparing and evaluating information and it significantly affects the decision quality of individuals. As such, taxpayers' abilities to effectively obtain tax information are important in affecting their decisions to use tax information (Schmidt and Karsten 2004, 85).

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<sup>60</sup> Three negatively worded statements were included in the survey.

The lack of literature in support of the association between self-efficacy and the use of tax authority information assistance suggests that little attention has been given to this area. In view of this, self-efficacy was examined by this study to fill the current knowledge gap. Two dimensions of self-efficacy were identified, namely the capability to use the tax information (SELF\_EFFI) and the capability to obtain tax information (OAPTITUDE). In order to measure each dimension, several items (in the forms of statements) were developed to reinforce the respondents' levels of agreement with each variable. The respondents' agreements with each statement were measured using a five-point Likert-type scale ranging from 'Strongly Disagree' to 'Strongly Agree'. Respondents' beliefs in their confidence to use tax information were measured by pursuing assessment of their confidence to: 1) understand tax information; 2) understand the terms used; and 3) use the tax information. On the other hand, their confidence to obtain tax information was captured by seeking their levels of agreement regarding their capabilities to obtain tax information: 1) without disrupting their daily routine; 2) in a timely manner; and 3) conveniently.

### **3.4.3 Perceived Trustworthiness**

It is generally understood that, when individuals encounter uncertainty, they commonly choose to trust others in seeking solutions (Mayer, Davis and Schoorman 1995; Sniezek and Van Swol 2001). Hence, trust is deemed to be important in maintaining a positive attitude towards seeking assistance (see, for example, Barwick, de Man and McKelvie 2009, 335; Koydemir et al. 2010, 280-283; Rickwood and Braithwaite 1994, 564). In the same vein, taxpayers' perceptions of a tax authority are important in persuading them to use the provided tax information assistance for correct reporting.

The review of the literature revealed that trustworthiness perceptions towards tax authorities have not, to the knowledge of the researcher, been examined in relation to the use of the tax authorities' information assistance. Recognising this gap, perceived trustworthiness was integrated with threat and coping appraisals in examining the factors associated with the use of information assistance. It was anticipated that the sample of this study would include a substantial number of indirectly assisted individuals and,<sup>61</sup> hence, the motive-based trust concept

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<sup>61</sup> Indirectly assisted individuals were those who relied on web-based assistance and written references for tax reporting.

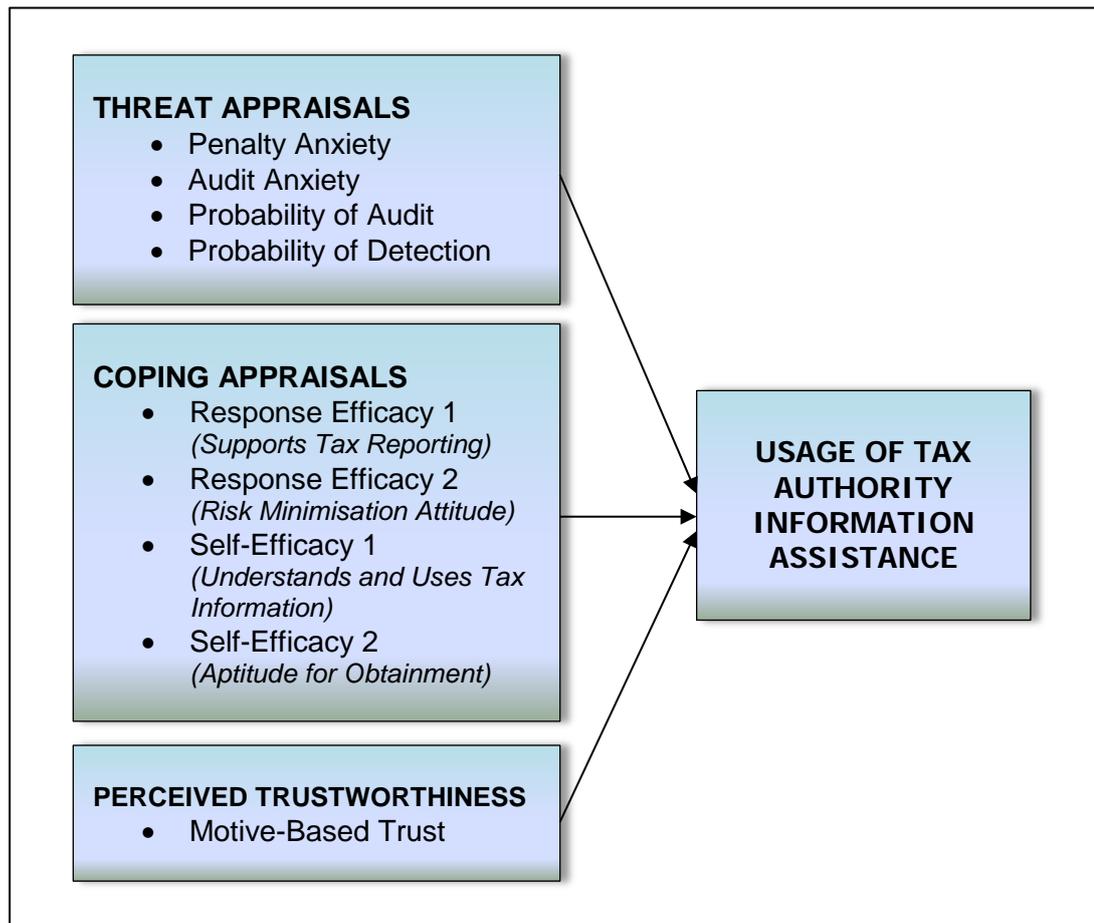
proposed by Tyler (2001) to measure trust was appropriately considered. The motive-based trust concept (Tyler 2001) is suitable for a conventional environment where direct interactions are taking place, as well as in a non-conventional environment where the direct interactions are limited.

Tyler (2001) asserted that individuals are more likely to adhere to the decision made by an authority if they believe that the authority is motivated by concern for their welfare. As such, the current study postulates that self-prepared taxpayers will be more likely to seek assistance for tax reporting if they believe that the tax authority's provisions of assistance are driven by concern to help them in meeting their tax obligations. Seven items (in the form of statements) were developed to reinforce the respondents' levels of agreement regarding trustworthiness perceptions. A five point Likert-type scale which ranges from strongly agree to strongly disagree was applied. The respondents' perceptions of the tax authority were rated based on their beliefs about whether the tax authority: (1) acts in the best interest of taxpayers; (2) does its best to help the taxpayers; (3) lacks expertise in assisting taxpayers; (4) is knowledgeable about the services it provides; (5) has a sincere desire to be fair to all taxpayers; and (6) decides based on law; and whether (7) the tax authority's policies should be changed.<sup>62</sup> The respondents' levels of agreement on each statement were measured using a five-point Likert-type scale ranging from 'Strongly Disagree' to 'Strongly Agree'. The conceptual framework for the use of the tax authority's information assistance is presented in Figure 3.1.

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<sup>62</sup> Two negatively worded statements were included. PTRUST items were expected to co-vary with each other since they were measuring the same dimension.

**Figure 3.1: The Conceptual Framework for the Use of the Tax Authority's Information Assistance**



The use of tax authority information assistance was examined at two levels. The first level explored the role of threat appraisals, coping appraisals and perceived trustworthiness in association with the use of tax authority information assistance. The conceptual framework, which emphasises this association, is presented in Figure 3.1 (above), while a summary of the alternate hypotheses developed for the study is presented in Table 3.1. The second level of the study examined the relationship between the use of tax information assistance and the taxpayers' willingness to comply, which are covered in the next section.

**Table 3.1: A Summary of the Alternate Hypotheses in Relation to the Use of Tax Authority Information Assistance**

	<b>ALTERNATE HYPOTHESES</b>
<b>THREAT APPRAISALS</b>	H <sub>A 1(a)</sub> : There is a significant relationship between TPENALTY and USAGE
	H <sub>A 1(b)</sub> : There is a significant relationship between TAUDIT <sup>63</sup> and USAGE
	H <sub>A 1(c)</sub> : There is a significant relationship between PAUDIT and USAGE
	H <sub>A 1(d)</sub> : There is a significant relationship between PDETECT and USAGE
<b>COPING APPRAISALS</b>	H <sub>A 2(a)</sub> : There is a significant relationship between RES_EFFI and USAGE
	H <sub>A 2(b)</sub> : There is a significant relationship between ATTITUDE and USAGE
	H <sub>A 2(c)</sub> : There is a significant relationship between SELF_EFFI and USAGE
	H <sub>A 2(d)</sub> : There is a significant relationship between OAPTITUDE and USAGE
	H <sub>A 2(e)</sub> : ATTITUDE mediates the relationship between RES_EFFI and USAGE
<b>PERCEIVED TRUSTWORTHINESS</b>	H <sub>A 3</sub> : There is a significant relationship between PTRUST and USAGE

### 3.5 Taxpayers' Willingness to Comply

Tax compliance can be referred to as the extent to which a taxpayer meets the four categories of his or her tax obligations, namely: registration in the tax system; timely filing or lodgement of requisite tax information; reporting of complete and accurate information; and payment of tax obligations on time (OECD 2004, 7). Alternatively, Roth, Scholz, and Witte (1989, 21) defined tax compliance to mean "that the taxpayer files all required tax returns at the proper time and that the returns accurately report tax liability in accordance with the Internal Revenue Code, regulations, and court decisions applicable at the time the return is filed". However, it is difficult to accurately measure tax compliance, particularly when data is not readily

<sup>63</sup> This hypothesis was later removed during the quantitative analysis (refer Chapter 6, Section 6.4.1 for detailed discussion) due to the presence of multicollinearity between TPENALTY and TAUDIT. However, the removal was not a limitation and did not disrupt the overall result of the study.

available and shared, which is likely to be the case in most developing countries. Therefore, researchers utilising the survey method have tended to rely on the respondents' levels of agreement with their tax compliance statements and to support their findings with well-established theories, models and concepts (see, for example, Abdul-Jabbar 2009; Palil 2010; Saad 2011; Gangl et al. 2012; Mohdali 2013) .

In the context of this study, the willingness to comply is categorised under administrative and reporting compliance. Two items were developed to measure the respondents' willingness to comply under administrative compliance. These items included the statutory tax obligation highlighted by the OECD (2004, 7) and Roth, Scholz, and Witte (1989, 21) by assessing the respondents' agreement to: (1) the timely filing of tax returns; and (2) timely payment of tax liabilities. Conversely, four indirect questions developed by Yankelovich, Skelly, and White Inc. (1984, 26-27) were adapted to measure the respondents' willingness to report their tax liabilities, namely: (1) I feel tense about a 'larger than usual' amount of tax; (2) It is not considered cheating when rules are bent a little to find ways to pay a lower amount of tax; (3) With what things cost these days, it is all right to 'stretch' the tax deductions in order to minimise the tax burden; and (4) It is all right to underreport certain income since it does not really hurt anyone.<sup>64</sup>

The indirect questions were adapted because taxpayer's compliance in tax reporting is considered to be sensitive by many. Therefore, respondents may have the tendency to provide favourable answers due to their concerns about the social desirability of their actions (see, for example, Wenzel 2004, 224). Furthermore, these items have gained wide acceptance among tax researchers in the survey field (see, for example, Harris and Associates 1987; Roberts 1994; Abdul-Jabbar 2009; Isa 2012). The respondents' levels of agreement with each statement were measured using a five-point Likert-type scale ranging from 'Strongly Disagree' to 'Strongly Agree'. These items were rephrased for easier understanding but were expected to co-vary with each other since they were measuring the same variable.

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<sup>64</sup> Since these items reflect non-compliance, the responses were reversed, accordingly, prior to data entry. Additionally, these items were appropriately rephrased in order to ensure that the questions were understood by individuals from various backgrounds.

The present study on tax compliance is guided by the concepts of the knowledge approach (Lewis 1982), the A-S economic approach (Allingham and Sandmo 1972; Yitzhaki 1974) and the motive-based trust approach (Tyler 2001). The discussions of each approach and the operational development of each variable are discussed and presented below.

### **3.5.1 Knowledge Approach**

Information is necessary to formulate opinion and shape a deeper comprehension of tax (Vogel 1974, 512) in order to minimise misunderstanding of the tax system (Lewis 1982, 71). These opinions were supported by Balch (1980, 44) who claimed that lack of information leads people to behave in an undesirable manner. As such, he posited that an information strategy can help to influence people's behaviour. Lewis (1982, 71) reinforced this view by asserting that a change in attitude is anticipated when 'myths and misperceptions are replaced by knowledge' even if the individuals' beliefs and values remain unchanged. He further emphasised that, less educated individuals are more likely to perceive taxation negatively because of their lack of knowledge in terms of its benefits. Hence, the tax authority plays a crucial role in ensuring that self-lodgers are knowledgeable and informed via the provision of information assistance and other educational efforts.

Studies have shown that an increase in tax knowledge is consistent with an improved attitude towards tax (see, for example, Song and Yarbrough 1978; Roberts 1994; Eriksen and Fallan 1996; Kasipillai, Aripin and Amran 2003). In particular, Alm et al. (2010, 585) revealed that information provided via taxpayer services improves reporting compliance, while Palil (2010, 297) noted an increased knowledge among individuals who have attended a tax course. However, several insignificant findings were noted in the works of Hasseldine and Kaplan (1992), Tan and Chin-Fatt (2000) and Devos (2009). Kornhauser (2007, 630) maintained that individual's compliance are often guided by various principles and that knowledge doesn't guarantee compliance with law. Kasipillai, Aripin, and Amran (2003) even cautioned that an increase in knowledge may even result in instances of evasion as individuals become aware of loopholes in the tax system.

The information advice from the Malaysian tax authority comes in two general forms, namely a binding ruling and a non-binding guidance product. The main focus of this study is on the latter, although the former form may apply but to a lesser extent. The

information assistance provided includes general information on tax issues, and explanations and guidelines on tax law, all of which can be obtained from the website, pamphlets, flyers, other written references and face-to-face front counter interactions. After appropriate consideration, the use of information assistance was measured based on the problems or tasks that individual taxpayers are likely to encounter in meeting their tax obligations. This was determined after considering the content of the individual taxpayer return form, and the appropriate services in relation to filing and payment.

Since it was not possible to list all the types of information assistance provided by the IRBM, it was appropriately categorised where possible.<sup>65</sup> The use of tax authority information assistance was measured using seven items that included information assistance in: (1) determining taxable income; (2) eligibility of deductions; (3) completion of a tax return form; (4) password matters; (5) tax payment matters; (6) general enquiries on tax lodgement matters; and (7) obtaining tax forms.<sup>66</sup> Firstly, respondents were requested to reflect on their most recent encounter of tax difficulties. Next, they were required to relate the tax difficulties encountered with their usage of information assistance. This approach was necessary since asking the respondents to reflect on their experiences within the current year or previous years may not be appropriate because individuals may not consistently use the information assistance on a yearly basis. Thereafter, they were requested to rate their agreement on the usage of information assistance, from 'Strongly Disagree' to 'Strongly Agree', based on a five-point Likert-type scale

### **3.5.2 A-S Economic Approach**

The economic concept was first applied in the field of tax compliance by Allingham and Sandmo (1972), based on the 'economics of crime' approach (Becker 1968) and the belief that individuals are rational and opportunistic in nature (Von Neumann and Morgenstern 1947). The A-S economic approach posits that an individual will rationally weigh the chances of a successful evasion against the risky prospect of being caught and punished. Since this approach implies that individuals pay taxes

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<sup>65</sup> The definition and examples of the forms of information assistance were included in the questionnaires for easy understanding.

<sup>66</sup> The researcher would like to thank Dr Kim Bloomquist (IRS) for his opinion on the items developed.

out of fear of being caught and punished, the A-S economic model also posits that tax compliance can be achieved by increasing the levels of deterrence.<sup>67</sup>

The use of deterrence is pertinent in many regulatory agencies, arguably, because the presence of threats is believed to enhance voluntary compliance (Braithwaite 2003b; Hasseldine et al. 2007, 176; Kirchler, Hoelzl and Wahl 2008; Alm, Jackson and McKee 2009, 392). Over the past four decades, the use of various deterrent approaches has been emphasised. However, findings have remained inconsistent. For instance, the probability of being audited revealed a significant relationship with tax compliance in several studies (Witte and Woodbury 1985; Beck, Davis and Jung 1991; Webley et al. 1991) while no significant associations were observed in others (Friedland, Maital and Rutenberg 1978; Forest and Sheffrin 2002, 85; Alm et al. 2010, 585). Others claimed that taxpayers comply as a result of frequency in audit probability (Dubin, Graetz and Wilde 1990; Beck, Davis and Jung 1991; Birskyte 2008, 82; Fleischman and Stephenson 2012, 434) although Friedland, Maital, and Rutenberg (1978) found no significant increase in tax compliance. In addition, the probability of detecting a taxpayer's non-compliance can be influenced positively by the proficiency of tax officers (Raig, Pope and Pinto 2014) and negatively by resource constraints (Slemrod, Blumenthal and Christian 2001).

Similarly, inconsistent findings were documented whereby the perceived probability of detection was significantly related to taxpayers' compliance (see, for example, Witte and Woodbury 1985; Carnes and Englebrecht 1995) but no significant associations were found in other studies (see, for example, Friedland, Maital and Rutenberg 1978; Christensen and Hite 1997, 12). In regards to tax penalty, several studies have discovered the severity of penalty as having significant associations with tax compliance (see, for example, Friedland, Maital and Rutenberg 1978; Grasmick and Bursik 1990; Beck, Davis and Jung 1991; Park and Hyun 2003) while others failed to observe a significant relationship (see, for example, Schwartz and Orleans 1967; Webley et al. 1991; Devos 2008, 32).

While economic factors have provided inconsistent findings in relation to tax compliance, the presence of threat is necessary to deter taxpayers from non-compliance (Braithwaite 2003b; Alm, Jackson and McKee 2009, 392). In addition, Slemrod, Blumenthal, and Christian (2001, 456) emphasised that the possibility of

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<sup>67</sup> Please refer to Chapter 2, Section 2.5.2, for detailed discussion.

evasion should be deliberated during the planning of any tax structure since most taxpayers will not voluntarily comply in the absence of threats. In regard to these strong views and the inconsistency of findings, several economic variables were examined by this study as competing variables in the seeking of tax authority information assistance. These economic variables covered the anxieties of tax penalty (TPENALTY), audit probability (PAUDIT) and detection probability (PDETECT).

In order to measure each variable, several items or questions were developed to reinforce the respondents' levels of agreement with these statements. The responses were measured using a five-point Likert-type scale, ranging from 'Strongly Disagree' to 'Strongly Agree', with the exception of audit probability (PAUDIT), which had a scale ranging from very low possibility to very high possibility. The respondents' levels of agreement with tax penalty (TPENALTY) were measured by their concerns about: 1) being penalised for tax non-compliance; 2) the unaffordable cost of a tax penalty; and 3) the inconvenience caused by a tax penalty. The probability of audit (PAUDIT) was measured by seeking the respondents' levels of agreement with: 1) the likelihood of a tax audit for an individual taxpayer; and 2) the likelihood of a tax audit for oneself. The probability of being detected was reflected in the respondents' assessments of the likelihood of: 1) being detected for making a false deduction; 2) being detected for underreporting of income; and 3) the tax officers being thorough in conducting a tax audit.

Alternatively, not all analysts of tax evasion concurred with the concept theorised by Allingham and Sandmo (1972). Levi (1988) and Alm, Sanchez, and De Juan (1995, 5) disputed that, if taxpayers did behave as proposed by the economic theory, then the compliance level should be lower due to the extremely low penalty and audit rates. In short, the 'rational' individuals would elude taxation, knowing that it will be unlikely for them to get caught. However, since the compliance level among taxpayers appears to be higher than initially presumed, the long held credo that compliance is solely the effect of enforcement is inaccurate. This rich argument has since offered prolific grounds for providing recognition of psychological factors (Kirchler, Hoelzl and Wahl 2008, 211). Since the higher than expected level of compliance could be explained by factors beyond enforcements, this study will also examine the taxpayers' trustworthiness perceptions of the tax authority. Specifically, the association between use of the tax information assistance and the individuals'

willingness to comply will be studied under different levels of perceived trustworthiness, which are discussed next.

### **3.5.3 Motive-Based Trust Approach**

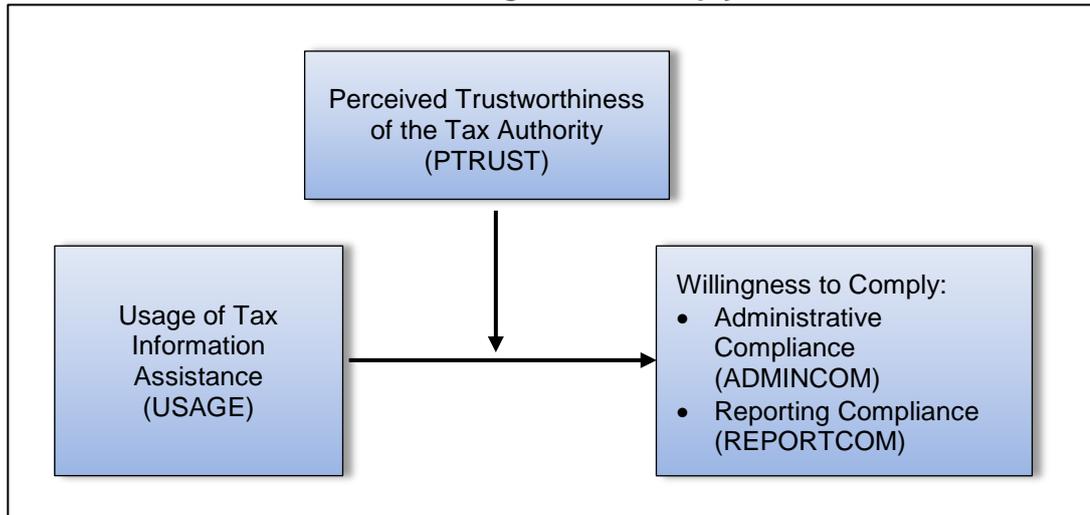
According to Tyler (2003, 567), it is possible to identify the mechanisms that enhance trust, in an environment where social interaction exists. For instance, an individual can rely on his or her history of interaction or experiences to evaluate benevolence and fairness of the authority in its execution of procedures, as the base on which to build trust. However, using a similar mechanism to gain trust is difficult in the absence of direct interactions (Tyler 2003, 567) where taxpayers rely on indirect assistance such as web-based information and circulated references. In such instances, the concept underscored by motive-based trust (Tyler 2001) is relevant because it can be applied to instances of both direct and indirect assistance.

Motive-based trust is grounded upon the idea that one can anticipate how the other person will react by simply displaying conduct that promotes good faith. According to Tyler (2001, 366), most authorities have the expertise and resources at their disposal necessary to offer them the prospect of demonstrating desirable behaviour, such as acting in the best interests of the community. Motive-based trust posits that, by behaving in desirable ways, cooperation from the public is likely. In the context of taxation, since the tax authority is known to possess the necessary resources and knowledge to assist taxpayers, motive-based trust (Tyler 2001, 367; 2003, 7) theorises that the tax authority can encourage cooperation by behaving in ways that demonstrate good faith. However, since individuals rarely monitor the conduct of a tax authority, Tyler (2001, 366) asserts that individuals are only able to presume that the tax authority is acting in 'good faith', validated by their efforts in assisting the taxpayer community. This is consistent with the statements by Baurer (2005, 15) and Bergman (2003), which assert that the type of treatment received will help to shape the taxpayers' impressions of the tax administration. Similarly, trust in the tax authority can be enhanced by improving the taxpayer services and taxpayers' levels of literacy (Kirchler, Hoelzl and Wahl 2008, 217). When these efforts are demonstrated, taxpayers are then able to place their confidence in the tax authority and make inferences that it is genuine in its desire to assist them (Tyler 2001).

Scholars have attempted to associate trust with tax compliance in various ways. For instance, trust has been found to influence tax compliance when examined as an independent variable (see, for example, Pommerehne and Weck-Hannemann 1996; Feld and Frey 2002), a mediator (see, for example, Murphy 2004b; Murphy and Tyler 2008; Gangl et al. 2012) and a moderator (see, for example, Van Dijke and Verboon 2010). In particular, there is an increasing consensus that improved taxpayer services are critical to improve trust towards a tax authority (see, for example, Kirchler, Hoelzl and Wahl 2008, 217; Muehlbacher and Kirchler 2010, 608; Muehlbacher, Kirchler and Schwarzenberger 2011, 95). In a similar vein, trust was also found to mediate the relationship between procedural justice and compliance (Murphy 2004b; Murphy and Tyler 2008; Kirchler, Hoelzl and Wahl 2008).

Despite the growing interest in this area, the conditional effect of perceived trustworthiness on the relationship between information assistance and tax compliance is not well understood or researched. Realising this knowledge gap, the self-lodgers' feelings of trustworthiness in relation to the tax authority will be examined. This study posits that individuals are more likely to comply if they believe that the tax authority's provisions of assistance are driven by its concern to help them in meeting their tax obligations, consistent with the motive-based trust concept (Tyler 2001). Seven items (in the form of statements) were developed to assess the respondents' levels of agreement in regard to their trustworthiness perceptions. The respondents were requested to rate their perceptions of the tax authority by inquiring whether the tax authority: (1) acts in the best interests of the taxpayers; (2) does its best to help taxpayers; (3) lacks expertise in assisting taxpayers; (4) is knowledgeable about the services provided; (5) has a sincere desire to be fair; (6) reaches decisions based on law; and (7) should change its policies. The respondents' levels of agreement with each statement were measured using a five-point Likert-type scale ranging from 'Strongly Disagree' to 'Strongly Agree'. The conceptual diagram of this study is illustrated in Figure 3.2.

**Figure 3.2: Conditional Effect of PTRUST on the Relationship between USAGE and Willingness to Comply**



The conceptual diagram in Figure 3.2 posits the conditional effect of perceived trustworthiness on the relationship between the use of information assistance and the individuals' willingness to comply. In particular, the study examines whether the same relationship holds at different levels of trustworthiness perception.<sup>68</sup> The alternate hypotheses developed to test these relationships are presented in Table 3.2.

**Table 3.2: A Summary of the Alternate Hypotheses in Relation to Administrative and Reporting Compliance**

	<b>ALTERNATE HYPOTHESES</b>
<b>USAGE OF TAX INFORMATION ASSISTANCE</b>	H <sub>A 4(a)</sub> : There is a significant relationship between USAGE and ADMINCOM
	H <sub>A 4(b)</sub> : There is a significant relationship between USAGE and REPORTCOM
	H <sub>A 5(a)</sub> : PTRUST moderates the relationship between USAGE and ADMINCOM
	H <sub>A 5(b)</sub> : PTRUST moderates the relationship between USAGE and REPORTCOM

<sup>68</sup> Three levels of perceived trustworthiness were identified using the "simple slopes" testing recommended by Aiken and West (1991). A detailed explanation is provided in Chapter 6, Section 6.5.2.

### 3.6 Chapter Summary

This chapter presented the operational development of constructs, dimensions and indicators or items, and the hypotheses to test the postulated relationships between variables. In examining the role of threat appraisals, coping appraisals and perceived trustworthiness in association with the use of tax authority information assistance, the study was guided by the Protection Motivation Theory of Rogers (1975; 1983) and the motive-based trust concept of Tyler (2001). Next, the association between the use of tax authority information assistance and the individuals' willingness to comply was guided by the knowledge concept (Lewis 1982) while the conditional effect of perceived trustworthiness was supported by the motive-based trust concept (Tyler 2001). In addition, economic variables were included as competing variables, which were guided by the A-S economic model (Allingham and Sandmo 1972). In an effort to measure each variable, several items were developed to reinforce the respondents' levels of agreement with each statement that signified a variable. These items were expected to co-vary with each other since they were measuring the same variable. Consequently, 13 hypotheses<sup>69</sup> were developed for the study. The research methodology and design for the study are presented in the next chapter.

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<sup>69</sup> Please refer to Section 3.4.3 (Table 3.1) and Section 3.5.3 (Table 3.2) for detailed explanation.

## **CHAPTER FOUR RESEARCH METHODOLOGY AND DESIGN**

### **4.1 Chapter Overview**

This chapter presents the research methodology and design employed for the study. It begins with a discussion of the research paradigm and the rationale for using a mixed methods approach. Then, the procedures used by the quantitative approach are elaborated upon, with details of sampling designs, data collection processes and the statistical procedures employed to analyse the data. Following this, the qualitative procedures are presented by outlining the data collection and analysis process. The ethical standards and guidelines adhered to throughout the implementation of the study then are presented. The chapter concludes with a summary.

### **4.2 Research Paradigm**

The research paradigm is fundamental for any research as it forms the basis for carrying it out. Views from two schools of thought were compared and contrasted to decide upon the appropriate design for this study. Thereafter, the rationale behind the choice of a mixed methods approach in the form of an explanatory sequential method is discussed in this section.

#### **4.2.1 Introduction**

While the design of any research is important to help ensure that appropriate evidence is collected to provide answers to the research questions (McGivern 2006, 79), a good understanding of the research paradigm is necessary because it lays the foundation for conducting the research (Creswell and Clark 2011, 39). The research paradigm can be broadly categorised into two main paradigms: positivism and constructivism. The positivism paradigm is associated with quantitative approaches that are used for developing knowledge by narrowing the aims and focusing on selected variables (Creswell and Clark 2011, 40). On the other hand, the constructivism paradigm is associated with qualitative approaches in which participants' views, which are shaped by their own experiences and history of

interactions with others, enable the development of a broader interpretation (Creswell and Clark 2011, 40).

#### 4.2.2 Positivism versus Constructivism

The debates between the two schools of thought have been largely feature-centric, with one acknowledging the richness of its observational findings and, the other, its strength in forming generalisations (Sieber 1973, 1335; Johnson and Onwuegbuzie 2004, 14). The quantitative classicists, or positivists (Ayer 1959; Schrag 1992; Maxwell and Delaney 2004), reject constructivism due to the bias of its approach in engaging with the subjects of study and using self-interpreted findings. They strongly argue, instead, that investigators should remain neutral and validate their assumptions empirically. By contrast, qualitative classicists, or constructivists (Smith 1983; Schwandt 2000; Lincoln and Guba 2000), maintain the superiority of their method by arguing that its value is in the depth and richness of observational data, and that the diverse perspectives of participants can be considered. Additionally, they argue that, while generalisation may not be achievable, the use of logic to relate specific findings to shape a broader understanding is workable. Table 4.1 presents a summary of the major characteristics of the quantitative and qualitative research approaches.

**Table 4.1: A Summary of the Major Characteristics of Quantitative and Qualitative Research**

	Quantitative Research	Qualitative Research
Logic of Inquiry	<ul style="list-style-type: none"> <li>• Deduction-focused</li> <li>• Allows confirmation through testing of theory or hypothesis</li> </ul>	<ul style="list-style-type: none"> <li>• Induction-focused</li> <li>• Allows theory or hypothesis generation through discovery of patterns</li> </ul>
Usefulness	<ul style="list-style-type: none"> <li>• Data collected allows prediction</li> <li>• Useful for studying a large number of people</li> </ul>	<ul style="list-style-type: none"> <li>• Explores or describes complex phenomena</li> <li>• Useful for studying a limited number of cases in great depth</li> </ul>
Data Collection	<ul style="list-style-type: none"> <li>• Standardised data collection</li> <li>• Uses instrument with predetermined questions and responses</li> <li>• Relatively quick</li> <li>• Provides precise, quantitative, numeric data</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher is the primary 'instrument' of data collection</li> <li>• Uses protocols to collect and record data</li> <li>• Usually collected in naturalistic settings</li> <li>• In-depth and rich data</li> </ul>
Analysis	<ul style="list-style-type: none"> <li>• Statistical Analysis</li> <li>• Less time consuming since statistical software is used</li> </ul>	<ul style="list-style-type: none"> <li>• Qualitative Analysis</li> <li>• Time-consuming as it involves transcribing, re-reading, coding and collapsing codes into themes</li> </ul>

Results	<ul style="list-style-type: none"> <li>• Results are independent of researcher since it relies on effect size and statistical significance</li> <li>• Allows generalisations based on random samples of sufficient size</li> <li>• Higher credibility with many people, in power such as the administrators and people who fund the research</li> </ul>	<ul style="list-style-type: none"> <li>• Data collected depended on the interpretation of the researcher</li> <li>• Logic flows from specific to general in forming understanding</li> <li>• Transcriptions are not available for public viewing</li> </ul>
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Source: Johnson and Onwuegbuzie (2004, 18-20)

Investigators pursuing objectivity in their research tend to adopt the positivist paradigm (Johnson and Onwuegbuzie 2004, 18; McKerchar 2008, 7; Creswell 2012, 13) whereby specific, focused and measurable research questions and hypotheses can be employed (Creswell 2012, 13). Most importantly, the results rely on statistical significance when making inferences. It follows that the associated reports are written in a well-ordered, passive writing style with fixed structures and evaluation criteria (Johnson and Onwuegbuzie 2004, 14; Creswell 2012, 13). In short, the philosophical concept is acknowledged for its nice, neat and well-ordered research design (Denscombe 2002). In contrast, investigators interested in exploring or obtaining an understanding of the social reality, based on the subjective interpretation of the investigator, are more likely to adopt the constructivism paradigm (McKerchar 2008, 7; Creswell 2012, 17). According to Miller and Glassner (1997, 100), this paradigm provides the ability to explore the views of others and to understand their social world. It is based on the assumption that the investigator cannot be detached from the subjects of study (Johnson and Onwuegbuzie 2004, 14; McKerchar 2008, 7) and has been acknowledged for providing an in-depth interpretation and rich information (Strauss and Corbin 1990, 10; Reid 1996, 387; Johnson and Onwuegbuzie 2004, 20; Rolfe 2006, 306).

The positivist approach has been criticised for placing too much emphasis on theory or hypothesis testing that often overlooks the social realities because the limited range of predetermined responses in the instrument may not reflect the respondents' understanding (Johnson and Onwuegbuzie 2004, 19). Hence, the knowledge generated from the study may be too general. On the other hand, the qualitative method is not without pitfalls. It has been criticised for: giving no indication of what goes on behind the scenes (Irvine and Gaffikin 2006, 116); lacking a base for generalisations, due to small sample size (Reid 1996, 387; Johnson and Onwuegbuzie 2004, 20; Creswell 2012, 17); lacking in rigour (Reid 1996, 387); and

being susceptible to investigators' personal biases due to their high levels of involvement (Reid 1996, 387; Johnson and Onwuegbuzie 2004, 20). In short, the qualitative method has been labelled as 'messy', the exact opposite of the quantitative method (Irvine and Gaffikin 2006, 140).

The reality is that today's research has become increasingly complex and multi-disciplinary. Therefore, reliance on a single method may not offer the best results (Johnson and Onwuegbuzie 2004, 15). As a third alternative, the use of multiple methods, or mixed methods, to provide superior results has been emphasised (see, for example, Reid 1996; Sale, Lohfeld and Brazil 2002; Johnson and Onwuegbuzie 2004; McKerchar 2008; Muthusamy 2011; Isa 2012; Mohdali 2013). The blending of several methods provides rigour and minimises the limitations of both paradigms when undertaking a research study. For example, the use of interviews helps to overcome the limitations of a survey, and vice versa.

### **4.2.3 Mixed Methods Design**

In the current study, the positivist and constructivist concepts were applied and combined.<sup>70</sup> The blending of the two concepts provided what is generally known as a mixed methods design.<sup>71</sup> Johnson and Onwuegbuzie (2004, 17) defined the mixed methods approach as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study". Johnson, Onwuegbuzie, and Turner (2007, 123) later described mixed methods as a type of research that combines the components of the qualitative and quantitative research approaches in the hope of attaining an extensive, and even profound, understanding and validation.<sup>72</sup> To date, perhaps one of the most comprehensive definitions of mixed methods was offered by Creswell and Clark (2007, 5) who considered the direction of the chosen methods, the underlying philosophy and total research design. They defined mixed methods as:

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<sup>70</sup> Please refer to Chapter 4, Section 4.2.2 for detailed explanation of positivism and constructivism concepts.

<sup>71</sup> Greene, Caracelli, and Graham (1989) pioneered the definition of this approach as including at least one quantitative method and one qualitative method. This view has evolved over the years from being independent phases to a mixture of phases in the research process (Tashakkori and Teddlie 1998).

<sup>72</sup> Their definition was based upon diverse views of 19 definitions provided by 21 highly published mixed methods researchers.

*“...research design with philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process. As a method, it focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone.”*

The increasing importance of the mixed methods approach in attaining a comprehensive result has been acknowledged by researchers in recent years (Sale, Lohfeld and Brazil 2002; Johnson and Onwuegbuzie 2004; Bryman 2006; Loo 2006a; McKerchar 2008; Isa 2012). This recognition comes from the realisation that one information source is incomplete. Hence, there is a demand for information beyond the figures that are offered by the quantitative approach or the words of the qualitative approach (Creswell and Clark 2011, 21).

The conduct of research in the field of taxation has seen various applications of methods, ranging from surveys (see, for example, Chan, Troutman and O'Bryan 2000; Wenzel 2002; Hasseldine and Hite 2003; Murphy 2004b; Devos 2005; Palil 2010; Mohdali 2013), experiments (see, for example, Spicer and Thomas 1982; Slemrod, Blumenthal and Christian 2001; Snow and Warren 2005; Wenzel 2006; Hasseldine et al. 2007; Alm et al. 2010), interviews (see, for example, Saad 2011; Isa 2012; Mohdali 2013; Muhammad 2013; Raig, Pope and Pinto 2014), actual taxpayers' data (see, for example, Christian, Gupta and Lin 1993; Erard 1997; Bloomquist 2012) and datasets compiled by the regulatory agencies in annual reports (see, for example, Dubin and Wilde 1988; Devos 2004).

While the actual taxpayers' data have been readily available for researchers in some developed countries, the opposite is the case in Malaysia. For example, previous researchers (Kamaluddin and Madi 2005; Loo 2006a; Abdul-Jabbar 2009; Saad 2011; Isa 2012; Mohdali 2013) have underscored the difficulty of obtaining the compiled taxpayers' data from the Inland Revenue Board of Malaysia because it is considered to be classified information. Consequently, Malaysian tax researchers have relied predominantly on surveys and interviews as their methods of primary data collection. In addition, mixing different approaches in delivering a desirable analysis and outcome have become increasingly popular, both locally (Loo 2006a;

Saad 2011; Isa 2012; Mohdali 2013) and internationally (Fischer 1993; McKerchar 2002; Evans, Carlon and Massey 2005; Devos 2009).

Since the current study seeks to obtain data from a large population, it was decided to follow the current recommendation of Creswell and Clark (2011, 8), to use a survey questionnaire to capture those responses. Nevertheless, the survey's limitation to provide a deeper understanding of the issues at hand called for a qualitative method to complement the results. While the numbers provided in the survey results help to predict the significant relationships among variables, they fail to provide an extensive understanding, or descriptions, of the individuals' personal experiences and views. For instance, a survey result fails to capture the participants' personal experiences of using information assistance, the rationale behind their information usage or how it had impacted their compliance decisions. Therefore, interviews were conducted to complement the survey findings.

#### **4.2.4 Explanatory Sequential Method**

The explanatory sequential method design, a particular form of the mixed method approach, was used in this study.<sup>73</sup> It begins with a quantitative phase, followed by a qualitative phase that is intended to explain the quantitative results in greater depth (Creswell and Clark 2011, 85). According to Morse (1991) and Bradley, Curry, and Devers (2007), this design is most appropriate when the qualitative method is used to clarify the unexpected significant or insignificant quantitative results. Since the study was intended to capture responses from a wider population in relation to their use of tax authority information assistance, using several predetermined variables, the survey was conducted in the early phase. Additionally, the main emphasis of this study was placed in the survey findings because they addressed all of the research questions. Subsequently, a follow-up qualitative phase, by way of interviews, was conducted to help understand and explain the results obtained from the survey. Thus, in the context of this study, the opportunity was provided to elaborate on issues and circumstances affecting the use of information assistance and its importance in gaining cooperation from the taxpayers. The basic outline of the explanatory sequential design implemented for this study is illustrated in Table 4.2.

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<sup>73</sup> (Creswell 2012, 541) described six different types of mixed method approach, namely the Convergent Parallel Design; Explanatory Sequential Design; Exploratory Sequential Design; Embedded Design; Transformative Design; and Multiphase Design.

**Table 4.2: Procedure in Implementing an Explanatory Sequential Design**

<b>Design and Implementation of the Quantitative Strand</b>	
<b>STEP 1</b>	<ul style="list-style-type: none"> <li>• State quantitative research questions and determine the quantitative approach</li> <li>• Obtain permission to conduct the research</li> <li>• Identify quantitative sample</li> <li>• Collect closed-ended data with instruments</li> <li>• Analyse the quantitative data (descriptive statistics, inferential statistics, and effect sizes) which then are used to facilitate the selection of participants for the second phase</li> </ul>
<b>STEP 2</b>	<p><b>Use Strategies to Follow on from the Quantitative Results</b></p> <ul style="list-style-type: none"> <li>• Determine which results will be explained, such as significant results, non-significant results, outliers and group differences</li> <li>• Use these quantitative results to:               <ul style="list-style-type: none"> <li>- Refine the qualitative and mixed methods questions</li> <li>- Determine participants selected for the qualitative sample</li> <li>- Design qualitative data collection protocols</li> </ul> </li> </ul>
<b>STEP 3</b>	<p><b>Design and Implement the Qualitative Strand</b></p> <ul style="list-style-type: none"> <li>• State qualitative research questions based on quantitative results and determine the qualitative approach</li> <li>• Obtain permission to conduct the research</li> <li>• Select a qualitative sample that helps to explain the quantitative results</li> <li>• Collect open-ended data with protocols informed by the quantitative results</li> <li>• Analyse the qualitative data using procedures of theme development</li> </ul>
<b>STEP 4</b>	<p><b>Interpret the Combined Results</b></p> <ul style="list-style-type: none"> <li>• Summarise and interpret the quantitative results</li> <li>• Summarise and interpret the qualitative results</li> <li>• Discuss to what extent, and in what ways, the qualitative results help to explain the quantitative results</li> </ul>

Source: Creswell and Clark (2011, 84)

### 4.3 Phase One: Survey

#### 4.3.1 Introduction

Difficulties in obtaining taxpayers' data from a tax authority have been highlighted by tax researchers in Malaysia (Kamaluddin and Madi 2005, 73; Loo 2006a; Palil 2010; Isa 2012; Mohdali 2013). The provision of Section 138,<sup>74</sup> which prohibits the release of classified tax related information, has impeded tax researchers in obtaining rich and reliable data. Therefore, studies on tax compliance within Malaysia have been mainly confined to data obtained from surveys, interviews and annual reports. This study employed the survey method as the initial approach in obtaining data.

<sup>74</sup> Tax Audit Framework (Retrieved from [http://www.hasil.gov.my/pdf/pdform/Tax\\_Audit\\_Framework\\_2013](http://www.hasil.gov.my/pdf/pdform/Tax_Audit_Framework_2013))

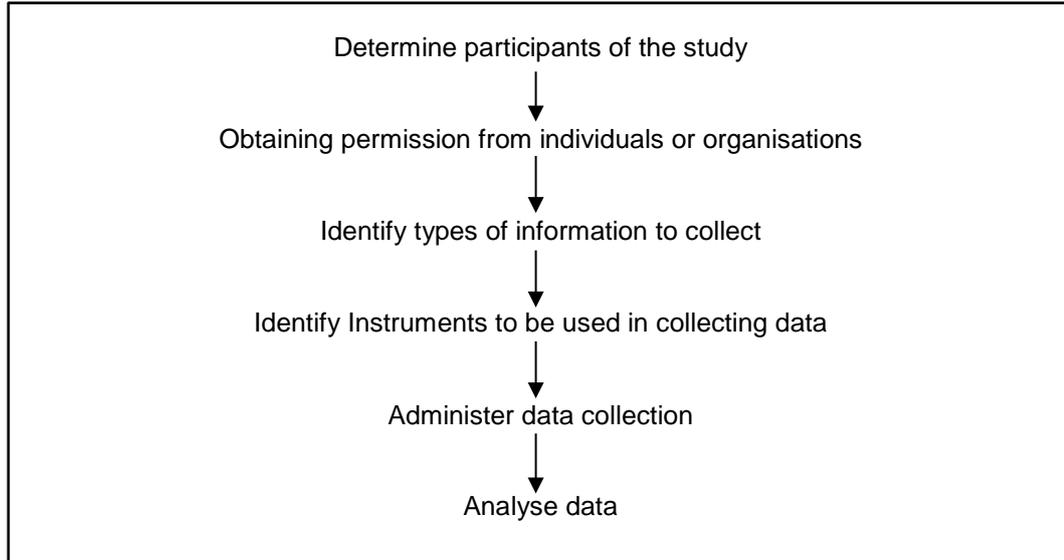
The survey method is appropriate in studies that involve the gaining of perceptions, attitudes, beliefs, motivations and behaviours of respondents (Dillman 2007, 9), which may otherwise be difficult to study in a laboratory experiment, or using databases or figures provided in annual reports. This is further reinforced by Cullis and Lewis (1985, 276) who claimed that survey results are often a reflection of public opinion. The survey method has been used widely in tax compliance studies, both internationally (Song and Yarbrough 1978; Grasmick and Scott 1982; Hasseldine and Hite 2003; Devos 2005; Djike and Verboon 2010; Kirchler and Wahl 2010; Gangl et al. 2012) and locally (Kamaluddin and Madi 2005; Loo 2006a; Sia 2008; Abdul-Jabbar 2009; Palil 2010; Saad 2011; Isa 2012; Mohdali 2013). Reasons frequently cited for using the survey method have been its cost-effectiveness (Keeter 2005, 158; Abdul-Jabbar 2009, 68), its speedier administration due to its capability of reaching a wider population (Bryman 2006, 142; Saad 2011, 136), and its ability to complement other methods (Creswell and Clark 2007, 62; 2011, 85). More importantly, the subject of tax is considered to be a sensitive topic (McKerchar 2001; Zikmund 2003; Wenzel 2004), therefore, a postal survey approach provides genuine anonymity and minimises the bias effect of any interferences of the researchers (Bryman 2006; Loo, McKerchar and Hansford 2009; Isa 2012).

Despite its advantages, the survey method has been criticised for its lack of ability to generate a high response rate (Sekaran 2006; Muthusamy 2011; Pallant 2011), the bias introduced as a result of misunderstood questions or deliberate concealment of information (Worsham 1996, 20) and its non-response bias (Salant and Dillman 1994, 20-21). Therefore, in an effort to minimise these effects, the Tailored Design Method (Dillman 2007) was adopted to improve the quality and quantity of the responses.<sup>75</sup> Additionally, in order to help reduce the gap between the actual results obtained and the views of the 'true' population, recommendations by (Salant and Dillman 1994, 13) to minimise errors in respondents' coverage, sampling, measurement and non-responses were considered during the survey design process. Figure 4.1 depicts the six steps in the survey design process. The remainder of this section discusses the survey design, distribution and data analysis, with reference to the six steps mentioned below.

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<sup>75</sup> A detailed explanation is provided in Section 4.3.3.1.

**Figure 4.1: Steps in the Process of Quantitative Data Collection and Analysis**



*Source: Adapted from Creswell (2012, 141)*

### **4.3.2 Sampling Design**

The potential participants, sample selection and sampling technique to be chosen for the study were considered in the sampling design. Discussions of each of these elements are presented below.

#### **4.3.2.1 Participants of the Study**

The population of interest for the study was comprised of Malaysian individual taxpayers who self-assessed their own tax liabilities. Specifically, the participants were derived from the salaried and wage earner group and the small business proprietors of Malaysia.<sup>76</sup> The Organisation for Economic Co-operation and Development (OECD 2004, 10) described a small business as any for-profit commercial entity, other than those exceeding a given asset threshold, which includes sole proprietor, partnership and corporate forms of organisations. In this regard, the OECD (2004, 10) further expanded this to include individual filers with income from self-employment, even when self-employment income was not their main source of income. Since the study focused on the usage of tax authority information assistance, individual taxpayers with experiences in using direct or indirect assistance from the tax authority were the participants of interest. In order to capture the appropriate respondents, two pre-determined criteria were established.

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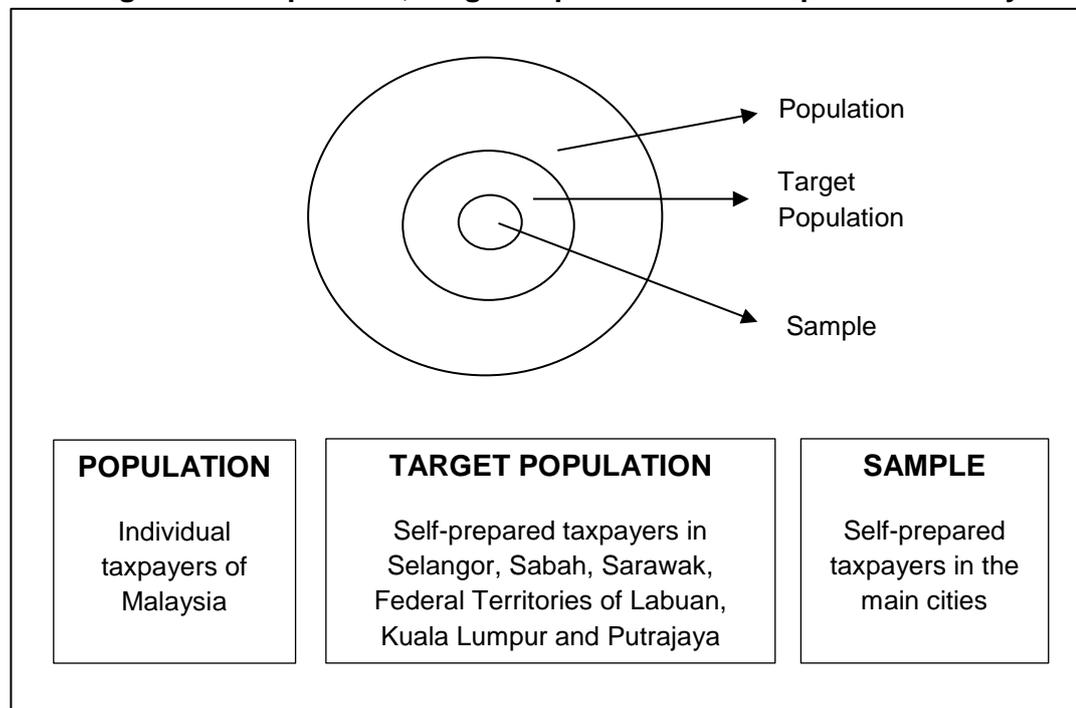
<sup>76</sup> Medium and large companies were excluded because they normally engage the help of tax practitioners in managing their tax affairs (Ho et al. 2006, 8), which defeats the purpose of this study.

Firstly, the potential respondents need to have an income tax file and secondly, they had to self-assess their own tax liabilities.

#### 4.3.2.2 Sample Selection

Complete data collection can be costly and time consuming (Sekaran 2006, 267). Therefore, most researchers have resorted to sampling, when drawing conclusions about the entire population, because it provides for speedier data collection, minimises costs and provides greater accuracy of results (Cooper and Schindler 2003, 179). Sekaran (2006, 267) asserted that sampling is likely to yield reliable results due to fewer errors introduced as a result of exhaustion. Deming (1960, 26) maintained that "... sampling possesses the possibility of better testing, more thorough investigation of missing, wrong or suspicious information, better supervision, and better processing than is possible with complete coverage". This statement was supported by the findings of Assael and Keon (1982, 114-123), in which they discovered an alarming 90% or more survey errors in a study that originated from non-sampled sources.

**Figure 4.2: Population, Target Population and Sample of the Study**



Source: Adapted from Creswell (2012, 142)

The selection of sample that is derived from the target population is displayed in Figure 4.2. The subjects for this sample consisted of two groups, namely the salaried and wage earners, and the small business group. These groups were chosen because they were less likely to appoint the services of a tax agent (Ho et al. 2006, 8). The total number of registered individual taxpayers in Malaysia for the year 2011 was 5,561,086 (Inland Revenue Board of Malaysia 2011, 40),<sup>77</sup> although the actual figures may exceed this number due to unregistered taxpayers (Palil 2010, 235). Obviously, due to budget and time constraints, it was not cost-effective to obtain data from every individual taxpayer in Malaysia. Therefore, data were collected using samples from East and West Malaysia. Taxpayers from the state of Selangor, the Putrajaya Federal Territory and the Federal Territory of Kuala Lumpur were selected as being representative of West Malaysia while the states of Sabah and Sarawak, and the Federal Territory of Labuan were selected as being representative of East Malaysia.<sup>78</sup>

Considering the need for individual respondents to have had experience in filling in their tax return forms and in itemising their deductions, the sample was drawn, as much as possible, from the higher income group of the salaried taxpayers. This also minimised the number of individuals whose compliance was assured by their tax being withheld under the scheduler tax deduction scheme. This consideration was made following the concern raised by Christensen and Hite (1997, 13) who emphasised that individuals below the income level of the national average rarely itemise their deductions and do not have experience with ambiguous tax items. The mean income of Malaysian individuals for the year 2013 was approximately MYR2,052 per month.<sup>79</sup> Accordingly, this study, generally, did not apply to the lower income group with monthly incomes below MYR2,000 since they were not required by law to register as taxpayers in Malaysia. Hence, subjects holding executive or managerial positions were preferred, but this was not made compulsory because individuals holding lower positions may still seek assistance from the tax authority. Furthermore, in an attempt to obtain a heterogeneous group, respondents with varying socio-economic backgrounds, including various levels of income, were

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<sup>77</sup> The IRBM has stopped publishing the total of registered individual taxpayers since 2012, for unknown reasons. Therefore, the 5,561,086 figure (year 2011) was used for the sampling. Furthermore, an observation of the numbers of registered taxpayers for the previous five years revealed no significant increment.

<sup>78</sup> Malaysia consists of 13 states and 3 federal territories. The eastern and western parts of Malaysia are geographically separated by the South China Sea. Selangor, FT Kuala Lumpur and FT Putrajaya are located in the western part of Malaysia and are the home of a large number of migrants from other states. Sabah, Sarawak and FT of Labuan are the only states and federal territory located in East Malaysia.

<sup>79</sup> Department of Statistics Malaysia (2014)

sought. The different types of sampling method employed in capturing the sample of this study are discussed next.

#### **4.3.2.3 Clustered Sampling Method**

Choosing the appropriate technique in selecting the sample is crucial because it affects the accuracy and degree of bias of the result (McGivern 2006, 283). This study employs the cluster sampling technique in selecting the potential respondents. According to Cooper and Schindler (2003, 196), this technique is appropriate when the population is segregated into clusters, following which a random sampling of these clusters is then performed. Since the salaried group and small business proprietors were clustered in the main cities, this technique offered cost-efficiency and ease of tracing respondents. Furthermore, the conventional method of using telephone directories may not have guaranteed selection of self-prepared taxpayers, since this pre-determined criterion<sup>80</sup> was difficult to identify randomly. On the other hand, cluster sampling made it easier to identify the salaried taxpayers through their heads of department or human resource personnel, and small business proprietors at their business premises, using a drop-off and mailing approach.

The complete lists of government and private entities were obtained from the website and the Companies Commission of Malaysia (previously known as Registrar of Companies), respectively. Additionally, the lists of small business proprietors were obtained from Super-Pages and Yellow Pages. While obtaining homogeneous subgroups is a limitation of cluster sampling (Sekaran 2006, 274), Cooper and Schindler (2003, 196) affirmed that an unbiased estimate of a population parameter can be obtained if the proper procedure is carried out. Hence, as suggested by Sekaran (2006, 270), respondents with varying characteristics were selected, as much as possible, in terms of their varying levels of income, age, gender, taxpayer group and geographically separated location.<sup>81</sup> Since the researcher had no direct contact with the respondents, systematic random sampling was not possible. Hence, the authority to select the potential respondents rested on the heads of departments or human resource personnel. These authorised personnel were required to only choose individuals with the matching criteria.<sup>82</sup> Each respondent was provided with an envelope to protect the confidentiality of his

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<sup>80</sup> Please refer to Section 4.3.2.1.

<sup>81</sup> A detailed explanation is provided in Chapter 5, Section 5.2.4

<sup>82</sup> The heads of department or human resource personnel were requested to identify and distribute questionnaires to individuals with an income tax file and who self-assessed their own tax liability.

or her responses. Additionally, in order to minimise the potential bias, these authorised personnel were not included as respondents of this study.

#### **4.3.2.4 Snowball Sampling Method**

In addition to cluster sampling, snowball sampling was introduced to obtain more small business respondents, due to the anticipated problem of identifying proprietors who self-assessed their own tax liabilities. Taxpayers who relied on tax agents in handling their tax returns were considered out-of-frame respondents since they defeated the purpose of this study. While snowball sampling employs a non-random selection of sample, McGivern (2006, 280) maintains that it is equally good in producing a representative sample, provided that non-sampling errors such as errors arising from question wording, recording, and data-processing are appropriately handled. Furthermore, where respondents with predetermined criteria are difficult to identify, as in the case of this study, Cooper and Schindler (2003, 202) recommend using referral networks to trace the potential respondents who, in turn, further introduce other respondents.<sup>83</sup> The snowball technique has been employed in the area of taxation before, as in the studies conducted by Wahl, Kastlunger, and Kirchler (2010) and Isa (2012).

The total number of businesses in Malaysia as at 31 December 2012 was 4,971,483.<sup>84</sup> However, the actual number of small businesses currently operating actively is unknown.<sup>85</sup> Small businesses may operate from premises located in the main cities, smaller town areas or homes, making it difficult to locate these individuals. Therefore, reliance on referral networks to introduce potential respondents is important and efficient in terms of time, cost and human resources. Subsequently, 42 referrals were identified and each referee was given between three to ten sets of questionnaires, subject to their requests. These referrals were introduced by personal and professional networks<sup>86</sup> and through proprietors being approached at their business premises. The sources were omitted to preserve the confidentiality of the referees. They then helped to locate others who possessed the required criteria and who, in turn, further introduced potential respondents.

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<sup>83</sup> Snowball sampling using referral networks has been successfully employed to study drug cultures, teenage gang activities, power elites, community relations and insider trading (Cooper and Schindler 2003, 203).

<sup>84</sup> Companies Commission of Malaysia (2012). A total of 5,634,101 was recorded up till July, 2015 ([www.ssm.com.my](http://www.ssm.com.my)).

<sup>85</sup> Malaysia's SME Statistics and e-Commerce Readiness (2013)

<sup>86</sup> Personal network consisted of colleagues and mature students from the Long Distance Learning of UiTM while professional networks consisted of personnel from entrepreneur organisations.

#### 4.3.2.5 Sample Size and Sampling Frame

Determining an appropriate sample size and sampling fraction is important because it affects the precision of the sample estimates (Sukhatme and Sukhatme 1970, 80; McGivern 2006, 283). Sample size is the number of respondents that will be included in the sample (McGivern 2006, 283). The simplified size decision table provided by Krejcie and Morgan (1970, 608) was used in determining the appropriate sample size of this study. The simplified size is presented in Table 4.3, which indicates that the sample size (n) increases as the population (N) increases but the rate diminishes and eventually remains constant, at 384, once it reaches 100,000 and over in a population.

**Table 4.3: The Simplified Size Decision Table**

N	n	N	n	N	n	N	n	N	n
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Source: Krejcie and Morgan (1970, 608)

Based on the table provided by Krejcie and Morgan (1970, 608), the sample size of the study was selected as 384. This sample size was derived from the 5,561,086 registered individual taxpayers for 2011 (Inland Revenue Board of Malaysia 2011, 40). The 384 sample size determined for this study fulfilled the rule of thumb of

between 30 and 500 respondents proposed by Roscoe (1975). According to Sekaran (2006, 294-295), when the number of respondents exceeds 500, the study is prone to committing a Type II error. For instance, a significant level might be achieved even in a weak relationship, resulting in the acceptance of a hypothesis that should, in fact, be rejected. As such, the figure of 384 was deemed to be appropriate in minimising the possibility of a Type II error. However, for the purpose of collecting data, a larger sample size was projected in anticipation of the possibility of attaining a poor response rate. For example, Abdul-Jabbar (2009), Palil (2010) and Ibrahim (2013) distributed in excess of five times more than the originally selected number in order to secure the possibility of obtaining the desired response rate. After appropriate consideration, approximately 2,700 questionnaires were projected to be distributed under the cluster sampling, which is seven times higher than the required sample size of 384. This amount was derived after considering the cost, time and human resources involved in embarking on this research.

Since the actual number of individual taxpayers was unknown under each cluster, the number of questionnaires distributed was based on the approximate ratio of the urban population within each selected state and federal territory. The representatives<sup>87</sup> of each organisation were instructed to identify those respondents with an income tax file and who self-assess their tax liability, preferably, but not restricted to, those holding an executive or managerial position within the organisation.<sup>88</sup> Table 4.4 presents the sampling frame of the study and the allocated number of questionnaires in the respective areas.

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<sup>87</sup> Heads of departments or human resource personnel

<sup>88</sup> While respondents with incomes above the national average were preferred, attaining heterogeneity among the respondents was equally important within each cluster (Sukhatme and Sukhatme 1970, 80; McGivern 2006, 283).

**Table 4.4: The Sampling Frame and Questionnaire Allocation of the Study**

Cluster Areas	Ratio of Population <sup>1</sup>	Allocation of Questionnaires (Projected)	Questionnaires Distributed (Actual) <sup>2</sup>
<b>West Malaysia:</b>			
FT Kuala Lumpur	25%	675	606
FT Putrajaya	15%	405	398
Selangor	30%	810	724
<b>East Malaysia:</b>			
FT Labuan	5%	135	135
Sabah	15%	405	405
Sarawak	10%	270	270
<b>TOTAL</b>	<b>100%</b>	<b>2,700</b>	<b>2,538<sup>3</sup></b>

<sup>1</sup> Allocation was based on the approximate ratio of  $(A/B \times C)$  whereby A = urban population in selected area, B = total urban population and C = registered individual taxpayers.

<sup>2</sup> The actual number of questionnaires distributed was lower than anticipated in West Malaysia due to the worsening haze condition during the months of June and July 2013.

<sup>3</sup> A total of 2,321 questionnaires were distributed under cluster sampling, while 42 were circulated under snowball sampling.

### 4.3.3 Questionnaire Design, Development and Measures

#### 4.3.3.1 Questionnaire Design

The Tailored Design Method (TDM) introduced by Dillman (2007) was applied in designing the questionnaire. The TDM recommends survey techniques and measures to improve the quality and quantity of responses (Dillman 2007, 9). The following measures were adopted in designing the questionnaires, after considering several recommendations proposed by the TDM (Dillman 2007) along with suggestions proposed by Pallant (2011, 10) and Sekaran (2006, 239).

- i) Questions were kept to a reasonable length. Complex, double-barrelled and leading questions were avoided.
- ii) Plain English was used. A translated set of questions in Bahasa Malaysia was provided (optional).
- iii) A 'Not Applicable' response category was included whenever appropriate.
- iv) Anonymity of the respondents was assured.
- v) Contact details of the researcher (telephone number, address and e-mail address) were provided.

- vi) Human ethics approval was obtained prior to the commencement of the research. This was noted on the instrument that was provided to participants.
- vii) Appropriate timing of the survey distribution was considered; that is, early June for the salaried group (whose deadline for filing of tax returns was 30 April) and early July for the small business group (whose deadline for filing of tax returns was 30 June).
- viii) Stamped return envelopes and prepaid 'Express Mail' envelopes were provided for the postal survey.
- ix) The questionnaires were printed in colour, using high-quality paper to provide a professional impression.
- x) Follow-ups contacts were made and reminders were sent when necessary.
- xi) The logos of Curtin University and the Universiti Teknologi MARA were included on the cover page of the survey instrument and on the cover letter.<sup>89</sup>

#### **4.3.3.2 Variables Development and Measurement**

The items used in measuring the variables consisted of items that were self-developed, as well as those adapted from previous studies. It has been argued that the reliability of the scale does not improve with an increase in the number of points in the scale, hence a five-point scale can be considered to be as good as a seven- or nine-point scale (Elmore and Beggs 1975, 329; Sekaran 2006, 199). In view of this, a five-point Likert-type scale was utilised for items that were measured using an interval scale. The Likert-type scale had been widely accepted in previous tax compliance studies, both in Malaysia (Sia 2008; Abdul-Jabbar 2009; Saad 2011; Isa 2012; Mohdali 2013) and globally (Braithwaite 2003a; Tyler and Wakslak 2004; Murphy 2004a; Kirchler and Wahl 2010; Gangl et al. 2012).<sup>90</sup>

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<sup>89</sup> Bryman and Bell (2003, 144) proposed mentioning the sponsors of the study as it may provide a better impression concerning the validity of the research. Since issues of tax are considered sensitive, Isa (2012, 117) asserted that such acknowledgement helps to provide assurance that the survey is independent of the tax authority.

<sup>90</sup> It is very common for researchers in the applied field to treat Likert variables as intervals (see, for example, Murphy 2004b; Saad 2011; Muthusamy 2011; Gangl et al. 2012; Mohdali 2013; Hayes 2013). Allen and Seaman (2007, 2) further stated that it is not the label that constitutes the characteristics of the data but the distance or the "intervalness" of the data. In addition, they emphasised that a scale should have at least five categories and the sets of Likert items can be combined to form indexes. Additionally, Allen and Seaman (2007, 2) emphasised that such scale combinations should achieve the recommended value of Cronbach's alpha and validity.

The questionnaire instrument was comprised of five sections.<sup>91</sup> Section A consisted of questions designed to obtain general information about the respondents' tax experiences. It sought information pertaining to the respondents' awareness of penalties and assistance, audit experience, opinions in the completion of return form and years of filing experience. Additionally, this section served as the base for screening out respondents who were outside the predefined frame. Thus, it helped to ensure that respondents with the necessary criteria were selected for further analysis. Section B pursued their socio-demographic information, such as the respondent's age, gender, qualifications, number of dependents, occupational sector, level of income, and location of business or work place. It was also decided that questions on religion and race would be excluded in consideration of the possible apprehensiveness it may cause among the potential respondents. Items in Sections A and B were measured using nominal and ranking measures.

Section C was designed to examine variables associated with the taxpayers' motivation to use tax authority information assistance. Three main variables were identified and measured using a five-point Likert-type scale. These variables included threat appraisals, coping appraisals and perceived trustworthiness of the tax authority. Four components were proposed under threat appraisals, namely penalty threat, audit threat, audit probability and detection probability. Another four components were offered under coping appraisals, which included response efficacy in tax reporting, monetary risk minimisation attitude, self-efficacy and aptitude for obtainment (which is the individual's ability to seek out and obtain tax information). Roger's Protection Motivation Theory (1975 and 1983) was used to support these variables in association with the use of tax authority information assistance. This study contributes to the theory by examining the role of trust perception in association with the use of information assistance. Hence, perceived trustworthiness, which utilises the concept of motive-based trust (Tyler 2001), was integrated with PMT (Rogers 1975, 1983) in supporting the proposed relationship. The Likert-type scales for each variable ranged from 'Strongly Disagree' (1) to 'Strongly Agree' (5) with the exception of 'Audit Probability' and 'Detection Probability'. These two variables were measured using a five-point Likert-type scale ranging from 'Very Low Probability' (1) to 'Very High Probability' (5).

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<sup>91</sup> A complete set of the instrument is provided in Appendix A.

Section D consisted of items used to measure the taxpayers' usage of information assistance.<sup>92</sup> The variables were measured using seven researcher-developed items, after appropriate consideration of the taxpayers' return forms and the various problem tasks likely to be encountered by the individual taxpayers in meeting their tax obligations. Since the participants may not rely on information assistance on a yearly basis, or may not encounter the listed problem task simultaneously, their agreements of the listed items based on their most recent experiences were sought. The items were categorised into usage of information assistance for reporting and services purposes. A five-point Likert-type scale, which range from 'Strongly Disagree' (1) to 'Strongly Agree' (5), was employed in measuring those items. Finally, the respondents were required to indicate the types of service channel(s) used, and these were measured by dichotomous means.<sup>93</sup>

Section E presented items intended to measure the respondents' levels of agreement regarding their willingness to comply. The current study focused on two main components of compliance, namely, the respondent's willingness in terms of both administrative compliance and reporting compliance. The items on administrative compliance were adapted from OECD (2004) and Roth, Scholz, and Witte (1989), while the items on reporting compliance were adapted from Yankelovich, Skelly, and White Inc. (1984) but were appropriately rephrased so as to appear less threatening and for easier understanding. The items were measured using a five-point Likert-type scale, which ranged from 'Strongly Disagree' (1) to 'Strongly Agree' (5).

Closed-ended questions were posed, which provided the respondents with a number of predetermined response choices (Pallant 2011, 7). This allowed respondents to make quick decisions, provided an advantage for less articulate respondents, and enabled easy coding of answers for subsequent analyses (Sekaran 2006, 239). Finally, the respondents were invited to participate in an interview that addressed similar issues. Interested participants were requested to provide correspondence details such as their contact numbers, e-mail addresses and names. A complete set of questionnaire instrument is provided in Appendix A.

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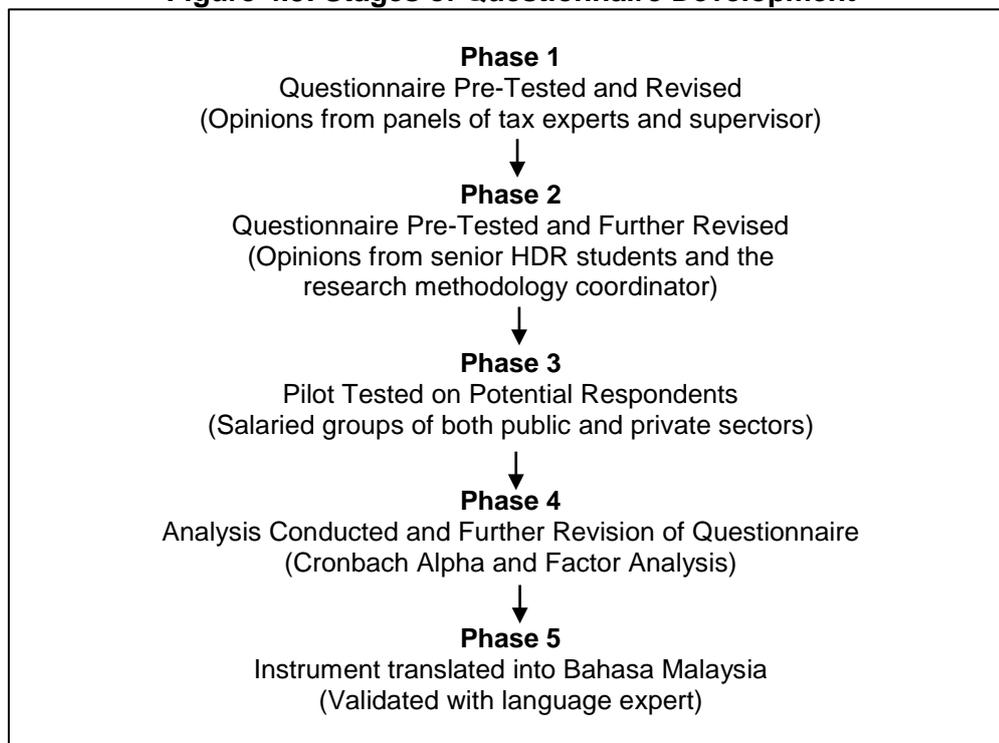
<sup>92</sup> The definition and examples of information assistance were provided on the first page for ease of understanding.

<sup>93</sup> The items were presented in a matrix-style box which highlighted the problem tasks and service channels used. Additionally, the 'non-applicable' column was provided at the end of the matrix box.

#### 4.3.4 Pre-Test and Pilot Test

Conducting a pre-test and pilot test is important during the initial phase of any questionnaire design (Sekaran 2006; Pallant 2011; Creswell 2012). A pre-test helps to ensure adequate and appropriate items are included in the questionnaire instrument (Sekaran 2006, 206) while the pilot test provides an introductory result on the reliability and validity of the questionnaire instrument. The various stages in conducting the pre-test and pilot study are presented in Figure 4.3, while a detailed discussion of each stage is provided after the figure.

**Figure 4.3: Stages of Questionnaire Development**



Source: Own

##### **Phase 1**

In order to establish the content validity of the instrument, the opinions from panels of tax experts were sought, which included a representative from the Tax Audit and Investigation Unit of the IRBM, professors with tax research background and a visiting researcher from the IRS. This helped to ensure that an adequate and representative set of items had been included in the measures (Sekaran 2006, 206) and that appropriate wordings of tax terms were used. Hair et al. (2007, 246) recommended this phase to gauge the face validity of the questionnaire instrument. The questionnaire items were subsequently improved, after making appropriate amendments based on their feedbacks.

## **Phase 2**

Discussions pertaining to the contents of the questionnaire were held with two senior students from the Higher Degree by Research (HDR), Curtin Business School (CBS). In addition, the opinion of Dr Yuki Miyamoto (Research Coordinator of HDR, Curtin) was obtained with regard to the measurement scale utilised in the study. Pallant (2011, 5) and Babbie (2008, 283) emphasised this phase as being necessary to improve the readability level of the instrument, by ensuring that instructions and questions are clear and properly understood. After appropriate consideration of several constructive feedbacks, further revisions were made to improve the questionnaire. Next, the revised questionnaire was tested on four HDR students, to rate the readability level and the length of time taken to complete the questionnaire. On average, the questionnaire took less than 20 minutes to complete. The instrument was further improved after making necessary amendments.

## **Phase 3**

The final draft of the questionnaire was pilot tested among a group of self-prepared individual taxpayers of Malaysia. The group selection was made on the basis of convenience since statistically-selected respondents are not necessary for a pilot study (Cooper and Schindler 2003). While Rossi, Wright, and Anderson (1983) recommended a range of between 20 and 50 respondents as being adequate for discovering a questionnaire's error, a minimum of 30 respondents was necessary to conduct the validity and reliability tests. A total of 32 questionnaires were subsequently returned, with minor suggestions for improvement from a total of 35 that were initially distributed. The comments were taken into consideration so as to increase the readability level of the instrument.

## **Phase 4**

The reliability and validity tests were conducted during this phase, which allowed the researcher to gain an idea of the appropriateness of the items measured. A validity test was conducted to help ensure that these items would truly measure the intended variables, as recommended by McGivern (2006, 79), Sekaran (2006, 207) and Pallant (2011, 7). An exploratory factor analysis (EFA) was performed to help classify items according to their strongly associated factors (Pallant 2011, 104). Cross-loaded items, with the exception of negatively-worded items, were deleted, while items with lower loading values (below 0.40) were maintained because they still loaded onto the same component. Table 4.5 presents an outline of the variables, sub-variables and numbers of items after the completion of the pilot test.

**Table 4.5: Constructs, Dimensions and Numbers of Items after Pilot Study**

<b>Constructs (Variables)</b>	<b>Dimensions (Sub-Variables)</b>	<b>Number of Items</b>
Perceived Severity of Threat	Penalty Threat	3 items
	Audit Threat	4 items
Perceived Probability of Occurrence	Audit Probability	2 items
	Detection Probability <sup>1</sup>	3 items
Perceived Efficacy of Coping Response	Reporting Assistance	7 items
	Monetary Risk Reduction	3 items
Self-Efficacy Expectancy	Self-Efficacy	3 items
	Aptitude for Obtainment	3 items
Perceived Trustworthiness	Perceived Trustworthiness	7 items
Usage of Tax Authority Information Assistances	Reporting Information	3 items
	Service Information	4 items

<sup>1</sup> The application of factor analysis resulted in the deletion of several items, as indicated in this subsection.

Following the factor analysis, a reliability test was performed using Cronbach's coefficient alpha (Cronbach 1951). Cronbach's alpha measures the extent to which the items 'hang together' as a set, as well as the average correlation among all items that make up the scale (Pallant 2011, 6). Nunnally (1978, 245) recommended a minimum Cronbach's alpha value of 0.70. Table 4.6 presents a summary of the Cronbach's alpha values for the pilot study. The reliability results were considered good evidence of an alpha coefficient above 0.70 in all variables.

**Table 4.6: A Summary of Cronbach's Coefficient Alpha**

<b>Dimensions</b>	<b>Alpha Coefficient</b>
Penalty Threat	0.896
Audit Threat	0.901
Probability of Audit	0.798
Probability of Detection	0.860
Reporting Assistance	0.718
Monetary Risk Minimisation Attitude	0.913
Self-Efficacy	0.931
Aptitude for Obtainment	0.866
Perceived Trustworthiness	0.814
Usage of Reporting Information	0.886
Usage of Service Information	0.779
Administrative Compliance	0.827
Reporting Compliance	0.811

### **Phase 5**

The translation of the questionnaire's content to the Bahasa Malaysia version was necessary because Bahasa Malaysia is the national language of Malaysia. The translation process was conducted with the help of a representative from the IRBM to help ensure the appropriateness of the wordings of tax terms. Next, the language content of the Bahasa Malaysia version was validated by a language expert from the Language Department of University Teknologi MARA, Malaysia. After making necessary amendments, the revised questionnaire was translated back into the English version by the independent language expert.<sup>94</sup> This step was necessary to help ensure that both content and meaning of items were comparable. Finally, a comparison of both versions was made to help verify the consistency in meaning and content.

#### **4.3.5 Questionnaire Distribution Method**

A mixed mode method was employed in distributing the questionnaires. This method comprised of postal, drop-off and referral network distribution methods. While an electronic survey has been acknowledged for its ability to reach a wider range of respondents, its main limitation is its inability to reach respondents without internet

<sup>94</sup> The language expert was a retiree teacher possessing a Bachelor Degree in Teaching English as a Second Language (TESL).

access (Saad 2011, 137). Therefore, a conventional postage and drop-off approach was considered to be more appropriate. Dillman (2007) has cautioned researchers on the risk of introducing bias through the use of various delivery modes. While it is impossible to completely eliminate bias, it can be minimised by limiting the researchers' interference or contact with the respondents.<sup>95</sup> The names and addresses of the government offices, private sectors companies and small businesses were obtained from various sources, such as websites, the yellow pages, the super pages and the Companies Commission of Malaysia (formerly known as the Registrar of Companies). The mixed mode methods of delivery are further discussed below.

#### **4.3.5.1 Postal Method**

Tax-related studies are considered to be sensitive (Wenzel 2004, 224). Hence, a postal survey was considered appropriate because it provides genuine anonymity and eliminates the bias of interference from the researcher (Sandford 1995; Loo, McKerchar and Hansford 2009). Furthermore, a postal survey enabled a wider access to potential respondents, particularly in geographically dispersed areas where time, cost and human resources were a major constraint.

After identifying several areas known to be cost-ineffective for the use of a personal delivery approach, the questionnaires for the salaried groups were delivered to the representatives of organisations in those areas. The representatives of the organisations were either the heads of departments, human resource personnel or public relations officers. They were initially contacted, and were informed of the purpose of the study and the target respondents. Permission letters were sent by the researcher via email or fax. Depending on the arrangements between the researcher and the representatives, each organisation was given between five and thirty sets of the preferred version (English or Bahasa Malaysia) of questionnaires, prepaid express mail envelopes and accompanying letters explaining the purpose of the study and guaranteeing strict confidentiality of the responses. After the questionnaires were mailed to them, they were again contacted to confirm the receipt of questionnaires, reminded of the predetermined criteria for random sample selection, and were requested to return the questionnaires within two weeks. Similarly, the questionnaires, the accompanying information sheets and interview

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<sup>95</sup> With the exception of personally delivering 255 questionnaires to the premises of the small business proprietors, the researcher had no direct contact with the respondents.

consent forms, together with postage-paid envelopes, were mailed directly to the business proprietors' premises.

The postal method is not without its limitations. Poor response rates frequently have been cited as the major setbacks (Sekaran 2000, 250; 2006, 257; Bryman and Bell 2003, 144). This argument is consistent with the response rate presented in Table 4.7. In general, it implies that the response rate of individual taxpayers in Malaysia is relatively lower under the postal survey distribution method when compared to the personal drop-off method. In addition, the problem in obtaining updated addresses of the companies and agencies had been anticipated. Therefore, efforts were made to contact the public and private sectors prior to the delivery of the questionnaires. The number of questionnaires distributed to the business proprietors via the postal method was kept to a minimum due to the anticipation that these questionnaires would be considered as junk mail by the recipient.<sup>96</sup> Instead, personal delivery and third party distribution systems were preferred.

**Table 4.7: Data Distribution Methods and Response Rate of Individual Taxpayers in Malaysia (Previous Taxation Studies)**

	<b>Data Distribution Methods</b>	<b>Total Questionnaires Distributed</b>	<b>Total Useable Questionnaire</b>	<b>Percentage Usable Response</b>
Mohdali (2013)	Postal, personal drop-off and online	500	197 (Returned)	40%
Saad (2011)	Personal drop-off	2,267	926 (Returned)	41%
Ibrahim (2013)	Postal survey	2,600	242	9.7%
Palil (2010)	Postal survey	5,500	1,037	19.51%
Loo (2006a)	Postal survey	6,000	939	16%
Ho et al. (2006)	Survey cum meeting	250	106	42.4%
Manaf, Hasseldine and Hodges (2005)	Postal survey	750	179	24%

<sup>96</sup> Please refer to Section 4.3.6 (Table 4.8).

#### 4.3.5.2 Drop-Off Method

The drop-off or personal delivery approach was introduced for this study due to several reasons. Firstly, the drop-off approach has been acknowledged for providing a more favourable response rate in comparison with the mail survey (Sekaran 2006, 257; Dillman 2007). Evidently, the response rates for the drop-off method were approximately 40% and above (see, for example, Saad 2010; Mohdali 2013) as opposed to the postal survey, which were below 25% (see, for example, Manaf, Hasseldine and Hodges 2005; Loo 2006a; Palil 2010; Ibrahim 2013). Secondly, postage expenses, such as stamps, registered mail and courier charges, have been on the rise in Malaysia.<sup>97</sup> Therefore, the projected cost of distributing first and second reminders, and of re-sending questionnaires in the case of misplaced mail, was rather high. Finally, but most importantly, the drop-off approach was highly recommended by Cooper and Schindler (2003, 345) because it helps to reduce the number of respondents who fall outside a predefined sample frame, such as individuals with no income tax files and those whose return forms are prepared by others. As such, the postal survey was limited to areas which were cost-ineffective to cover, while the drop-off method was utilised in the remaining areas.

The representatives of salaried groups from the private companies, and the government officers, were personally approached to inform them of the purpose of the study and the predetermined criteria of the potential respondents. Depending on the size of the organisation, each representative was given between five and thirty sets of questionnaires. The same procedures were repeated at each venue, by which the representatives were requested to randomly distribute the questionnaires and arrangements were made to collect the questionnaires in the following week. In approaching the small business group, Google Maps were used to help locate the commercial blocks of the selected areas, for ease of delivery. As opposed to the salaried group, individuals from the small business group were generally unreceptive, evidenced by their lack of interest in taking part and refusal to entertain the request. Such responses were anticipated because business groups, in general, have been rather hostile about participating in past research studies (Muthusamy 2011; Isa 2012; Mohdali 2013). For those who showed interest, arrangements were made to collect the questionnaires in the following week.<sup>98</sup>

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<sup>97</sup> As at June 2013, the cost of a stamp was 60 cents, and registered mail was approximately MYR8.50, while courier services ranged from MYR15.00 to MYR35.00 depending on destinations of parcels.

<sup>98</sup> A detailed discussion of data collection procedures is provided in Section 4.3.6.

#### 4.3.5.3 Referral Network Method

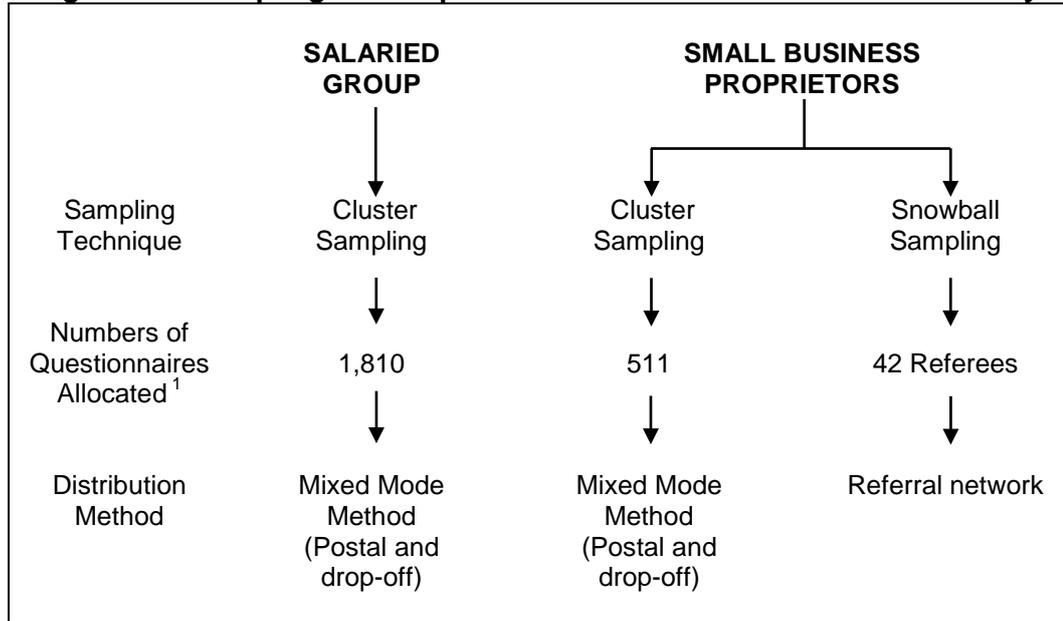
Individual taxpayers from the small business community are more likely to appoint a tax agent to deal with their tax affairs (Long and Caudill 1987, 37; Christian, Gupta and Lin 1993; Kasipillai 2005, 25; Ho et al. 2006, 8). Additionally, it is possible that small business proprietors may not be registered as taxpayers and, thus, do not own tax files.<sup>99</sup> Therefore, selecting those individuals would defeat the purpose of the study since, most likely, they would have no experiences in seeking assistance from the tax authority. Due to the anticipated difficulties in obtaining an adequate sample size from this group to satisfy the necessary criteria, potential respondents were traced through referral networks. Cooper and Schindler (2003, 202) recommended this approach to help identify potential respondents who would be difficult to trace and hence could be best located with the assistance of referral networks.

Forty-two (42) referrals were successfully obtained to help trace or introduce respondents for the study. The referral networks consisted of the self-employed respondents of the study, and the researcher's personal and professional networks. Personal networks were comprised of colleagues and mature students from the Long Distance Learning of UiTM, while professional networks consisted of entrepreneur establishments. Referees from the personal networks were identified by approaching all the mature students from the Faculty of Accountancy, while those from the professional networks were chosen based on affiliation with entrepreneurs. Prior to the distribution of questionnaires, referees were briefed on the purpose of the study and the respondents' criteria. Each referee was given between three to ten questionnaires, depending on the arrangement, as some were quite hesitant to distribute more. They then distributed the questionnaires to those who possessed the recommended criteria and who, in turn, further introduced potential respondents. Envelopes were included to help ensure confidentiality of responses. This approach managed to obtain 86 respondents. A summary of the sampling technique and the distribution methods applied in this study is presented in Figure 4.4.

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<sup>99</sup> Census Report on SMEs 2011 and Palil (2010, 235)

**Figure 4.4: Sampling Techniques and Distribution Methods of the Study**



<sup>1</sup> The actual total number distributed is slightly lower than the projected 2,700.

#### 4.3.6 Data Collection Procedure

This section discusses the data collection procedures undertaken for the study. The data collection period lasted approximately five months. The actual dates of return of these questionnaires were recorded in order to separate responses received prior to, and after, the follow-up attempts. Such a measure was necessary for the conduct of non-response bias analysis. The follow-up procedures differed, depending on the types of delivery mode employed, such as postal, drop-off and referral networks. Table 4.8 provides an outline of the follow-up timing and methods applied for the study.

**Table 4.8: Follow-Up Timing and Methods for the Study**

Delivery Method	Salaried Group		Small Business Proprietors		
	Postal	Drop-off	Postal	Drop-off	Referral Network
Questionnaires Distributed	730	1,080	256	255	42
Follow-up Method	Telephone	In person and telephone	Letters	In person and letters	In person and telephone
First Reminder	2 weeks after original mailing	1 week after drop-off	2 week after original mailing	1 week after drop-off	2 weeks after original delivery
Second and Final Reminder	4 weeks after original mailing	3 weeks after drop-off	4 weeks after original mailing	3 weeks after drop-off	4 weeks after original delivery

#### 4.3.6.1 Salaried Taxpayers

As mentioned earlier in this chapter, postal and drop-off methods were employed in distributing the questionnaires to salaried taxpayers. The questionnaires that were distributed using the drop-off method were collected from the work premises one week after delivery date. By personally collecting the questionnaires from the premises, it provided the necessary impression of urgency in the data collection process and professionalism in the conduct of the survey. Most importantly, the researcher was able to convey her sincere appreciation to the representatives and to make further requests to the non-participants to complete and return the instruments when possible. Under the postal delivery approach, the first and second follow-ups were made in the second and fourth weeks after the initial mail outs. In consideration of the representatives' work commitments and the cost constraints faced by the researcher, it was decided that reminder letters, along with new sets of questionnaires, were not to be distributed. Instead, telephone calls and personal visits were made, requesting that the representatives to remind the non-participants to complete and return their questionnaires. The representatives also were requested to separate the early and late responses.

#### 4.3.6.2 Small Business Proprietors

The survey questionnaires were distributed to the small business proprietors using postal, drop-off and referral network approaches. The timing of the follow-up reminders was based on the suggestion of the TDM (Dillman 2007). Under the

postal delivery mode, reminder letters<sup>100</sup> were sent to all the potential participants two weeks after the deliveries were made, thanking those who had completed the questionnaires and reminding those who had yet to do so to complete and return them. The second and final reminders were sent four weeks after the original deliveries of questionnaires. At the time of the drop-off deliveries, arrangements were made to collect the questionnaires a week after distributing them. Those who had shown interest in the study but had failed to complete questionnaires were kindly requested to complete them, and collection arrangements were made within the next two weeks. Accordingly, the 42 referees under the snowball technique were contacted in the second and fourth weeks after their initial receipt of questionnaires. Both follow-ups requested them to remind the non-participants to complete and return the questionnaires.

#### **4.3.7 Data Analysis Procedures**

This section outlines the data analysis procedures undertaken for the survey study. Specifically, the procedures undertaken in response to screening and handling of missing values will be discussed, followed by an outline of the response analysis. Thereafter, the necessary steps involved in conducting the preliminary analysis will be examined. A detailed discussion of the responses, as well as the descriptive and inferential analyses, will be presented in Chapters 5 and 6.

##### **4.3.7.1 Data Entry Procedures and Data Screening**

The returned questionnaires<sup>101</sup> were screened for any out-of-frame respondents to help ensure that the sample strictly contained self-prepared taxpayers. Following this, a codebook<sup>102</sup> was prepared and responses to some of the negatively-worded questions were reversed so that all responses were in the same direction. Thereafter, the survey data were manually documented in a coding sheet prior to transfer as computer entries. This helped to minimise errors and omissions as a result of flipping through each questionnaire for individual items (Sekaran 2006, 305). Next, all coded questionnaires were examined for coding accuracy to mitigate

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<sup>100</sup> A sample of the reminder letter is provided in Appendix E.

<sup>101</sup> Please refer to Chapter 5, Section 5.2.1 (Table 5.1) for returned questionnaires.

<sup>102</sup> A codebook helps in deciding how one goes about defining and labelling each of the variables and assigning numbers to each possible response (Pallant 2011, 11).

human errors.<sup>103</sup> Upon final data entry, data were again screened for possible human errors. This was conducted by cross-validating data from the coding sheet with those in the computer. Additionally, the frequencies for each variable were checked thoroughly for possible out-of-range scores. Detected errors were corrected, followed by reinspection of frequencies for each variable. Finally, quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS) version 21.

#### **4.3.7.2 Handling of Missing Values**

A further examination of the questionnaires exposed two classes of missing data; substantial and relatively small. It was found that 27 respondents did not complete a substantial part of the questionnaire, while 13 questionnaires contained substantial missing values on critical or dependent variables.<sup>104</sup> Since the missing values made it difficult, if not impossible, to conduct further analysis, the subjects were removed from the sample, leaving a remaining 406 useable questionnaires. Furthermore, Hair et al. (2006) suggested excluding cases containing more than 15% missing values and all cases with missing values on critical or dependent variables. The cases which contained a relatively small number of missing value were retained for further analysis.

While missing data raises concerns (Pallant 2011; Tabachnick and Fidell 2013, 62) and can be considered as one of the most pervasive problems in data analysis, Tabachnick and Fidell (2013, 62-63) have emphasised the importance of examining its pattern, since randomly scattered missing data poses a less severe problem. They further noted that, if 5% of the data points are missing in a random pattern, almost any procedure for handling missing values will yield a similar result. An inspection of the data matrix revealed no systematic pattern, suggesting that the values were, indeed, missing at random.

The missing values for the remaining 406 cases were relatively small, ranging from 1.4% to 4.3%, thus a t-test was considered unnecessary.<sup>105</sup> In handling the non-substantial missing values, listwise deletion was chosen during the advanced

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<sup>103</sup> Items with 'Not Applicable' or 'Not Sure' options were specified with a discrete missing value code of 9 so that SPSS would exclude them as legitimate values in the statistical analyses.

<sup>104</sup> Please refer to Chapter 5, Section 5.2.1 (Table 5.1).

<sup>105</sup> Tabachnick and Fidell (2013, 63) recommended performing a t-test if missing values are greater than 5%, due to concern that they might be related to other variables.

analysis. While the use of listwise deletion raises the concern of a decreased sample size, this technique was considered for several reasons. Firstly, the study employed PROCESS Macro<sup>106</sup> (Hayes 2013) in analysing the moderating and mediating effects, which only considers a listwise deletion approach. Secondly, the advantage of this approach lies in the unbiased parameter estimates due to the assumption that missing data were at random (Tabachnick and Fidell 2013). Since no systematic patterns were observed from the missing values, it can be concluded that the assumption that missing data were at random was not violated. Thirdly, the cases excluded were rather minimal, evidenced by less than 4.4% of cases being affected.<sup>107</sup>

#### 4.3.7.3 Response Analysis

The results from actual data collected may not represent the true views of the target population if a desired response rate is not obtained (Keller and Warrack 2003, 150). Thus, a low response rate is believed to introduce non-response bias, which threatens the ability to draw inferences that apply to the population (Hair et al. 2006; Lindner, Murphy and Briers 2001). In this study, the non-response bias was addressed by comparing the early and late responses (Wagner and Kemmerling 2010) using t-test analysis on the Likert-type scale items. Where significant differences between the two groups were not evident ( $p$ -value greater than 0.05), it was deemed safe to assume that non-response bias was not a major concern of the study. Similarly, response representativeness is important to enable statistical inferences to be drawn about the population of interest (Pallant 2011; Creswell and Clark 2011). In an effort to establish the response representativeness, Creswell and Clark (2011, 142) have recommended contrasting the demographic backgrounds of the survey respondents against the target population.<sup>108</sup>

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<sup>106</sup> PROCESS is a user-friendly tool for SPSS that simplifies the tasks in testing mediation and moderation.

<sup>107</sup> Arbuckle (1996) cautioned that the cases excluded by listwise deletion should not exceed 19% or there is a risk of substantial bias estimation. The excluded cases in the study ranged between 1.4% and 4.3%. Hence, bias in the estimates was not considered a major concern.

<sup>108</sup> A detailed discussion is offered in Chapter 5, Section 5.2.4.

#### 4.3.7.4 Preliminary Analysis

In order to ensure that data are of assured quality for further analysis, Sekaran (2006, 301) recommended undertaking several steps, which include the screening of outliers,<sup>109</sup> validity and reliability testing, and normality testing. For this study, univariate outliers were detected using the 'Outlier Labelling Rule Formula' with a demarcation criterion of 2.2. Validity testing was conducted by performing the exploratory factor analysis that help classify items according to factors with which they were strongly associated (Pallant 2011, 104). Following this, Cronbach's coefficient alpha was performed to determine how well the measured items 'hang together' as a set (Sekaran 2006, 307). Next, the mean scores for all variables were screened for extreme cases, that were not initially detected in the previous analysis by examining the standardised scores in excess of 3.29, as recommended by Tabachnick and Fidell (2013, 73). Finally, the normality of residual distributions was examined via visual inspection of the histograms and normal probability plots (Normal Q-Q plot), and by examining the skewness and kurtosis values. A detailed discussion of the preliminary analysis is offered in Chapter 5.

#### 4.3.7.5 Descriptive and Inferential Analysis

The analyses undertaken under each of the phases are briefly discussed below. Table 4.9 presents an overview of the research question and null hypotheses with their corresponding analyses. Keller and Warrack (2003, 634) recommended performing a Pearson Correlation analysis to examine the magnitude of relationships between variables. This analysis was conducted for two important reasons, namely to determine the strengths of relationships between independent and dependent variables, and to help identify the existence of multicollinearity among independent variables (Pallant 2011, 158). Subsequently, the Ordinary Least Squares (OLS) regression was used to examine participants' motivations to use tax information assistance, and the relationship between their use of information assistance and compliance.<sup>110</sup> Additionally, the mediating and moderating effects were examined by performing OLS regression using PROCESS Macro (Hayes

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<sup>109</sup> An outlier is an observation that is unusually small or large (Keller and Warrack 2003, 645) and may not represent typical values in the population (Cohen and Cohen 2008, 257).

<sup>110</sup> Prior to conducting the OLS regression, the violation of normality of residuals and the homogeneity of variance were examined. Additionally, the 'Tolerance and VIF' values were examined to detect multicollinearity problems that were not evident during the correlation analysis (Pallant 2011, 158), while 'standardized DfBetas and standardised residual values' were used to identify outliers and influential cases.

2013) in SPSS. A detailed discussion of the descriptive and inferential analyses is presented in Chapter 6.

**Table 4.9: Research Questions, Null Hypotheses and the Corresponding Analyses**

Research Questions/ Null Hypotheses		Analyses
RQ1	What are the background characteristics of the users of tax information assistance?	t-test/ One-Way ANOVA
RQ2	Are threat appraisals, coping appraisals and the perceived trustworthiness of the tax authority significantly associated with the individual taxpayers' use of tax information assistance?	
H <sub>0 1(a)</sub>	There is no significant relationship between TPENALTY and USAGE	
H <sub>0 1(b)</sub>	There is no significant relationship between TAUDIT and USAGE	
H <sub>0 1(c)</sub>	There is no significant relationship between PAUDIT and USAGE	
H <sub>0 1(d)</sub>	There is no significant relationship between PDETECT and USAGE	
H <sub>0 2(a)</sub>	There is no significant relationship between RES_EFFI and USAGE	
H <sub>0 2(b)</sub>	There is no significant relationship between ATTITUDE and USAGE	
H <sub>0 2(c)</sub>	There is no significant relationship between SELF_EFFI and USAGE	
H <sub>0 2(d)</sub>	There is no significant relationship between OAPTITUDE and USAGE	
H <sub>0 3</sub>	There is no significant relationship between PTRUST and USAGE	
H <sub>0 2(e)</sub>	ATTITUDE does not mediate the relationship between RES_EFFI and USAGE	Pearson Correlation/ OLS Regression  Mediation Analysis (OLS Regression)
RQ3	Is information usage significantly associated with the taxpayers' willingness to comply?	
H <sub>0 4(a)</sub>	There is no significant relationship between USAGE and ADMINCOM	
H <sub>0 4(b)</sub>	There is no significant relationship between USAGE and REPORTCOM	Pearson Correlation/ OLS Regression
RQ4	Do the taxpayers' levels of perceived trustworthiness of the tax authority moderate the relationship between information usage and the taxpayers' willingness to comply?	
H <sub>0 5(a)</sub>	PTRUST does not moderate the relationship between USAGE and ADMINCOM	
H <sub>0 5(b)</sub>	PTRUST does not moderate the relationship between USAGE and REPORTCOM	Moderation Analysis (OLS Regression)

## **4.4 Phase Two: Interviews**

### **4.4.1 Introduction**

The use of the qualitative approach as a method of collecting data has gained wide recognition over the years (Berry 1999; Denzin and Lincoln 2005; Creswell and Clark 2011; Creswell 2012). The qualitative phase of this study employed the interview as its method of collecting data. Interviews were conducted based on the outcomes of the survey results and are discussed next.

### **4.4.2 Justification for Interviews**

Interviews were employed in the study for several reasons. Interviewing participants allowed consideration of opinions from various perspectives (Creswell and Clark 2011, 7) that would otherwise had been difficult to obtain from the survey alone. Furthermore, this probing method allowed the researcher to explore the participants' perspectives, wherever that led, in great depth, while keeping within the parameters of the research (Patton 1987, 112; Berry 1999). Most importantly, it offered additional insight to help understand any unexpected outcomes of the study (Morse 1991, 12; Bradley, Curry and Devers 2007; Creswell and Clark 2011, 12).

The interviews were conducted using the telephone as the medium of communication. While the use of telephone as the mode of interview has raised concerns about failure to identify the participants' facial expressions and reduced ability to hold an engaging conversation (Sekaran 2006, 257), the telephone interview remains universally accepted (see in Devos 2009) due to its cost-effectiveness in collecting data (Creswell 2012, 219). Since the total number of participants in this section of the study was limited to 14 individuals,<sup>111</sup> amid a geographically dispersed area from the eastern to the western parts of Malaysia, face-to-face interviews were deemed inefficient in terms of cost, human resources and time.

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<sup>111</sup> Please refer to Chapter 4, Section 4.4.5 for an explanation of the poor response rate.

#### **4.4.3 Interview Guide**

Prior to the conduct of interviews, the interview guide proposed by Berry (1999) was observed in developing the interview questions. This included asking questions which were clear, open-ended and non-sensitive in nature. However, where sensitive questions were concerned, as suggested by Berry (1999), questions that just touch the 'surface' were phrased instead. Additionally, Patton (1987, 115) recommended the use of experience or behaviour-based questions prior to inquiring about the opinions of the participants because it helps to establish settings for them to articulate their opinions. Finally, the use of follow-up, or probing questions, was considered, to seek further clarification and increase the richness of data (Patton 1987, 112; Berry 1999).

#### **4.4.4 Interview Question Development**

Several intriguing and unexpected results were identified from the survey that needed further explanation. Six main questions were developed in the form of standardised open-ended questions. While a standardised open-ended question allows the discussion of issues within the parameters, it has also been criticised for its lack of flexibility when making inquiries (Patton 1987, 112). Hence, 'probing' was necessary to seek further clarification of responses (Creswell 2012, 221). As a result, a semi-structured interview was conducted where the questions were initiated, then probing was introduced in response to the participants' explanations (Roulston 2010, 15).

The development of interview questions is presented, as follows. The first question "Do you find it easy to understand and complete your tax return?" served as an icebreaker which encouraged participants to express their views based on their experiences. Next, the participants were provided with several examples of tax authority-based assistance. Their views on the significance of each and how it had supported their administrative and reporting compliance were sought. Following this, participants were asked about their audit experiences (if any), the probability of being audited in the future and how the audit likelihood had impacted upon their decision of whether or not to use information assistance for tax reporting. The role of monetary risk attitude was explored in the same manner. Next, the importance of trust perceptions was pursued. The individuals were requested to reflect on their own experiences, or the experiences of others, in relation to their dealings with the

tax authority. Having established the context, their views on the IRBM's dependability and respectful treatment, and the relevance of these elements in affecting their compliance behaviour, were sought. Next, the participants were asked about what they considered to be exploitation of information assistance for tax reporting. Upon establishing the idea, their opinions on its prevalence and whether it is acceptable within society were sought. Consequently, their opinions about the impact of tax knowledge on taxpayers' compliance were pursued. Finally, their opinions on the capacity of the IRBM to detect misstatements were sought.<sup>112</sup>

#### **4.4.5 Sample Selection**

In an explanatory sequential method, Creswell and Clark (2011, 181) emphasised that participants should be drawn from the previous survey respondents. Hence, 'purposeful sampling' was employed in selecting this sample, whereby the individuals were intentionally selected in an effort to understand the central phenomenon (Reid 1996, 388; Creswell 2012, 206). During the execution of the survey,<sup>113</sup> information sheets and consent forms were attached to the questionnaires, inviting participants to further participate in an interview focusing on similar issues to those addressed by the questionnaire.

The participation rate was considered poor in that only 43 out of 597 individuals returned their completed consent forms. Seven of these individuals were subsequently excluded because they did not fulfil the predetermined criteria. The remaining 36 individuals were again contacted in May 2014 via emails and telephone calls. They were notified of the up-coming interviews, debriefed on the focus of the study and reminded that participation was voluntary and that they could withdraw at any time without prejudice. Fourteen (14) participants expressed their interest to participate in the interviews, giving a response rate of 47% compared with the intended sample size of 30 participants. McKerchar (2003, 132) and Devos (2009, 29) asserted that low participation was not considered problematic given that the aim of conducting interviews in an explanatory sequential method is to add value and complement the quantitative study rather than to provide statistical generalisation. The remaining individuals were excluded, for several reasons, which

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<sup>112</sup> A complete set of the interview questions is available in Appendix F.

<sup>113</sup> A total of 2,321 questionnaires were distributed using cluster sampling, while another 42 were distributed using the snowball technique.

included unanswered e-mails, change of contact numbers, being on maternity leave, inter-state transfers and voluntary withdrawal from the interview.

#### **4.4.6 Data Collection Procedure**

The interview process began in early September and ended in the middle of October, 2014. Arrangements were made with the participants to conduct telephone interviews at their convenience. Interview questions were emailed to the participants beforehand, thus allowing clarification where necessary. The request for permission to record the conversation was initially conveyed to the first participant. While the permission to tape-record the conversation was granted, it was obvious that it had been given rather hastily. Hence, after further consideration, and in the hope of a higher level of information disclosure, it was later decided that all interview conversations were not to be taped. A similar method was adopted by Raig, Pope, and Pinto (2014, 402), based on their argument that it may discourage participants from expressing their true views. Additionally, probing was introduced to slow down the conversation and to seek further clarification.

Due to the delicate nature of taxation studies (Kamaluddin and Madi 2005, 73; Raig, Pope and Pinto 2014, 402), a high level of trust was required in order to gain cooperation from the participants. Hence, the ethics guidelines were observed by informing the participants about the purpose of the study and by providing a copy of the research approval from Curtin University's Human Research Ethics Committee (HREC) in an effort to increase the participants' confidence in the university and the project. Additionally, participants were given assurances that their responses would be treated strictly in confidence, as access to the interview responses would only be available to the researcher and supervisors.

The participants were allowed to converse in English, the national language (Bahasa Malaysia) or both. Each interview session took less than an hour, on average, to complete. The field notes were documented using an interview protocol form which contained three sections.<sup>114</sup> The first section contained statements about the purpose of the study, confidentiality assurance of the responses, durations of the interviews and background information of the participants. The second section was comprised of several open-ended questions, while the final section consisted of

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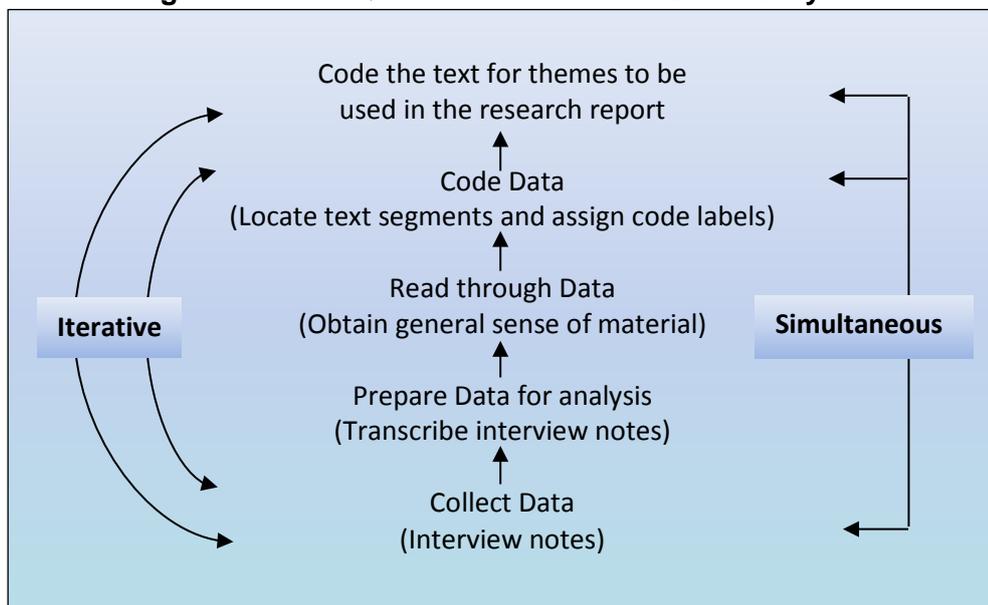
<sup>114</sup> The interview protocol form was adapted from Asmussen and Creswell (1995) and is available in Appendix G.

reminder to thank the participants, to give reassurance on the confidentiality of their responses, and to notify the participants that the interview report would be made available for validation purposes in the future.

#### 4.4.7 Data Analysis Procedure

The process of analysing and interpreting the qualitative data followed the steps displayed in Figure 4.5. The steps included transcribing the interview notes, reading through data to obtain a general sense, coding of data and collapsing codes into themes. A detailed discussion of the data analysis procedure is discussed below.

**Figure 4.5: The Qualitative Process of Data Analysis**



Source: Creswell (2012, 237)

##### 4.4.7.1 Transcription of Interview Notes

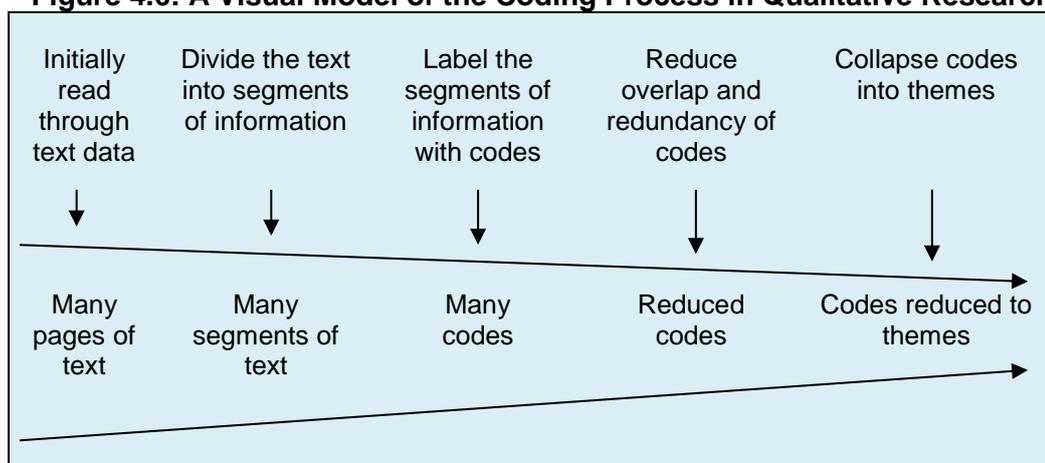
The interview notes, in English, were transcribed into text data using a word document. A matrix table was developed to help organise the data. Since the conversations were not tape-recorded, the exact 'key answers' were manually written. Following this, the actual responses of participants were appropriately paraphrased so that the transcriptions were written as closely as possible to the participants' actual statements. The transcriptions were later emailed to the participants in order for them to ensure a fair and valid interpretation of responses. A similar procedure was noted in a study conducted by Raig, Pope, and Pinto (2014). Several interview responses were given in the national language (Bahasa Malaysia):

hence, responses were transcribed in their original language. These texts were subsequently translated and transcribed into English language text. Several minor discrepancies were found and rectified accordingly. The transcriptions were validated by an independent translator from the Language Department of UiTM, Sarawak, by comparing both versions of the transcriptions. Each interview session took less than one hour to complete. As such, it took an average of between seven and nine hours to transcribe a single interview, depending on the length of the conversation. Occasionally, there were instances during the interviews when it was inappropriate or difficult to interrupt the interviewees and certain ‘connecting words’ could not be heard by the researcher. Hence, the word “inaudible” was inserted instead. Analysing the data manually was considered to be appropriate because it was manageable for the researcher to keep track of the transcribed data and files.

#### 4.4.7.2 Coding of Data

Coding is “... the process of segmenting and labelling the text to form descriptions and broad themes in the data” (Creswell 2012, 243). The coding process followed the process recommended by Creswell (2012, 244), which is shown in Figure 4.6. The transcribed data were initially read to obtain a general sense of the data as a whole. In doing so, short phrases and concepts were written down, so as to divide the text into segments of information. Next, these segments of information were labelled with codes. Thereafter, overlapping codes were identified and combined.

**Figure 4.6: A Visual Model of the Coding Process in Qualitative Research**

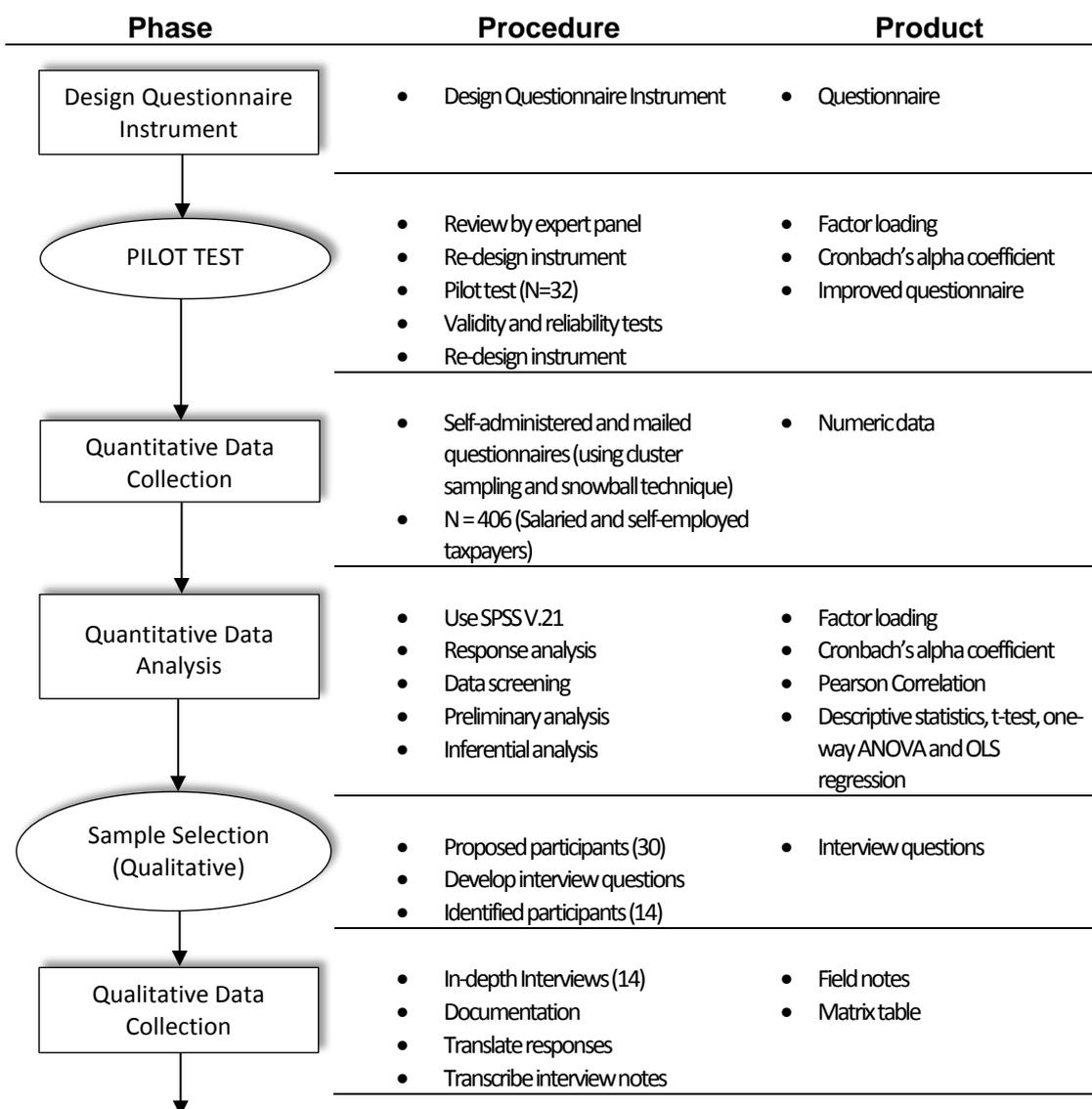


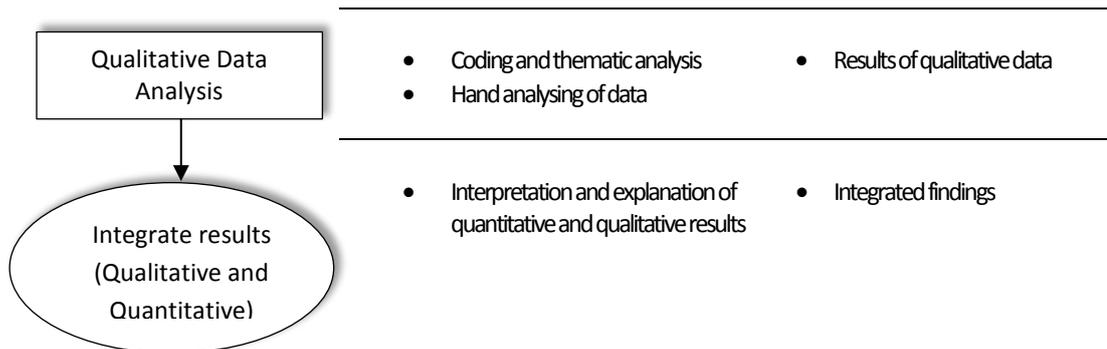
*Adapted from Creswell (2012, 244)*

#### 4.4.7.3 Identification and Validation of Themes

According to Creswell (2012, 245), themes are comparable codes which are combined together to form a main idea. While the sample size was considered to be small, the sample was comprised of various individual backgrounds which enabled identification of themes from various perspectives. The process of re-reading the interview transcripts was conducted until the researcher was satisfied that no new information could be obtained. Finally, reports of the findings were emailed to the participants for validation purposes. This helped to ensure that the themes had been appropriately identified and that the interpretations were fair and valid. A detailed discussion of the interview findings will be presented in Chapter 8. Figure 4.7 presents a summary of the research design conducted for the study.

**Figure 4.7: A Summary of the Research Design Conducted for the Study**





Source: Adapted from the Diagram Developed by Ivankova and Stick (2007) and Creswell and Clark (2011, 121)

#### 4.5 Permission to Collect Data and Ethical Issues

Curtin University's ethical standards and guidelines were observed throughout the conduct of this study. This included conducting the research in accordance with the approved application. The approval for research with low risk was obtained from Curtin University's Human Research Ethics Committee (HREC) prior to the commencement of the survey and interviews.<sup>115</sup> Additionally, the researcher had already successfully completed Curtin's compulsory Research Integrity Professional Development Program, as part of the requirement for PhD candidates. In an effort to increase public confidence in the university, and to reflect the authenticity of the study, the participant information sheet was provided. It contained the purpose of the study, assured confidentiality, listed the rights of participants, contained the logo and contact details of the university, and stated the HREC standard requirements,<sup>116</sup> consistent with the university's guidelines. The data management plan will be observed by storing the research data in a discreet and secured environment for five years and it will be destroyed thereafter. The research data will only be made accessible to the researcher, and to the principal and the associate supervisors of the researcher.

<sup>115</sup> Approval letters are available in Appendices C and D.

<sup>116</sup> HREC's standard requirement reads "This student has been approved under Curtin University's process for low risk studies (Approval Num E&F-12-12). This process complies with the National Statement on Ethical Conduct in Human Research (paragraph 5.1.7 & paragraph 5.1.18 – 5.1..21)."

## 4.6 Chapter Summary

A mixed methods approach, in the form of an explanatory sequential design, was applied in the development of this study. It commenced with a survey phase and was subsequently complemented by interviews to enable a better understanding of the survey results. Throughout the conduct of this study, the research ethics guidelines were observed, and permission to collect data was obtained from Curtin University's Human Research Ethics Committee (HREC). The TDM (Dillman 2007) was appropriately applied in developing the questionnaire instrument. The questionnaire was improved accordingly after obtaining feedback from several panels. The questionnaires were subsequently pilot-tested among 32 self-prepared individual taxpayers. The application of validity and reliability tests revealed that most items were appropriately measured.

The population of interest comprises of the individual taxpayers from the salaried and small business groups. Both random clustered and snowball sampling methods were used in selecting potential respondents. A mixed-mode method encompassing postal, drop-off and referral networks was employed in distributing the questionnaires. A total of 2,321 questionnaires were distributed to the population of interest, resulting in a 22.02% response rate. Due to poor responses among small business respondents, a snowball technique was utilised, whereby assistance was sought from 42 referrals to help trace potential respondents. As a result, 86 respondents were obtained (more than double of the referrals' total), giving a total response rate of 204.76%.

The data distribution and collection process took approximately five months to complete. A comparison of t-tests between the early and late responses was made due to concerns about non-response bias. The results indicated no significant mean difference between both groups, suggesting that non-response bias was not a major concern in the study. Additionally, the sample was considered to be a reasonable representation in terms of gender, age, locations of work and levels of income in comparison with the urban population of the selected areas in Malaysia. The detailed discussions of analyses and results of the survey are provided in Chapters 5 and 6.

The qualitative phase of the study was conducted using telephone interviews. The interview guide proposed by Berry (1999) was observed, prior to undertaking the interviews, and appropriate procedures were followed in selecting the interview participants. A 'purposeful sampling' technique was used in selecting the interview participants, whereby a total of 14 participants out of the proposed sample size of 30 participated in the interviews, giving rise to a 47% response rate. The conversations were initially documented in the interview protocol forms. The interview notes were subsequently translated and transcribed into text data using a 'word document'. Due to the small number of participants, hand analysis of the data was considered appropriate. Lastly, codes were identified from the transcription prior to combining them into themes. The discussion of the results and findings from the interviews, and the integration of the survey and interview findings are presented in Chapters 7 and 8, respectively.

# **CHAPTER FIVE**

## **DATA ANALYSIS PART I: RESULTS OF SURVEY STUDY**

### **5.1 Chapter Overview**

This chapter focuses on the presentation of the results and discussions of the various analyses obtained from the survey data and is organised as follows. The results of the response analysis are presented and discussed, followed by reviews of the descriptive analysis and results. Thereafter, the preliminary data assessments are discussed before concluding with the chapter summary. The results and discussion of the inferential analysis will be presented in Chapter 6.

### **5.2 Response Analysis**

A response analysis is an important step prior to conducting descriptive and preliminary analyses because it provides a general idea of the response rate and handling of non-response bias, an overview of the respondents' backgrounds, and an assessment of the response representativeness. This section presents the results and discussions of the survey's response rate, handling of non-response bias, response demographics and response representativeness.

#### **5.2.1 Response Rate**

A total of 2,321 questionnaires were randomly distributed to Malaysian individual taxpayers from June to October 2013.<sup>117</sup> Over the period of five months, 511 questionnaires were returned, providing a 22.02% response rate. Additionally, a snowball sampling technique was introduced in an effort to obtain an appropriate sample size of respondents from the small business group. A total of 42 referral networks from the eastern and western parts of Malaysia were identified. They were requested to distribute the questionnaires to small business proprietors who, in turn, introduced further potential respondents.<sup>118</sup> The snowballing technique yielded a response rate of 204.76%,<sup>119</sup> or 86 returned questionnaires.

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<sup>117</sup> Please refer to Chapter 4, Section 4.3.2.3, for detailed discussion.

<sup>118</sup> Please refer to Chapter 4, Section 4.3.5.3, for detailed discussion.

<sup>119</sup> Please refer to Chapter 5, Section 5.2.1 (Table 5.1), for detailed computation.

Attaining a high response rate in the survey field has been a common challenge among previous Malaysian researchers (see, for example, Palil 2010; Muthusamy 2011; Isa 2012; Mohdali 2013; Ibrahim 2013), specifically when the issue of sensitivity is a concern, as in the case of taxation. For the present study, the total response rate was considered to be rather low: however, there were a few explanations for this. The questionnaire distribution process, which was self-administered in the western part of Malaysia, was partly hampered by the worsening haze condition.<sup>120</sup> As such, the distribution process was hindered due to the inability to deliver the questionnaires within the intended time frame. Secondly, low cooperation from the respondents could have been the result of respondents simply refusing to participate due to the delicate nature of the subject.<sup>121</sup> Since financial and time constraints were a major concern, the authority to respond was granted to individuals who were in a position to respond or who had the knowledge to respond at the time. A summary of the respondents' response rates is presented in Table 5.1.

**Table 5.1: Response Rates of Self-Prepared Taxpayers**

	Cluster Sampling			Snowball Technique
	Salaried Group	Self-Employed	Total	Self-Employed
Total Questionnaires Distributed	1,810	511	2,321	42 <sup>1</sup>
Questionnaires Returned	448	63	511	86
<b>Percentage Response Rate</b>	<b>24.31%</b>	<b>12.33%</b>	<b>22.02%</b>	<b>204.76%<sup>2</sup></b>
Out-of-Frame Responses:				
<i>Never filed Income Tax Form</i>	(43)	(6)	(49)	(4)
<i>Tax Return Prepared by Others</i>	(54)	(31)	(85)	(13)
Useable Questionnaires	351	26	377	69
<b>Percentage Useable Questionnaires</b>	<b>19.39%</b>	<b>5.09%</b>	<b>16.24%<sup>3</sup></b>	<b>164.29%<sup>4</sup></b>

<sup>1</sup> The questionnaires were distributed to a total of 42 referral networks. Each referral was given between 3 and 10 sets of questionnaires depending on the arrangement.

<sup>2</sup> This figure was derived from the following calculation:  $86/42 \times 100 = 204.76\%$

<sup>3</sup> This figure was subjected to a further removal of 19 cases due to substantial missing data, giving a final rate of 15.42%, or 358 useable questionnaires.

<sup>4</sup> Percentage useable questionnaires =  $69/42 \times 100 = 164.29\%$ . The further removal of 21 cases was necessary due to substantial missing data, giving a final response rate of 114.29%, or 48 useable questionnaires, from self-employed taxpayers.

<sup>120</sup> The 2013 South East Asia haze reached crisis levels in some parts of Malaysia. Haze reports can be obtained from the websites of local news, [www.astroawani.com/berita](http://www.astroawani.com/berita) and [www.malaysiakini.com/news](http://www.malaysiakini.com/news). As the Air Pollution Index (API) reached a hazardous level, coupled with concerns over the rising health issues, the Malaysian government was forced to issue a 'state of emergency' in Klang Valley during the month of June 2013.

<sup>121</sup> Business groups are notorious for their lack of cooperation, which has been encountered both locally (Abdul-Jabbar 2009; Muthusamy 2011; Mohdali 2013) and internationally (Wenzel 2004, 224).

## 5.2.2 Non-Response Bias

Non-response bias occurs as a result of failure to obtain the desired responses from the target population. This jeopardises the accuracy of data collected (Keller and Warrack 2003, 150) and reduces the ability of the researcher to draw inferences about the population (Lindner, Murphy and Briers 2001; Hair et al. 2006). The most common protection of non-response bias is the reduction of the non-response itself (Armstrong and Overton 1977, 396), which could be achieved by making follow-up attempts to convert non-respondents to respondents (Lineback and Thompson 2010, 320). However, even after follow-up attempts,<sup>122</sup> non-responses may still persist and introduce bias. Fortunately, this can be addressed by conducting a comparison between the early and late responses.

A comparison between the early and late responses is the most common form of extrapolation method in the survey field (Wagner and Kemmerling 2010). This method is based on the idea that subjects who respond late are similar to non-respondents, so late respondents can serve as proxies for non-respondents.<sup>123</sup> Pace (1939, 397) maintained that this method provides a valuable tool for determining the probable direction of bias. In the current study, 30 responses were selected from each group.<sup>124</sup> A comparison of the early and late responses was made by performing a t-test analysis on the Likert-type scale items. In order to determine the significant mean difference between the groups, the two-tailed  $p$ -value was examined. If significant mean differences between the two groups were not evident, indicated by a  $p$ -value greater than 0.05, then it could be assumed that the study had not been impacted by non-response bias.

An extract of the means and standard deviations for the early and late responses, with their corresponding two-tailed  $p$ -values are illustrated in Table 5.2.<sup>125</sup> The results suggest that responses from both groups were not significantly different, evidenced by  $p$ -values that were greater than 0.05 for almost all items. However, Table 5.2 reveals that one item (REP4) was found to have a  $p$ -value of slightly lower than 0.05 (0.048), suggesting that responses from the early and late response

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<sup>122</sup> Please refer to Chapter 4, Section 4.3.6, for detailed discussion.

<sup>123</sup> Those who responded prior to the sending of reminders were termed as the early respondents, while the late responses were those generated after giving reminders (Armstrong and Overton 1977, 397).

<sup>124</sup> A minimum number of 30 respondents was recommended by (Lindner, Murphy and Briers 2001, 52) in order to ensure that the number of late responses was large enough to be statistically meaningful. A total of 60 respondents were derived from the random clustered and snowball sampling approach.

<sup>125</sup> A complete result of the test is provided in the Appendix H.

groups were significantly different at 0.05 levels. Since the  $p$ -value is only just slightly lower than the 0.05 level and the samples analysed were 30 out of 406, it was decided that this item will not be removed from the analysis. Overall, results between the two groups did not differ significantly, thus, minimizing the concern for non-response bias. However, it is worth noting that the sample was not guaranteed to be completely free from bias due to a low response rate.

**Table 5.2: Means and Standard Deviations of the Early and Late Responses**

	<b>Response</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b><math>p</math>-value<sup>*</sup> (two-tailed)</b>
SVT1	Early Response	30	3.9667	1.0334	.895
	Late Response	30	3.9333	0.9072	
SVT2	Early Response	30	3.9333	0.9803	.335
	Late Response	30	3.6333	1.3767	
SVT3	Early Response	30	4.1000	0.9948	.248
	Late Response	30	3.8000	0.9966	
RES1	Early Response	30	4.0000	0.7428	.113
	Late Response	30	4.3000	0.7022	
RES2	Early Response	30	3.8333	0.7466	.549
	Late Response	30	3.7000	0.9523	
RES3	Early Response	30	3.8667	0.8193	.439
	Late Response	30	3.7000	0.8367	
REP1	Early Response	30	1.8667	0.7761	.127
	Late Response	30	2.2000	0.8867	
REP2	Early Response	30	3.1667	0.9595	.680
	Late Response	30	3.0000	0.9097	
REP3	Early Response	30	3.1333	0.9371	.154
	Late Response	30	2.8000	0.8469	
REP4	Early Response	30	3.7000	0.8769	.048
	Late Response	30	3.2000	1.0306	

\* Significant at the 0.05 level

### 5.2.3 Frequency Distribution of Taxpayers' Backgrounds

This section describes the respondents' socio-demographic and tax-related backgrounds. Profiles of individual taxpayers by age, gender, level of qualification, number of dependents, occupational sector, annual income, location of business (or work), audit experience, awareness of penalty and assistance, years of filing experience, and opinions in return form completion are presented below.

#### 5.2.3.1 Age

Table 5.3 presents the survey respondents by age. Approximately 40% of the respondents were within the range of 30 to 39 years old. Cumulatively, those within the range of 30 to 39 years and 40 to 49 years made up the largest group of respondents, representing approximately 71.5% of respondents. This implies that the survey managed to capture the targeted respondents, who were the working individuals. On the other hand, the survey failed to capture an appropriate sample size of the older respondents (aged 60 and above), as indicated by being less than 1% of the sample size. While the minimum retirement age for Malaysian taxpayers is 60,<sup>126</sup> self-employed taxpayers are not compelled to retire. However, this rate was considered reasonable when contrasted with the elderly population of the sampled areas which was 5.8%.<sup>127</sup>

**Table 5.3: Survey Respondents by Age**

	Frequency	Percentage
Below 30	34	8.4
30 - 39	162	39.9
40 - 49	128	31.5
50 - 59	80	19.7
60 and above	2	0.5
Total	406	100.0
Missing values	-	-
Total	406	100.0

<sup>126</sup> Minimum Retirement Age Act 2012

<sup>127</sup> Due to the small sample size in the older group (60 and above), it was appropriate that a new age category (50 and above) be formed during the inferential analysis to minimise the risk of making a Type 1 Error, that is, an inaccurate conclusion due to rejection of the null hypothesis when, in fact, it is true.

### 5.2.3.2 Gender

Table 5.4 indicates that 223 (54.9%) of the respondents were male, while the remaining 183 (45.1%) were female, giving a total number of 406 respondents. While the female composition was slightly lower, it was considered reasonable when contrasted with the population from the selected areas.

**Table 5.4: Survey Respondents by Gender**

	Frequency	Percentage
Male	223	54.9
Female	183	45.1
Total	406	100.0
Missing values	-	-
Total	406	100.0

### 5.2.3.3 Qualifications

The majority of the respondents from this sample were considered to be literate. This was supported by the results exhibited in Table 5.5, which indicates that 46.3% of the respondents possessed at least a diploma or an undergraduate degree, followed by 29.1% with a postgraduate degree. Respondents possessing only high school and certificate qualifications comprised less than 18% of the total respondents, since many respondents with only high school qualifications were dropped during the initial screening.<sup>128</sup>

**Table 5.5: Survey Respondents by Level of Qualification**

	Frequency	Percentage
SPM/ MCE or equivalent	60	14.0
STPM/ A-Level/ Certificate	16	3.9
Diploma or Degree	188	46.3
Masters or PhD	118	29.1
Professional course	24	5.9
Total	406	100.0
Missing values	-	-
Total	406	100.0

<sup>128</sup> The initial screening of questionnaires revealed that some respondents did not fulfil the predetermined criteria of this study because they were not registered as taxpayers due to their small annual incomes (below MYR24,000). Taxpayers with annual incomes of MYR24,000 and below are not required to open a tax file in Malaysia.

#### 5.2.3.4 Number of Dependents

Table 5.6 indicates that approximately half of the survey respondents (49.8%) had dependents within the range of two to five persons. This is a good indicator as it may suggest that the respondents from this sample were exposed to a wider range of reliefs, rebates and deductions. However, it was discovered that a large number of the respondents (16.3%) did not provide information pertaining to their number of dependents.<sup>129</sup> Despite this, the large number of missing values (16.3%) was not a concern, since the objective of this question was to determine whether or not the sample had been exposed to a wider range of reliefs, rebates and deductions.

**Table 5.6: Survey Respondents by Number of Dependents**

	Frequency	Percentage
Number of dependents	58	14.3
1 dependent	68	16.7
2 – 3 dependents	120	29.6
4 – 5 dependents	82	20.2
6 – 7 dependents	10	2.5
8 dependents and above	2	0.5
Total	340	83.7
Missing values	66	16.3
Total	406	100.0

#### 5.2.3.5 Occupational Sector

Table 5.7 shows that approximately 45% of the respondents emanated from the public sector, followed by 31.5% from the private sector. The respondents from the small business group constituted only 23.4%.<sup>130</sup> The rationale for the relatively small sample size was based on the excluded questionnaires,<sup>131</sup> in which respondents revealed that their return forms were prepared by others, possibly tax professionals.<sup>132</sup>

<sup>129</sup> The reason(s) for the large missing values were unknown.

<sup>130</sup> Respondents from the large business group were excluded from this study.

<sup>131</sup> The initial screening of the 149 returned questionnaires from the small business group revealed that 44 questionnaires failed to meet the predetermined criteria and were subsequently dropped.

<sup>132</sup> Loo (2006) and Kasipillai (2005) noted that reliance on tax agents by the small business group was likely to increase under the self-assessment system.

**Table 5.7: Survey Respondents by Occupational Sector**

	Frequency	Percentage
Private sector	128	31.5
Public sector	183	45.1
Self-employed	95	23.4
Total	406	100.0
Missing values	-	-
Total	406	100.0

### 5.2.3.6 Annual Income

As indicated in Table 5.8, approximately 26% of the respondents fell within the Malaysian national average income of MYR40,001 to MYR60,000.<sup>133</sup> Following closely were respondents with an average annual income of MYR60,001 to MYR80,000 (21.9%) and MYR80,001 to MYR100,000 (21.4%). The figures obtained from the sample were a good indicator that a substantial number of respondents would have utilised a wider range of deductions in an effort to minimise their taxable incomes. Respondents with an annual income of MYR120,001 and above were relatively small in number, so pooling of the higher income categories during the inferential analysis was necessary to help minimise the risk of making a Type 1 Error.<sup>134</sup>

**Table 5.8: Survey Respondents by Annual Income**

	Frequency	Percentage
MYR40,000 and below	70	17.2
MYR40,001 – MYR60,000	106	26.1
MYR60,001 – MYR80,000	89	21.9
MYR80,001 – MYR100,000	87	21.4
MYR100,001 – MYR120,000	40	9.9
MYR120,001 and above	14	3.4
Total	406	100.0
Missing values	-	-
Total	406	100.0

<sup>133</sup> Median monthly incomes of individuals in Malaysia are between MYR3,333 and MYR5,000, while average annual income is from MYR39,996 to MYR60,000 (Department of Statistics Malaysia 2012).

<sup>134</sup> Prior to the conduct of inferential analysis, 'MYR120,001 and above' must be merged with 'MYR100,001 to MYR120,000' to form a new category (MYR100,001 and above) to minimise the risk of Type 1 Error, that is, making an inaccurate conclusion by rejecting the null hypotheses when in fact they are true.

### 5.2.3.7 Location

Table 5.9 shows that the sample consisted of a reasonable number of respondents from both East and West Malaysia, with a higher number of respondents from West Malaysia. Those working in West Malaysia formed 63.8% of the total respondents while those residing in East Malaysia formed 36.2%. This composition was satisfactory because 68.4% of the total urban population at the time did, in fact, reside in West Malaysia.<sup>135</sup>

**Table 5.9: Survey Respondents by Location**

	Frequency	Percentage
Peninsular (West) Malaysia	259	63.79
East Malaysia	147	36.21
Total	406	100.0
Missing values	-	-
Total	406	100.0

### 5.2.3.8 Audit Experience

Table 5.10 indicates that 25.6% of the respondents have had the experience of being audited by the tax authority, while a substantial 74.4% were without audit experience.

**Table 5.10: Survey Respondents by Audit Experience**

	Frequency	Percentage
Yes	104	25.6
No	302	74.4
Total	406	100.0
Missing values	-	-
Total	406	100.0

### 5.2.3.9 Awareness of Penalty and Assistance

Table 5.11 reveals that a vast majority (90.6%) of the respondents were aware of the imposition of a penalty for non-compliance. Only 9.4% stated that they were not aware of the consequences for non-compliance. This result suggests that the communication of threat had taken place and that the majority of the respondents in this sample were aware of the implications of non-compliance in general.

<sup>135</sup> Please refer to Section 5.2.4 (Table 5.14).

Additionally, 86.2% of the participants indicated that they were aware of the assistance provided by the tax authority, which supports the conclusion that a vast majority were aware that coping mechanisms were provided by the tax authority.

**Table 5.11: Survey Respondents by Awareness of Penalty Imposition and Availability of Assistance**

	Penalty Awareness		Assistance Awareness	
	Frequency	Percentage	Frequency	Percentage
Yes	368	90.6	350	86.2
No	38	9.4	56	13.8
Total	406	100.0	406	100.0
Missing values	-	-	-	-
Total	406	100.0	406	100.0

### 5.2.3.10 Years of Filing Experience

As shown in Table 5.12, less than 6% of the survey respondents had only one year of filing experience. Approximately 31% had 5 years of filing experience, followed by 30% with filing experience of 10 years, while the remaining 30% had more than 10 years of filing experience. However, it is important to note that, despite their years of filing experience, self-prepared individuals may still have sought assistance due to the recurrent changes in tax law, the changes in their income status and the implementation of two major administrative tax reforms in 2004 and 2006.<sup>136</sup>

**Table 5.12: Survey Respondents by Years of Filing Experience**

	Frequency	Percentage
1	24	5.9
2 – 5	124	30.5
6 – 10	122	30.0
More than 10	122	30.0
Total	392	96.6
Missing values	14	3.4
Total	406	100.0

<sup>136</sup> The self-assessment system for individuals, and electronic filing, were introduced in 2004 and 2006, respectively. Please refer to Chapter 2, Sections 2.2.2 and 2.3.3, for detailed discussion.

### 5.2.3.11 Opinions in Return Form Completion

Approximately 43% of the respondents indicated that they had found it much easier to complete their tax return forms over the last five years. This finding was anticipated because the return forms of individual taxpayers in Malaysia are not complicated in comparison with individual return forms from developed countries. However, approximately 24% indicated no changes in terms of the 'ease of tax return form completion', while less than 10% felt it was much harder to complete their tax return forms. Table 5.13 depicts the participants' opinions in tax return form completion.

**Table 5.13: Survey Respondents by Opinions in Tax Return Form Completion**

	Frequency	Percentage
Much easier	176	43.3
A little easier	82	20.2
About the same	96	23.6
A little harder	34	8.4
Much harder	2	0.5
Not sure	16	3.9
Total	406	100.0
Missing values	-	-
Total	406	100.0

### 5.2.4 Representativeness of Responses

The representativeness of responses must be considered when making statistical comparisons of a sample with the population of interest, since failure to do so may lead to bias (Creswell and Clark 2011, 142). Malaysia had 5,561,086 registered individual taxpayers for the year 2011 (Inland Revenue Board of Malaysia 2011, 40). However, obtaining an accurate figure for response representativeness of the self-prepared taxpayers was hindered by the non-release of the required information by the IRBM. Nevertheless, Creswell and Clark (2011, 142) alternatively recommended contrasting the demographic backgrounds of the survey respondents with that of the entire population to establish the approximate representativeness. The sample is considered representative when it is fairly close to the population parameters (Sekaran 2006, 268). Tax researchers of Malaysia have largely relied on this method in establishing the representativeness of their survey respondents.<sup>137</sup>

<sup>137</sup> See, for example, the work of Saad (2011), Mohdali (2013) and Ibrahim (2013).

Accordingly, in order to examine the response representativeness with this study, the respondents' gender, median monthly income, age group and work location were compared with the population from Malaysian urban areas. The urban population was chosen because it aptly captures the intended individual taxpayers due to the fact that they mainly work and reside in and around the urban areas. Although the survey data was collected in 2013, the response representativeness was, nevertheless, compared with the urban population from the year 2010 due to the lag in the reporting of statistics.<sup>138</sup> The respondents' representativeness is presented in Table 5.14.

**Table 5.14: Representativeness of Responses – Gender, Age, Location and Annual Median Income**

	Malaysia <sup>1</sup> (Urban population)		East and West M'sia <sup>2</sup> (Urban population)		Survey response (Urban population)	
	No.	%	No.	%	No.	%
<b>Gender</b>						
Male	9,961,073	51.14%	4,906,923	51.34%	223	54.93%
Female	9,518,026	48.86%	4,650,101	48.66%	183	45.07%
<b>Age<sup>3</sup></b>						
20 - 29	1,830,945	31.06%	2,195,327	36.83%	34	8.4%
30 - 39	1,393,684	23.64%	1,556,643	26.11%	162	39.9%
40 - 49	1,232,866	20.92%	1,139,916	19.12%	128	31.5%
50 - 59	917,504	15.57%	723,392	12.14%	80	19.7%
60 - 69	519,275	8.81%	345,788	5.80%	2	0.5%
<b>Location</b>						
West M'sia <sup>4</sup>	16,461,486	84.51%	6,539,411	68.43%	259	63.79%
East M'sia <sup>5</sup>	3,017,613	15.49%	3,017,613	31.57%	147	36.21%
<b>Median monthly income<sup>6</sup></b>	n.a		n.a		MYR 3,333 – 5,000 (AUD1,043.23 – 1,565)	

<sup>1</sup> There are 13 states and 3 federal territories in Malaysia.

<sup>2</sup> Sample representative areas were: East Malaysia (Sabah, Sarawak and Federal Territory of Labuan); and West Malaysia (Selangor, Federal Territory of Kuala Lumpur and Putrajaya Federal Territory).

<sup>3</sup> Age groups below 20 and above 69 were excluded from the computation. Source: Department of Statistics Malaysia, 2014.

<sup>4</sup> The figure of 16,461,486 was based on 11 states and 2 federal territories, while the figure of 6,539,411 was based on 1 state and 2 federal territories (Department of Statistics Malaysia 2014).

<sup>5</sup> The figure of 3,017,613 was based on 2 states and 1 federal territory (Department of Statistics Malaysia 2014).

<sup>6</sup> The median monthly income for the urban population was unknown, therefore the median monthly annual income for the whole Malaysian population in 2012 was applied, that is MYR3,626 (equivalent to AUD1,135).

<sup>138</sup> The Statistics Report in Malaysia was based on a report released in early 2014 by the Department of Statistics.

The sample was considered to be a reasonable representation of the population from the selected areas in terms of gender, age, location and income compositions. While the age of the respondents reflected a reasonable representation of the population of interest, several misrepresentations in the younger and older groups were noted. The youngest group (20 to 29 years) from the survey sample appeared to be significantly underrepresented (8.40%) in comparison with the urban population in Malaysia (31.06%) or the selected areas of study (36.83%). The concern over the disparities was mitigated by the fact that this group is likely to be comprised of college or university students, unemployed individuals and unregistered individual taxpayers.<sup>139</sup> Similarly, the older group (60 years and above) was slightly underrepresented (0.50%) in comparison with the urban population in general (8.81%) or the selected areas of study (5.80%). The minimum retirement age of 60 years may have contributed to the failure in capturing this group.<sup>140</sup> Additionally, the poor responses from the small business group may, in itself, have contributed to the discrepancies.

Notably, the average monthly income of the Malaysian individual for the year 2012 was MYR3,626 or AUD1,135,<sup>141</sup> which was within the range of the average monthly income bracket of MYR3,333 to MYR5,000 (AUD1,043 to AUD1,565) obtained from the survey respondents. Similarly, the composition of the survey respondents in terms of gender and location were reasonably represented. Hence, substantiated by these four criteria, it is safe to conclude that this sample was composed of a reasonable representation of the population of interest.

### **5.3 Descriptive Analysis**

The descriptive analysis offered information pertaining to the mean scores for variables with 'five-point Likert-type' scales. The data generated from the study have provided the researcher with a general idea of how the respondents have responded to the questions. The following tables (Tables 5.15 to 5.19) present the results for each variable.

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<sup>139</sup> Individuals with an annual income of MYR24,000 or below are not required to register as taxpayers in Malaysia. Such respondents, who failed to meet the criteria, were dropped during the initial screening.

<sup>140</sup> While 60 years of age has been set as the minimum retirement age (Minimum Retirement Age Act 2012), a global survey conducted in 2014 revealed that Malaysians were the largest group among the South East Asian consumers who had planned for and retired early (Malaysians Are Gearing Towards Early Retirement 2014).

<sup>141</sup> Department of Statistics Malaysia (2012)

**Table 5.15: Descriptive Statistics of Threat Appraisals**

Code	Measures	No.	Min.	Max.	Mean	SD
<b>I am worried about the following:</b>						
SVT1	Penalisation for incorrect reporting of tax	406	2	5	3.916	0.888
SVT2	Unaffordable cost of penalty	406	1	5	3.852	1.032
SVT3	Inconvenience caused by penalty	406	2	5	4.044	0.879
SVT4	Selection for tax audit by the tax authority	406	1	5	3.803	0.969
SVT5	Being questioned by the tax auditors for incorrect tax reporting	406	1	5	3.714	0.997
SVT6	Loss of respect as a result of being caught cheating on my tax	406	1	5	3.537	1.112
SVT7	Being labelled as 'tax offender' by the tax authority for cheating on my tax	404	1	5	3.601	1.169
<b>Likelihood of the following:</b>						
PRT1	Tax return forms of individual* taxpayers will be selected for tax audit	406	1	5	3.212	0.866
PRT2	My tax return form will be selected for tax audit by the tax authority	406	1	5	3.015	0.924
PRT3	Tax auditors can easily detect false deductions in the tax return form	406	1	5	3.384	0.969
PRT4	Tax auditors can easily detect under-reported income in the tax return form	406	1	5	3.453	0.969
PRT5	Tax officers are thorough in conducting tax audit	406	1	5	3.414	0.881

\* The term 'small business proprietor' was indicated in the questionnaires distributed to small business proprietors, while 'salaried taxpayers' was indicated in those distributed to salaried groups.

Table 5.15 presents the levels of agreement of the respondents in regard to various aspects of threat elements. A higher mean score indicates a greater threat anxiety and a stronger agreement with the probability of threat occurrence. Overall, the respondents agreed that they were apprehensive about the threat of penalty and audit, evidenced by mean scores higher than 3.0. The respondents recorded higher mean scores for penalty anxiety (3.852 to 4.044) than for audit anxiety (3.537 to 3.803), suggesting a stronger agreement regarding the fear of penalty. Additionally, the mean scores for the probability of threat occurrence were generally above 3.0, suggesting that the respondents perceived the probability of being audited and detected to be high. However, respondents' perceptions of the probability of being detected were higher (3.384 to 3.453) when compared to the probability of being audited (3.015 to 3.212).

**Table 5.16: Descriptive Statistics of Coping Appraisals**

Code	Measures	No.	Min.	Max.	Mean	SD
<b>Perceptions of tax information assistance:</b>						
RES1	Reduces unintentional mistakes in tax reporting	406	2	5	4.039	0.762
RES2	Does not assist me in correct reporting of tax*	401	2	5	3.834	0.809
RES3	Does not assist me in the completion of my tax return form*	399	2	5	3.884	0.842
RES4	Helps me reduce my tax liability	406	1	5	3.278	0.924
RES5	Information assistance is reliable	406	2	5	3.921	0.677
RES6	Information assistance is accurate	406	2	5	3.847	0.689
RES7	Assistance is available through a variety of service channels	406	2	5	4.103	0.733
ATD1	Minimises the risk of incorrect tax reporting	406	2	5	4.064	0.675
ATD2	Minimises the risk of overpaid tax	406	2	5	4.015	0.706
ATD3	Minimises the risk of penalty cost for non-compliance	406	2	5	4.049	0.657
<b>I am capable of:</b>						
SEF1	Understanding the tax information	406	2	5	3.621	0.831
SEF2	Understanding the language used in the tax information	406	2	5	3.739	0.799
SEF3	Using the tax information	406	2	5	3.729	0.731
SEF4	Obtaining the tax information without disrupting my daily routine	406	1	5	3.325	0.879
SEF5	Obtaining the tax information in a timely manner	406	1	5	3.488	0.772
SEF6	Obtaining the tax information conveniently	406	1	5	3.389	0.814

\* Responses were reversed to account for negatively-worded questions.

Table 5.16 reveals the degree to which the respondents agreed about various aspects of the provided coping elements. A higher mean score signifies a stronger agreement in regard to the effectiveness of the coping mechanism and self-efficacy. The mean scores were above 3.0, suggesting the respondents' concurrence with the effectiveness of the coping mechanisms and their self-efficacy beliefs. In particular, the respondents showed stronger agreement about the benefit of the coping mechanisms in reducing monetary risk, evidenced by mean scores ranging from 4.015 to 4.064. Additionally, the respondents were generally in agreement that they possessed the ability to understand and use the tax information assistance, substantiated by mean scores ranging from 3.621 to 3.739.

**Table 5.17: Descriptive Statistics of Perceived Trustworthiness**

Code	Measures	No.	Min.	Max.	Mean	SD
<b>Perception of the tax authority:</b>						
TRU1	Acts in the best interest of taxpayers	406	1	5	3.271	0.900
TRU2	Does its best to help taxpayers	406	1	5	3.419	0.865
TRU3	Lacks expertise in assisting taxpayers*	404	1	5	3.337	0.860
TRU4	Knowledgeable about the services it provides	406	2	5	3.739	0.693
TRU5	Has a sincere desire to be fair to all taxpayers	406	1	5	3.369	0.841
TRU6	Makes decisions based on law	406	1	5	3.679	0.744
TRU7	Should change many of its policies*	404	1	5	2.490	0.987

\* Responses were reversed to account for negatively-worded questions.

Table 5.17 shows the agreement levels of respondents' perceived trustworthiness of the tax authority. A higher mean score suggests a stronger agreement towards perceiving the tax authority as being dependable. In general, the mean scores were above 3.0, with the exception of one item (TRU7). The results suggest that the respondents of this sample held favourable perceptions of the tax authority, such as perceiving them to be helpful, knowledgeable, lawful and fair. In particular, the mean scores were relatively high in terms of their perceptions that the tax authority is lawful and knowledgeable, evidenced by a mean score above 3.50.

**Table 5.18: Descriptive Statistics of the Use of Tax Information Assistance**

Code	Measures	No.	Min.	Max.	Mean	SD
<b>Assistance was used in relation to:</b>						
USE1	Completion of tax return forms	396	1	5	3.568	1.111
USE2	Determination of taxable income	395	1	5	3.420	1.081
USE3	Eligibilities about deductions	393	1	5	3.626	0.977
USE4	Inquiries about tax payments	396	1	5	3.313	0.918
USE5	General inquiries about filing matters	388	1	5	3.271	0.979
USE6	Password matters	396	1	5	3.068	1.111
USE7	Obtaining tax return forms	386	1	5	2.896	1.079

Table 5.18 presents the individuals' levels of agreement on usage of information assistance when encountering tax-related problems. A higher mean score implies a stronger agreement on usage of information assistance when individuals realise that they are facing difficulties in meeting their tax obligations. In general, the sample indicates a high usage of information assistance, evidenced by a mean score above 3.0, with the exception of one item (USE7). In particular, reliance on information assistance was high in areas involving general enquiries on completion of tax return

forms and in determining eligibility for deductions, supported by mean scores above 3.50.

**Table 5.19: Descriptive Statistics of Willingness to Comply**

Code	Measures	No.	Min.	Max.	Mean	SD
ADM1	It is important that I submit my tax return form on time.	406	3	5	4.571	0.603
ADM2	It is important that I pay my tax liability on time.	406	2	5	4.379	0.688
REP1	I feel tense when a 'larger than normal' amount of tax appears in my e-filing form (or tax return form).*	397	1	5	1.902	0.837
REP2	It is not really cheating when you bend the rules a little to find ways to pay a lower amount of tax.*	406	1	5	2.887	1.043
REP3	With what things cost these days, it is all right to 'stretch' the tax deductions in order to minimise the tax burden.*	406	1	5	2.783	1.024
REP4	It is all right to underreport certain income since it does not really hurt anyone.*	406	1	5	3.237	0.965

\* Responses were reversed to account for negatively-worded questions.

Table 5.19 presents the individuals' levels of agreement with statements that indicate their willingness to comply, whereby a higher mean score indicates a stronger readiness to cooperate. The mean scores were exceptionally high in areas concerning their agreement on timely filing of tax returns and payment of tax liabilities, evidenced by mean scores above 4.0. The result suggests that administrative compliance for this sample was satisfactory. On the other hand, their agreement on reporting compliance was comparatively low, ranging from 1.902 to 3.237 in mean score readings. While REP1 to REP4 were four items that represented non-compliance, the responses were appropriately reversed to reflect reporting compliance in a truthful sense. Since mean scores in general were above 2.50, it can be interpreted that the reporting compliance level of this sample, which was reflected by their willingness to report, was favourable but not satisfactory.

## **5.4 Preliminary Analysis**

Conducting a preliminary analysis is an important step to prepare data for inferential analysis. It includes the screening of outliers, validity and reliability testing, and normality testing. Sekaran (2006, 301) emphasised the necessity for these steps in ensuring that data are of reasonable and assured quality for analysis. Discussions of the steps of preliminary analysis are presented below.

### **5.4.1 Initial Screening of Outliers**

Pallant (2011) recommended screening the data for potential outliers during the initial stage of the study because the validity test is rather sensitive to outliers. An outlier can be a case with an extreme value (univariate outlier) or a strange combination of scores on two or more variables (multivariate outlier) that distorts the statistics (Tabachnick and Fidell 2013, 71). For this study, outliers were detected by using the 'Outlier Labelling Rule Formula'. The outcome of this test revealed that outliers were extremely minimal, evidenced by less than 1% of datasets containing extreme values. The outliers were rectified, accordingly, by assigning each outlier's data point to the next highest or lowest value which was not suspected to be an outlier (Tabachnick and Fidell 2013, 77).<sup>142</sup> This helped to preserve the information held by a case (Reifman and Keyton 2010, 1637). Once the outliers were rectified, the validity test was subsequently performed, which is discussed next.

### **5.4.2 Exploratory Factor Analysis**

The items of the study included those adapted from the literature emanating from applicable fields, as well as self-developed items. Therefore, performance of Exploratory Factor Analysis (EFA) was necessary to help classify items according to their strong associations. In such circumstances, Pallant (2011, 104) recommended the conduct of factor analysis to help reduce a large set of items to a manageable number of factors by looking for 'clumps' of closely related items.

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<sup>142</sup> Inspection of the histogram revealed that outliers were derived from a heavy-tailed distribution with extreme values accounting for less than 5% of the datasets. Hence, the 'winsorising' method was considered appropriate (Reifman and Keyton 2010, 1637; Tabachnick and Fidell 2013, 77; Hammar and Vogel 2013, 89). In addition, the Mahalanobis distance will be observed when conducting inferential analysis to account for extreme outliers.

Prior to the conduct of EFA, several tests were performed to determine whether the datasets were, in fact, suitable for factor analysis. This included examining: the sample size; the correlations among items; the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity; and the diagonal values of the anti-image correlation matrices. Upon examination, the conduct of factor analysis on the datasets was deemed suitable, on the grounds that the minimum sample size of 300 was fulfilled (Tabachnick and Fidell 2013, 613). Secondly, the correlation matrix revealed that most in-between-items coefficients were greater than 0.30, which fulfilled the cut-off point recommended by Tabachnick and Fidell (2013, 619). Thirdly, the KMO indices were considered to be acceptable since the values exceeded the recommended 0.60 index, while statistical significance ( $p$ -value = 0.000) was attained in Bartlett's Test of Sphericity.<sup>143</sup> Finally, the diagonal values of the anti-image correlation matrices revealed that most values were greater than 0.50.<sup>144</sup>

Thereafter, the Principal Component Analysis (PCA) extraction technique and Varimax method of rotation were used in determining the factor structure. Factors with eigenvalues greater than one were retained. Next, the rotated factor loadings were examined for items that loaded onto factors to which they were strongly associated. In particular, items with desirable loadings (0.40 and above) were retained, while those with weak loadings (less than 0.40) or that were cross-loaded onto more than one factor were eliminated from the measurement. The KMO, Bartlett's test for sphericity measures and the factor loadings of the items under study are presented in Tables 5.20 to 5.23 below.

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<sup>143</sup> For factor analysis to be considered appropriate, Bartlett's Test of Sphericity should be significant at  $p$ -value < 0.05, while a KMO index greater than 0.60 is considered desirable (Tabachnick and Fidell 2013, 183).

<sup>144</sup> Values greater than 0.50 are considered desirable (Tabachnick and Fidell 2013).

**Table 5.20: KMO, Bartlett's Test of Sphericity and Factor Loadings for Threat Appraisals**

Construct	KMO Test	Bartlett's Test (sig.)	Factor Loadings
<b>SEVERITY OF THREAT:</b>	0.862	0.000	
<b>Penalty Threat</b>			
SVT1	Penalised for incorrect reporting		0.802
SVT2	Unaffordable cost of penalty		0.824
SVT3	Inconvenience caused by penalty		0.850
<b>Audit Threat</b>			
SVT4	Selected for tax audit		0.854
SVT5	Questioned for incorrect tax reporting		0.865
SVT6	Loss of respect for non-compliance		0.805
<b>PROBABILITY OF OCCURRENCE:</b>	0.712	0.000	
<b>Probability of Tax Audit</b>			
PRT1	Individual taxpayers*		0.861
PRT2	Own tax return form		0.862
<b>Probability of Detection</b>			
PRT3	Detect false deductions		0.900
PRT4	Detect underreported income		0.832
PRT5	Thoroughness in audit conduct		0.780

\* 'Small business proprietor' was indicated in questionnaires distributed to small business proprietors, while 'salaried taxpayers' was indicated in those distributed to the salaried group.  
 Extraction Method: Principal Component Analysis  
 Rotation Method: Varimax with Kaiser Normalization

Table 5.20 presents the EFA results for threat appraisals. The 'severity of threat' variable achieved a KMO index of 0.862, higher than the recommended 0.60 value, with Bartlett's test significant at 0.000. The conduct of EFA resulted in deletion of one item (SVT7)<sup>145</sup> and the extraction of two components labelled as 'Penalty Threat' and 'Audit Threat'. Similarly, the 'Probability of Occurrence' variable achieved a 0.712 KMO index with Bartlett's test significant at 0.000. Accordingly, two components were identified, labelled as 'Probability of Tax Audit' and 'Probability of Detection'.

<sup>145</sup> Item SVT7, which cross-loaded onto another component, failed to achieve a coefficient of at least 0.40.

**Table 5.21: KMO, Bartlett's Test of Sphericity and Factor Loadings for Coping Appraisals**

Construct	KMO Test	Barlett's Test (sig.)	Factor Loadings
<b>EFFICACY OF COPING RESPONSE:</b>	0.734	0.000	
<b>Response Efficacy (Assistance for Reporting)</b>			
RES1 Information reduces unintentional mistakes			0.657
RES5 Information is reliable			0.884
RES6 Information is accurate			0.888
RES7 Information assistance is available			0.778
<b>Monetary Risk Attitude</b>			
RES8 Incorrect payment of tax			0.943
RES9 Overpaid tax			0.942
RES10 Penalty cost for non-compliance			0.908
<b>SELF-EFFICACY EXPECTANCY:</b>	0.789	0.000	
<b>Self-Efficacy</b>			
SEF1 Understanding tax information			0.877
SEF2 Understanding language used			0.889
SEF3 Using tax information			0.924
<b>Aptitude for Obtainment</b>			
SEF4 Did not disrupt daily routine			0.896
SEF5 Information obtained in timely manner			0.877
SEF6 Information obtained conveniently			0.896

*Extraction Method: Principal Component Analysis  
Rotation Method: Varimax with Kaiser Normalization*

Table 5.21 presents the EFA results for coping appraisals. The 'Efficacy of Coping Response' variable achieved a 0.734 KMO index with Bartlett's test significant at 0.000. The EFA yielded two final components labelled as 'Response Efficacy' and 'Monetary Risk Attitude'. Three items (RES2, RES3 and RES4) were subsequently deleted due to their lower coefficients and duplication of variables that resulted from negatively-worded questions.<sup>146</sup> While the negatively-worded statements were introduced to minimise non-attentiveness among respondents (Cronbach 1946; Weems et al. 2003, 589), researchers have cautioned about the lower validity and reliability levels (Barnette 2000; Chang 1995) resulted from the respondents' inability to comprehend and answer accurately (Schriesheim and Hill 1981; Allen and Seaman 2007, 2). Therefore, supported by these arguments and due to the fact that the negatively-worded items conveyed similar meanings to the items retained, these two items were subsequently deleted. Next, the 'Self-efficacy Expectancy' variable

<sup>146</sup> The deletions of items were made on the grounds that RES4 failed to achieve a minimum coefficient of 0.40 while RES2 and RES3 resulted in the duplication of variables. A further examination of the latter items (RES2 and RES3) revealed that these questions were negatively-worded.

obtained a 0.789 KMO index with Bartlett’s test significant at 0.000. The items were loaded onto two components labelled as ‘Self-Efficacy’ and ‘Aptitude for Obtainment’. One item (SEF7) was removed due to cross-loading.

**Table 5.22: KMO, Bartlett’s Test of Sphericity and Factor Loadings for Perceived Trustworthiness**

Construct	KMO Test	Barlett’s Test (sig.)	Factor Loadings
<b>PERCEIVED TRUSTWORTHINESS<sup>1</sup></b>	0.790	0.000	
TRU1	Perception of the tax authority: Acts in the best interest of taxpayers		0.830
TRU2	Does its best to help taxpayers		0.849
TRU4	Knowledgeable about the services it provides		0.757
TRU5	Has a sincere desire to be fair to all taxpayers		0.840
TRU6	Makes decision based on law		0.713

*Extraction Method: Principal Component Analysis  
Rotation Method: Varimax with Kaiser Normalization*

Table 5.22 presents the EFA results of perceived trustworthiness. It yielded a KMO index of 0.790 with Bartlett’s test significant at 0.000. The conduct of EFA initially resulted in the formation of two components. However, the components were found to be a duplication of each other. Further examination revealed that the second component was comprised of two negatively-worded items (TRU3 and TRU7), which were subsequently removed since they conveyed similar meaning to the items that were retained.

**Table 5.23: KMO, Bartlett's Test of Sphericity and Factor Loadings for Information Usage and Willingness to Comply**

Construct	KMO Test	Bartlett's Test (sig.)	Factor Loadings
<b>INFORMATION USAGE:</b>	0.765	0.000	
<b>Reporting Usage</b>			
USE1 Completion of tax return forms			0.861
USE2 Determination of taxable income			0.887
USE3 Eligibility about deductions			0.802
<b>Services Usage</b>			
USE6 Password matters			0.804
USE5 General enquiries on filing matters			0.699
USE7 Obtaining tax return form			0.665
<b>WILLINGNESS TO COMPLY:</b>	0.629	0.000	
<b>Administrative Compliance</b>			
ADM1 Submitting tax return on time			0.917
ADM2 Paying tax liability on time			0.921
<b>Reporting Compliance</b>			
REP2 Bending rules to pay lower tax			0.861
REP3 'Stretching' tax deductions			0.847
REP4 Under-reporting certain income			0.828

*Extraction Method: Principal Component Analysis  
Rotation Method: Varimax with Kaiser Normalization*

Table 5.23 presents the EFA results for information usage and the individuals' willingness to comply. The variable of information usage achieved a KMO of 0.765 with a significant Bartlett's test of 0.000. Two final components were extracted and labelled as 'Reporting Usage' and 'Service Usage'. One item (USE4) was found to have a coefficient below 0.40 and was subsequently deleted. On the other hand, the 'Willingness to Comply' variable obtained a KMO of 0.629 with Bartlett's test significant at 0.000. Two final components were extracted and categorised as 'Administrative Compliance' and 'Reporting Compliance'. One negatively-worded item (REP1) was subsequently deleted due to a cross-loading problem.<sup>147</sup> Since it represented a duplication of retained items, the removal was considered appropriate.<sup>148</sup>

<sup>147</sup> A 'cross-loaded' item is an item that loads onto two or more factors. Costello and Osborne (2005, 3-4) argued that 'cross-loaded' item can be problematic and recommended that such item is dropped from the analysis, given that this item does not load strongly on either factors (below 0.32) and that adequate items are retained.

<sup>148</sup> Furthermore, the deleted item was weakly loaded onto 'Administrative Compliance' and 'Reporting Compliance' factors, that is, below 0.32 as suggested by Costello and Osborne (2005, 4) and items retained are sufficient for further analysis (3 items).

### 5.4.3 Cronbach's Alpha Test

The reliability test was performed to determine the inter-item consistency of the measures, whereby the consistency specifies how well the item measurement 'hangs together' as a set (Sekaran 2006, 307). On that note, Sekaran (2006, 311) recommended an alpha coefficient of 0.70 and above.<sup>149</sup> A summary of the Cronbach's Alpha results is presented in Table 5.24. Overall, the reliability results were above the recommended coefficient of 0.70, suggesting that the items do, indeed, hang well as a set and are highly correlated. However, the service usage variable (S\_USAGE) revealed a weak reliability, with a coefficient of 0.587. Since the reliability could not be improved, the variable was excluded from the study on the grounds that the items were weakly correlated as a set.

**Table 5.24: A Summary of Cronbach Alpha's Coefficient Values**

<b>Variables</b>	<b>Number of Items</b>	<b>Alpha Coefficient</b>
Tax Penalty (TPENALTY)	3	0.873
Tax Audit (TAUDIT)	3	0.865
Audit Probability (PAUDIT)	2	0.772
Detection Probability (PDETECT)	3	0.825
Response Efficacy (RES_EFFI)	4	0.721
Monetary Risk Attitude (ATTITUDE)	3	0.923
Self-Efficacy (SELF_EFFI)	3	0.902
Aptitude for Obtainment (OAPTITUDE)	3	0.895
Perceived Trustworthiness (PTRUST)	5	0.858
Reporting Usage (USAGE)	3	0.860
Service Usage (S_USAGE)	3	0.587*
Administrative Compliance (ADMINCOM)	2	0.816
Reporting Compliance (REPORTCOM)	3	0.803

\* Service Usage was excluded from the study since its alpha coefficient was below the recommended minimum value of 0.70.

### 5.4.4 Screening for Outliers

After obtaining the mean scores for all variables, the data were again screened for extreme cases that had not been picked up initially. Tabachnick and Fidell (2013, 73) recommended examining the standardised scores in excess of 3.29 for potential outliers. One variable was identified as having a Z score greater than 3.29, namely aptitude for obtainment (meaning the ability to seek out and obtain tax information) or OAPTITUDE (3.414). A further examination revealed that two cases under

<sup>149</sup> A coefficient less than 0.60 is considered poor, 0.70 and above is acceptable, and 0.80 and above is good (Sekaran 2006, 311).

OAPTITUDE were found to be extreme.<sup>150</sup> Tabachnick and Fidell (2013, 77) recommended assigning the outlier's data point to the next highest or lowest value that is not suspected to be an outlier.<sup>151</sup> Assigning the outliers to the next value resulted in an improved Z score for OAPTITUDE (from 3.414 to 2.555).<sup>152</sup>

#### 5.4.5 Normality of Residual Distributions

The normality of residual distributions was inspected to determine whether any extreme violation of normal distribution existed that could change the subsequent course of analysis undertaken. This was examined by visual inspection of the histograms and the normal probability plots, in addition to examining the skewness and kurtosis values. The visual inspections did not suggest any extreme violation of normality distribution. An inspection of the histograms of the residuals revealed a fairly normal distribution, suggesting that the normality assumption was satisfied.<sup>153</sup> Additionally, reasonably straight lines were observed during the inspection of the Normal Q-Q plots, suggesting a fairly normal distribution of residuals.

The skewness and kurtosis were further examined to determine the normality distribution of residuals.<sup>154</sup> An inspection of the skewness values revealed that the variables were not perfectly normally distributed. However, obtaining the moderately distributed scores was tolerable, using the rule of thumb of +/- 1.0 range of skewness and +/- 3.0 range of kurtosis, because it is quite common to find variables that are not perfectly normally distributed within the field of social science (Pallant 2011, 69). Table 5.25 provides information on skewness and kurtosis for the variables under inspection. The scores were moderately distributed, with skewness and kurtosis values within the tolerable ranges of +/-1.0 and +/-3.0. However, one variable in particular (ADMINCOM) was considered to be rather skewed (0.809), but still within the tolerable range (+/-1). The log transformation recommended by Tabachnick and Fidell (2013, 89) was used to improve the normality distribution.<sup>155</sup>

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<sup>150</sup> Further inspection of the skewness and kurtosis revealed that skewness was within the normal range, therefore transformation may not be appropriate in handling outliers.

<sup>151</sup> Since less than 5% of the overall data points were identified as outliers, the 'winsorising' method was considered to be appropriate (Reifman and Keyton 2010, 1637; Tabachnick and Fidell 2013, 89; Hammar and Vogel 2013).

<sup>152</sup> A complete result of Z scores is available in the Appendix I.

<sup>153</sup> 'Normal' is used to describe a symmetrical, bell-shaped curve, which has the greatest frequency of scores in the middle and smaller frequencies towards the extremes (Gravetter and Wallnau 2004, 48).

<sup>154</sup> A perfectly normal distribution has values of skewness and kurtosis of zero (Tabachnick and Fidell 2013, 79) although +/- 1.0 range of skewness and +/- 3.0 range of kurtosis are tolerable (Pallant 2011, 69).

<sup>155</sup> Since the variables were negatively skewed, the inverse log transformation was applied using Lg10 (Largest score +1 Variable) as recommended by Tabachnick and Fidell (2013, 89).

However, since the log transformation did not indicate an improved skewness, the original figure was retained as it was.

**Table 5.25: Descriptive Statistics of Skewness and Kurtosis for the Variables Under Study**

	<b>No.</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>SD</b>	<b>Skewness</b>		<b>Kurtosis</b>	
	Stat.	Stat.	Stat.	Stat.	Stat.	Stat.	SE	Stat.	SE
TPENALTY	406	1.67	5.00	3.938	.823	-.772	.121	.380	.242
TAUDIT	406	1.00	5.00	3.685	.922	-.496	.121	.128	.242
PAUDIT	406	1.00	5.00	3.113	.812	-.147	.121	.072	.242
PDETECT	406	1.00	5.00	3.417	.832	-.439	.121	.434	.242
RES_EFFI	406	2.50	5.00	3.978	.555	-.144	.121	-.330	.242
ATTITUDE	406	2.00	5.00	4.043	.629	-.124	.121	-.266	.242
SELF_EFFI	406	2.00	5.00	3.696	.697	-.079	.121	-.176	.242
OAPTITUDE	406	1.00	5.00	3.401	.742	-.304	.121	-.385	.242
PTRUST	406	1.60	5.00	3.496	.649	-.028	.121	.332	.242
USAGE	388	1.33	5.00	3.558	.964	-.101	.124	-.924	.247
ADMINCOM	406	3.00	5.00	4.475	.592	-.803	.121	-.294	.242
REPORTCOM	406	1.00	5.00	2.969	.869	-.162	.121	.310	.242

## 5.5 Chapter Summary

This chapter presented the response, descriptive and preliminary analyses of the survey data. In terms of the representativeness of responses, the sample from this study attained a reasonable degree of representativeness in comparison with the urban population of the selected areas, in terms of gender, age, median monthly income and location of work. However, the response rate was considered to be low despite the follow-up attempts, hence the sample was not guaranteed to be completely free from bias. On a more positive note, the conduct of t-testing revealed no significant differences ( $p$ -value > 0.05) in almost all responses when comparing the early and late response groups, suggesting that non-response bias was not a major concern in this study.

The descriptive analysis provided a general idea of how the respondents responded to the questions. In general, the respondents believed that they had stronger anxiety about receiving a tax penalty than about being audited, and perceived the probability of being detected to be higher than the probability of being audited. In terms of coping mechanisms, respondents recorded a stronger agreement in regard to the benefit of minimising their monetary risks compared to being assisted with their tax

reporting decisions. In general, respondents agreed that they possessed the ability to understand and obtain tax information, and they perceived the tax authority as being trustworthy. In addition, their agreements on reliance of information assistance were high in areas involving general enquiries on tax return completion and in determining eligibility for deductions. Last but not least, the administrative compliance for this sample appeared to be satisfactory, while reporting compliance was rather low.

In preparing the data for inferential analysis, the datasets were screened for outliers, and tested for validity, reliability and normality of residual distribution. The validity test was performed using principal component analysis and the Varimax rotation method. The test resulted in the deletion of nine items due to weak factor-loadings and duplication of variables, and successfully identified thirteen factors for further analysis. The reliability testing using Cronbach's alpha coefficients revealed that coefficients were mainly above the recommended value of 0.70, suggesting that the items measured did, indeed, hang well as a set. Additionally, extreme outliers were identified and, subsequently, rectified by assigning the extreme cases to the next highest or lowest values which were not identified as outliers. Finally, the normality of residual distributions was within the tolerable ranges of +/-1.0 skewness and +/-3.0 kurtosis. As a conclusion, the findings of the response, descriptive and preliminary analyses suggest that the data were appropriate for the further conduct of inferential analysis. The results of inferential analysis are presented and discussed in the subsequent chapter.

## **CHAPTER SIX**

### **DATA ANALYSIS PART II: REGRESSION ANALYSIS AND RESULTS OF SURVEY STUDY**

#### **6.1 Chapter Overview**

This chapter presents the results and discussions of the inferential analysis from the survey data. This chapter is laid out as follows. Firstly, the taxpayers' characteristics associated with the use of tax information assistance are examined. Following this, threat appraisals, coping appraisals and perceived trustworthiness are explored in association with the use of tax authority information assistance. Next, the association between the use of tax authority information assistance and the taxpayers' willingness to comply are analysed and discussed. A summary of the quantitative study concludes this chapter.

#### **6.2 Research Questions**

The present study aims to answer the following research questions:

- i) What are the background characteristics of the users of tax authority information assistance?
- ii) Are the individual taxpayers' threat appraisals, coping appraisals and perceptions of the trustworthiness of the tax authority significantly associated with their usage of tax information assistance?
- iii) Is the use of tax information assistance significantly associated with the taxpayers' willingness to comply?
- iv) Do the taxpayers' levels of perceived trustworthiness of the tax authority moderate the relationship between the use of tax information assistance and their willingness to comply?

#### **6.3 Respondents' Characteristics**

The survey respondents' backgrounds were analysed in order to determine the characteristics of the users of tax information assistance. The tests conducted included the independent sample t-test and the one-way ANOVA with post-hoc test.

### 6.3.1 Independent Sample t-test

An independent sample t-test is performed to determine the significant mean difference of a dependent variable between two different groups (Sekaran 2006, 404; Pallant 2011, 239). In the present study, the test was conducted to examine whether the mean usage of information assistance was significantly different between groups in terms of gender, location and audit experience. This can be achieved by firstly inspecting the Levene's test for possible violation of the equal variances assumption. Where equal variance assumption is not violated,<sup>156</sup> the significant mean difference between groups is determined by examining the t-test table. On the other hand, the Welch and Brown-Forsythe robust test is performed in instances where the assumption is violated (Pallant 2011, 240). Following this, eta squared<sup>157</sup> is calculated to determine the effect size of the significant difference between groups.

#### 6.3.1.1 Gender

The independent sample t-test was conducted to examine the significant mean difference in usage of information assistance between the male and female groups.<sup>158</sup> Inspection of the results discovered sufficient statistical evidence to suggest that males (M = 3.695, SD = 0.927) had a higher mean usage of information assistance than females (M = 3.394, SD = 0.984), significant at a *p*-value of less than 0.01. Despite reaching a significant mean difference, the magnitude of the differences between males and females appeared to be of small effect size, confirmed by a small eta square of 0.024.

#### 6.3.1.2 Location

The sample was obtained from taxpayers located in East and West Malaysia. Therefore, an independent sample t-test was conducted to examine the significant difference in mean usage of information assistance between the groups from each location.<sup>159</sup> The results revealed that taxpayers from West Malaysia (M = 3.630, SD = 0.926) recorded a higher mean usage of information assistance than their eastern

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<sup>156</sup> *p* – value > 0.05

<sup>157</sup> Eta squared is the most common effect size statistic (Pallant 2011, 254). Cohen (1988, 284-288) provided the following guidelines for interpreting the value of eta squared: 0.01 = small effect, 0.06 = medium effect and 0.14 = large effect.

<sup>158</sup> The Levene's test suggested a non-violation of the equal variance assumption (*p*-value > 0.05).

<sup>159</sup> The Levene's test suggested a non-violation of the equal variance assumption (*p*-value > 0.05).

counterparts ( $M = 3.433$ ,  $SD = 1.017$ ), significant at a  $p$ -value of less than 0.10. However, the magnitude of the differences was rather small, with a value of 0.01 for eta squared. This suggests that only 1% of the variance in the level of information assistance usage was explained by location.

### **6.3.1.3 Audit Experience**

In terms of audit experience, this sample was categorised into two groups, namely those with, and those without, audit experience. An independent t-test was performed to examine the significant mean difference in usage of information assistance between these two groups.<sup>160</sup> It was found that those who had been audited previously by the tax authority showed a slightly higher mean usage ( $M = 3.6122$ ,  $SD = 1.041$ ) compared to those with no audit experience ( $M = 3.539$ ,  $SD = 0.935$ ). However, the mean difference between the two groups was not statistically significant, signified by a  $p$ -value greater than 0.10.

### **6.3.2 One-Way ANOVA**

The analysis of variance (ANOVA) is performed to examine the significant mean differences among three or more groups on a continuous dependent variable (Sekaran 2006, 404; Pallant 2011, 249). One-way ANOVA was selected because it involves one independent variable with a number of different levels that correspond to different groups (Pallant 2011, 249). The following steps were observed during the conduct of the ANOVA test. Firstly, the Levene's test was inspected for possible violation of equal variance assumption. In the event that the assumption was violated, the Welch and Brown-Forsythe robust test was conducted. Secondly, the ANOVA table was examined for the significant mean differences in results. If a significant mean difference was evident, the eta squared value was calculated to determine the magnitude of the effect size. Thereafter, a post-hoc test using Tukey's HSD was applied to determine the statistical mean difference between each pair of groups.

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<sup>160</sup> The Levene's test revealed a non-violation of the equal variance assumption ( $p$ -value > 0.05).

### 6.3.2.1 Opinions in Return Form Completion

The respondents were asked whether they found it easier or harder to complete their tax return forms over the last five years. Their opinions in the completion of return forms were collapsed into three categories: Group 1 = Easier to complete; Group 2 = About the same; and Group 3 = Harder to complete.<sup>161</sup> The ANOVA test was performed to examine the significant mean differences in usage of information assistance among the three groups.<sup>162</sup> A closer examination of the result suggested a significant mean difference ( $p$ -value < 0.05) in the usage of information assistance between groups with different opinions in return form completion. However, the magnitude of the effect size was rather small, signified by an eta squared value of 0.04.<sup>163</sup> The significant mean difference between pairs of groups is presented in Table 6.1.

**Table 6.1: Mean Difference in Usage of Tax Information Assistance between Groups with Different Opinions in Return Form Completion (Post-Hoc Test using Tukey's HSD)**

Opinions in Return Form Completion		Mean Difference	Std. Error	Sig.
Easier	About the same	-.2909*	.1157	.033
	Harder	-.4749*	.1700	.015
About the same	Easier	.2909*	.1157	.033
	Harder	-.1840	.1866	.586
Harder	Easier	.4749*	.1700	.015
	About the same	.1840	.1866	.586

\* The mean difference is significant at the 0.05 level.

In general, the findings suggest that the mean usage of tax information assistance increases with taxpayers' perceived difficulty in the completion of the tax return forms. The post-hoc test revealed that those who perceived no changes in difficulty of tax return completion had a higher mean usage ( $M = 3.7234$ ,  $SD = 0.9153$ ) compared to those who found it easier to complete their tax return forms ( $M = 3.4325$ ,  $SD = 0.9642$ ), significant at a  $p$ -value of less than 0.05. In the same vein, those who perceived that it was harder to complete their tax return had a higher mean usage ( $M = 3.9074$ ,  $SD = 0.9615$ ) compared to those who found it easier to

<sup>161</sup> Due to the small sample size in certain categories, the original five categories were collapsed into three categories to reduce the risk of making a Type 1 Error; that is, to draw an inaccurate conclusion.

<sup>162</sup> The Levene's test revealed a non-violation of equal variance assumption ( $p$ -value > 0.05).

<sup>163</sup> Cohen (1988, 284-287) proposed an eta squared value of 0.01 as having a small effect, 0.06 as having a medium effect and 0.14 as having a large effect.

complete their tax return ( $M = 3.4325$ ,  $SD = 0.9642$ ), significant at a  $p$ -value of less than 0.05.

### 6.3.2.2 Filing Experience

The taxpayers' filing experiences were categorised into four groups: Group 1 = Once; Group 2 = 2 – 5 times; Group 3 = 6 – 10 times; and Group 4 = More than 10 times. Inspection of the Levene's test ( $p$ -value < 0.05) suggested a violation of the homogeneity of variances assumption. For that reason, the Welch and Brown-Forsythe robust test was conducted. However, the test revealed a lack of statistical evidence to support the view that novice and experienced taxpayers differed significantly in their usage of tax information assistance ( $p$ -value > 0.05).

### 6.3.2.3 Age

The respondents' ages were categorised into four brackets: Group 1 = Below the age of 30; Group 2 = 30 – 39 years; Group 3 = 40 – 49 years; and Group 4 = 50 years and above.<sup>164</sup> A  $p$ -value of less than 0.05 was obtained from the Levene's test, implying a violation of the homogeneity assumption. Hence, the Welch and Brown-Forsythe robust tests of equality of means were inspected for the significance of mean differences among the groups. The results revealed a lack of statistical evidence ( $p$ -value > 0.05) to support the notion that the mean usage of tax information assistance was significantly different among age groups.

### 6.3.2.4 Qualifications

The qualifications of individuals were categorised into four groups. One-way ANOVA was conducted to determine the mean differences between various qualifications<sup>165</sup> in association with the use of tax information assistance. An inspection of the Levene's test indicated a significant difference in variance between groups ( $p$ -value < 0.05), suggesting a violation of the assumption on homogeneity of variance.

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<sup>164</sup> Due to the small sample size obtained from the group categorised as 'age 60 and above', it was decided that, it was appropriate to collapse this group with the category of '50 – 59 years' to form a '50 years and above' category. Collapsing is necessary to minimise the risk of a Type I Error, that is, drawing an inaccurate conclusion from the test.

<sup>165</sup> Due to the relatively small sample sizes in certain groups, it was felt that qualifications should be appropriately re-categorised in order to minimise the risk of making an inaccurate conclusion (Type I Error). Respondents were re-categorised into four main groups based on their qualifications (Group 1 = Secondary or High School Qualification; Group 2 = Undergraduates; Group 3 = Postgraduates; Group 4 = Professional Qualification).

Therefore, the Welch and Brown-Forsythe robust tests were inspected. Both tests suggested that the mean usage of information assistance was significantly different among various qualifications ( $p$ -value < 0.10). Despite attaining a significant mean difference, the eta squared value was only 0.023, indicating a small effect. The significant mean difference between pairs of groups is shown in Table 6.2. The post-hoc comparison using Tukey's HSD test revealed that the mean score among individuals with a professional qualification ( $M = 4.061$ ,  $SD = 1.250$ ) was significantly different ( $p$ -value < 0.10) to the undergraduate group ( $M = 3.4751$ ,  $SD = 0.950$ ), suggesting a higher reliance on information assistance among individuals possessing professional qualifications.

**Table 6.2: Mean Difference in Usage of Tax Information Assistance between Groups with Different Qualifications (Post-Hoc Test using Tukey's HSD)**

Level of Education		Mean Difference	Std. Error	Sig.
High School Qualification	Undergraduate	.1915	.1340	.482
	Postgraduate	.1404	.1447	.767
	Professional	-.3939	.2335	.332
Undergraduate	High School	-.1915	.1340	.482
	Postgraduate	-.0512	.1144	.970
	Professional	-.5855*	.2161	.035
Postgraduate	High School	-.1404	.1447	.767
	Undergraduate	.0512	.1144	.970
	Professional	-.5343	.2229	.079
Professional	High School	.3940	.2335	.332
	Undergraduate	.5855*	.2161	.035
	Postgraduate	.5343	.2229	.079

\* The mean difference is significant at the 0.05 level.

### 6.3.2.5 Number of Dependents

The number of dependents was categorised into four groups: Group 1 = No dependents; Group 2 = 1 dependent; Group 3 = 2 - 3 dependents; and Group 4 = 4 or more dependents. An initial examination of the Levene's test showed a non-violation of the equal variances assumption ( $p$ -value > 0.05). Overall, the mean usage of tax information assistance increased in correspondence with an increased number of dependents. However, there was insufficient statistical evidence to infer

that the use of tax information assistance was significantly different among the four groups ( $p$ -value > 0.10).

### 6.3.2.6 Occupational Sector

The occupational groups were categorised into three types: Group 1 = Private sector; Group 2 = Public sector; and Group 3 = Self-employed. One-way ANOVA was conducted to examine the significant mean differences in the use of tax information assistance among the three occupational sectors.<sup>166</sup> The result suggested that the use of information assistance was significantly different ( $p$ -value < 0.01) among taxpayers from the private sector, the public sector and the self-employed groups. An examination of the magnitude of the effect revealed a large effect size, signified by an eta squared value of 0.143, exceeding the 0.14 cut-off point for a large effect. The significant mean difference between pairs of groups is shown in Table 6.3 below.

**Table 6.3: Mean Difference in Usage of Tax Information Assistance between Different Occupational Sectors (Post-Hoc Test using Tukey's HSD)**

Occupational Sectors		Mean Difference	Std. Error	Sig.
Private sector	Public sector	.2742*	.1039	.023
	Self-employed	-.7047*	.1322	.000
Public sector	Private sector	-.2742*	.1039	.023
	Self-employed	-.9788*	.1222	.000
Self-employed	Private sector	.7047*	.1322	.000
	Public sector	.9788*	.1222	.000

\* The mean difference is significant at the 0.05 level.

In general, the self-employed group recorded the highest mean usage of tax information assistance, followed by the private and public sectors. An examination of the post-hoc test using Tukey's HSD revealed that the mean score for the self-employed group ( $M = 4.266$ ,  $SD = 0.573$ ) was significantly different ( $p$ -value of 0.000) from each of the other groups, namely the private sector ( $M = 3.561$ ,  $SD = 0.888$ ) and the public sector ( $M = 3.287$ ,  $SD = 0.993$ ). This finding suggests that the self-employed group has greater reliance on tax information assistance than the salaried groups, which was anticipated because the tax reporting of the former group is more complex than that of the latter groups. Another interesting finding was

<sup>166</sup> Since Levene's test suggested the violation of equal variance assumption ( $p$ -value < 0.05), the Welch and Brown-Forsythe robust test was subsequently applied.

the significant mean score ( $p$ -value < 0.05) of information usage between respondents from the private sector ( $M = 3.561$ ,  $SD = 0.888$ ) and the public sector ( $M = 3.287$ ,  $SD = 0.993$ ). The result suggests that reliance on tax information assistance is higher among the respondents from the private sector.

### **6.3.2.7 Annual Income**

Annual income was categorised into five brackets: Group 1 = Below RM40,000; Group 2 = RM40,001 to RM60,000; Group 3 = RM60,001 to RM80,000; Group 4 = RM80,001 to RM100,000 and Group 5 = RM100,001 and above. Surprisingly, the ANOVA result revealed insufficient statistical evidence to infer that the mean usage of information assistance was significantly different among groups with various levels of income ( $p$ -value > 0.05).<sup>167</sup> This finding suggests that the lower income earners, which may consist of younger and novice taxpayers, did not differ significantly in terms of their reliance on information assistance, in comparison with the high income earners.

### **6.3.2.8 Summary of Taxpayers' Background Characteristics**

Table 6.4 presents a summary of the taxpayers' background characteristics and their use of tax authority information assistance. In general, the findings reveal that there was evidence of significant mean differences in the use of tax information assistance among groups of gender, location, opinions in the completion of return forms, different qualifications and occupational sector. Conversely, there was insufficient statistical evidence to support that any significant mean differences existed among groups in terms of age, years of filing experience, number of dependents and, surprisingly, the taxpayers' annual incomes. These findings offer answer to research question 1.

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<sup>167</sup> The Levene's test ( $p$ -value > 0.05) suggested a non-violation of the homogeneity assumption.

**Table 6.4: Taxpayers' Background Characteristics and Usage of Tax Information Assistance**

No.	Taxpayers' Characteristics	Test	p-value	Significance
1.	Gender	t-test	0.002	Sig. ( $p < 0.01$ )
2.	Location	t-test	0.052	Sig. ( $p < 0.10$ )
3.	Audit experience	t-test	0.507	Not Sig. ( $p > 0.05$ )
4.	Opinion in Form Completion	one-way ANOVA	0.003	Sig. ( $p < 0.05$ )
5.	Filing experience	one-way ANOVA	0.118	Not Sig. ( $p > 0.05$ )
6.	Age	one-way ANOVA	0.410	Not Sig. ( $p > 0.05$ )
7.	Qualifications	one-way ANOVA	0.068	Sig. ( $p < 0.10$ )
8.	Number of dependents	one-way ANOVA	0.891	Not Sig. ( $p > 0.05$ )
9.	Occupational sector	one-way ANOVA	0.000	Sig. ( $p < 0.01$ )
10.	Level of income	one-way ANOVA	0.679	Not Sig. ( $p > 0.05$ )

#### 6.4 Usage of Tax Authority Information Assistance for Tax Reporting

The roles of threat appraisals, coping appraisals and perceived trustworthiness were explored in determining their significant associations with the individuals' usage of the provided tax information assistance. In doing so, the Pearson Correlation, Ordinary Least Squares (OLS) regression and mediation analysis were conducted using SPSS version 21. The findings are discussed below.

##### 6.4.1 Pearson Correlation

The Pearson Correlation is generally conducted to examine the magnitude of any relationship between variables (Keller and Warrack 2003, 634). The correlation analysis was performed in this study for two main purposes. Firstly, correlation was used to determine the strengths of relationships between independent and dependent variables, whereby a higher correlation (moving towards +/- 1.0) suggested a stronger linear relationship.<sup>168</sup> Secondly, correlation was used to help

<sup>168</sup> The guidelines of the correlation strength proposed by Davis (1971) were applied, whereby values of  $r$  represent the following: 1 (perfect correlation), 0.70 - 0.99 (very high correlation), 0.50 - 0.69 (substantial correlation), 0.30 - 0.49 (moderate correlation), 0.10 - 0.29 (low correlation) and 0.01 - 0.09 (negligible). In a situation where the significant level was less than 0.05, a true significant correlation existed and variables were said to be linearly related. At the generally accepted conventional level, a significance of  $p = 0.05$  indicates that, 95 times out of 100, we can be sure there is a true significant correlation between the two variables, and there is only a 5% chance that the relationship does not truly exist.

identify the existence of any multicollinearity problem by examining the correlations among independent variables.<sup>169</sup>

**Table 6.5: The Pearson Correlation<sup>a</sup> Matrix for Threat Appraisals, Coping Appraisals and Perceived Trustworthiness**

	1	2	3	4	5	6	7	8	11	12
1 TPENALTY	r 1									
2 TAUDIT	r .695 <sup>***</sup>	1								
3 PAUDIT	r .216 <sup>***</sup>	.260 <sup>***</sup>	1							
4 PDETECT	r .198 <sup>***</sup>	.260 <sup>***</sup>	.399 <sup>***</sup>	1						
5 RES_EFFI	r .144 <sup>**</sup>	.159 <sup>***</sup>	-.031	.242 <sup>***</sup>	1					
6 SELF_EFFI	r -.049	-.053	.119 <sup>*</sup>	.129 <sup>**</sup>	.335 <sup>***</sup>	1				
7 OAPTITUDE	r .000	-.032	.058	.128 <sup>**</sup>	.003	.191 <sup>***</sup>	1			
8 PTRUST	r -.027	-.019	.046	.294 <sup>***</sup>	.469 <sup>***</sup>	.386 <sup>***</sup>	.198 <sup>***</sup>	1		
11 ATTITUDE	r .044	.052	-.053	.190 <sup>***</sup>	.469 <sup>***</sup>	.295 <sup>***</sup>	.050	.341 <sup>***</sup>	1	
12 USAGE	r .085	.039	.151 <sup>**</sup>	.071	.151 <sup>**</sup>	.048	.144 <sup>**</sup>	.188 <sup>***</sup>	.375 <sup>***</sup>	1

<sup>\*\*\*</sup> Correlation is significant at the 0.001 level (2-tailed).

<sup>\*\*</sup> Correlation is significant at the 0.01 level (2-tailed).

<sup>\*</sup> Correlation is significant at the 0.05 level (2-tailed).

<sup>a</sup> Dependent Variable = USAGE

Listwise N = 384

The correlations matrix for the variables under study is depicted in Table 6.5. The results reveal sufficient statistical evidence to infer that the use of tax information assistance was positively correlated ( $p$ -value < 0.05) with five variables: the individual's perceived probability of being audited (PAUDIT), the perceived efficacy of supplied coping mechanisms to support tax reporting (RES\_EFFI), the individual's ability to seek out and obtain tax information (OAPTITUDE), the perceived trustworthiness of the tax authority (PTRUST), and the individual's monetary risk minimisation attitude (ATTITUDE). In particular, a moderate correlation ( $p$ -value < 0.001) was evidenced between the use of tax information assistance and the individual's attitude towards monetary risk minimisation ( $r = 0.375$ ). Conversely, the correlations between the use of information assistance and the individual's perceptions of the authority's trustworthiness, probability of being audited and efficacy of the coping response in supporting tax reporting, appeared to be low ( $p$ -value < 0.01), ranging from 0.151 to 0.188 in coefficient values.

<sup>169</sup> Multicollinearity is a condition in which independent variables are highly correlated with one another, thus making it difficult to determine whether the independent variables are linearly related to the dependent variables (Keller and Warrack 2003, 675). As such, the rule of thumb is that the correlation among independent variables should not exceed the cut-off point of 0.70 (Pallant 2011, 158).

Further examination of the correlations between pairs of independent variables suggested the presence of a multicollinearity problem between penalty (TPENALTY) and audit anxiety (TAUDIT) evidenced by the high coefficient of 0.695 (almost equivalent to the 0.70 cut-off point). Since a high correlation implies that the two independent variables basically convey the same information, Pallant (2011, 158) recommends the elimination of the variable with the lower reliability coefficient.<sup>170</sup> Hence, audit anxiety was excluded from further analysis.<sup>171</sup> The analysis performed by Ordinary Least Squares (OLS) regression is presented next.

#### 6.4.2 Ordinary Least Squares (OLS) Regression

The Ordinary Least Squares (OLS) regression analysis is performed to assess the statistical significance of the estimated relationships, which allows additional factors to be entered into the analysis so that the effect of each factor can be estimated (Skyles 1993, 9). This study utilised a backward elimination technique since the main objective was to find the significant relationship instead of predicting the main indicator.<sup>172</sup> This technique was conducted by testing the deletion of each variable until no further improvement was possible. The regression coefficients for the variables under investigation are presented in Table 6.6.

**Table 6.6: Regression Coefficients<sup>a</sup> for Threat Appraisals, Coping Appraisals and Perceived Trustworthiness (Prior to Controlling for Control Variables)**

	B	SE	$\beta$	t	Sig.	Tolerance	VIF
(Constant)	1.359	.393		3.460	.001		
PAUDIT	.235	.053	.199	4.439	.000***	.982	1.019
SELF_EFFI	.310	.069	.223	4.466	.000***	.790	1.266
OAPTITUDE	.215	.060	.165	3.602	.000**	.943	1.061
PTRUST	.236	.075	.158	3.154	.002***	.784	1.276
ATTITUDE	.625	.074	.409	8.430	.000***	.835	1.197

\*\*\* Significant at 0.001 level (2-tailed)

\*\* Significant at 0.01 level (2-tailed)

\* Significant at 0.05 level (2-tailed)

<sup>a</sup> Dependent Variable: Usage

<sup>170</sup> Please refer to Chapter 5, Section 5.4.3 (Table 5.24).

<sup>171</sup> Further inspection of the correlations between other independent variables revealed that they were below the 0.70 cut-off point, implying that multicollinearity no longer posed as a threat at this stage of the study. During the conduct of inferential analysis, collinearity diagnostics will help identify multicollinearity problems that were not initially evident in the correlation matrix (Pallant 2011, 158). For that reason, the 'Tolerance and VIF' values will be inspected.

<sup>172</sup> During the conduct of the OLS regression, no significant violations of OLS assumptions were noted.

The results in Table 6.6 reveal that the use of tax information assistance appears to have the strongest association with the respondents' monetary risk minimisation attitudes ( $\beta = 0.409$ ,  $p$ -value  $< 0.001$ ). This is followed by self-efficacy ( $\beta = 0.223$ ,  $p$ -value  $< 0.001$ ), the probability of audit ( $\beta = 0.199$ ,  $p$ -value  $< 0.001$ ), perceived trustworthiness of the tax authority ( $\beta = 0.158$ ,  $p$ -value  $< 0.01$ ) and the ability to obtain information ( $\beta = 0.165$ ,  $p$ -value  $< 0.01$ ). These variables explain for 24.8% ( $R^2 = 0.248$ ) of the variance in the usage of information assistance.<sup>173</sup> Surprisingly, the efficacy of the available coping mechanism to assist with tax reporting was not significantly associated ( $p$ -value  $> 0.05$ ) with the use of information assistance. This finding insinuates that individuals who perceived the tax authority information assistance as accurate, reliable and readily available did not necessarily indicate a stronger desire to use information assistance.<sup>174</sup>

In order to test the true relationship between each independent variable and the dependent variable, Wenzel (2005, 10) suggested controlling the background characteristics of the taxpayers to help unmask any false relationship or exclude, as much as possible, the chances that the relationship between the two variables is due to their shared relationship with a third variable. Thus, individual differences such as gender, age, income, occupational group, qualifications, years of filing experience and complexity of the return form were controlled for this purpose.<sup>175</sup>

The results, after controlling for the effect of the control variables, are presented in Table 6.7, below. The  $R^2$  values have slightly increased from 0.248 to 0.282, indicating that the individual differences, indeed, have contributed to usage of tax information assistance. However, the result also suggests that, even after controlling the control variables, a significant relationship remains ( $p$ -value  $< 0.05$ ) between independent variables (attitude, probability of audit and self-efficacy) and the dependent variable (usage of information assistance).

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<sup>173</sup> Attaining a low  $R^2$  value (24.8%) was not a major concern since the objective of this study was to find the significant relationships rather than predicting the main variable. Skyes (1993, 23) maintained that  $R^2$  is considerably less important if one is simply interested in parameter estimates. Additionally, multicollinearity was not a concern in the study, evidenced by the acceptable VIF scores and tolerance value (VIF scores  $< 10$ ; tolerance value  $> 0.1$ ). VIF scores exceeding 10, or tolerance values below 0.10, were used as the rule of thumb to indicate the presence of multicollinearity (Pallant 2011, 158; Hair et al. 2006, 227). Further inspection of the standardised DfBetas revealed that values were within the satisfactory range, suggesting non-inclusion of influential cases in the datasets.

<sup>174</sup> A further analysis and discussion is presented in Section 6.4.3.

<sup>175</sup> Tax return complexity, occupational group and years of filing experience served as proxies for the complexity variable. Variables were binary-coded prior to the conduct of regression analysis.

**Table 6.7: The Regression Coefficients<sup>a</sup> for Threat and Coping Appraisals  
(After Controlling for the Effect of Control Variables)<sup>b</sup>**

	B	SE	$\beta$	t	Sig	Tolerance	VIF
(Constant)	1.875	0.373		5.023	0.000		
PAUDIT	.212	.051	.179	4.123	0.000 <sup>***</sup>	0.995	1.005
SELF_EFFI	.166	.058	.127	2.885	0.004 <sup>**</sup>	0.963	1.039
ATTITUDE	.538	.067	.353	8.033	0.000 <sup>***</sup>	0.972	1.028

<sup>a</sup> *Dependent Variable: Usage*

<sup>b</sup> *Control Variables: Gender, age, levels of income, occupational group, tax return complexity, level of education and years of filing experience*

<sup>\*\*\*</sup> *Correlation significant at 0.001 level (2-tailed)*

<sup>\*\*</sup> *Correlation significant at 0.01 level (2-tailed)*

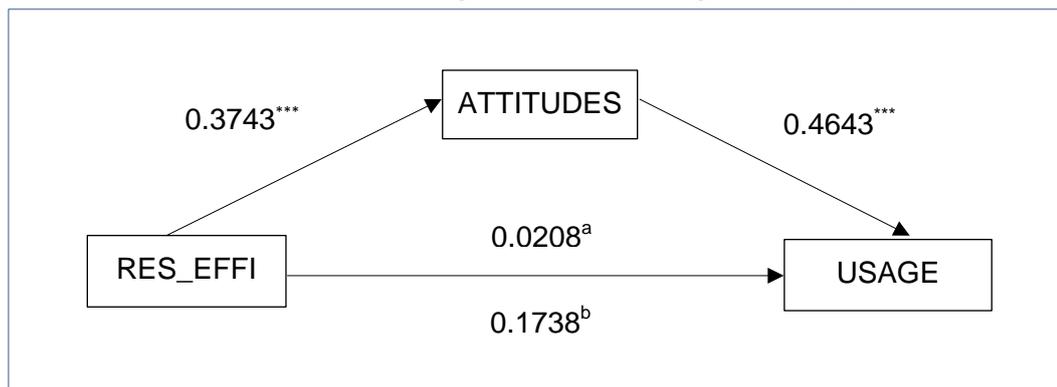
<sup>\*</sup> *Correlation significant at 0.05 level (2-tailed)*

The results from this sample lead to the conclusion that the taxpayers' attitudes towards the benefit of using information assistance in minimising their monetary risks, the probability of being audited and self-efficacy were significantly associated with their usage of tax information assistance. Thus, the findings suggest that, when taxpayers are faced with uncertainty in tax reporting, the presence of a threat is necessary to encourage them to take preventive action (use of tax information assistance). This is consistent with the Protection Motivation Theory (PMT) established by Rogers (1975, 1983), in which he postulated that individuals must first believe that a threat is relevant to them, which then leads to the consideration of coping mechanisms (self-efficacy) and the adoption of a positive behaviour (usage of the tax information assistance).

### 6.4.3 Mediation Analysis

An earlier finding suggested that individuals' perceptions of the efficacy of the available coping mechanism or RES\_EFFI (accuracy, reliability and availability of the tax authority information assistance) were not significant in influencing their use of information assistance.<sup>176</sup> This finding warrants further analysis. Hence, its potential indirect effect was explored by conducting a mediation analysis. The respondents' attitudes towards the benefits of using tax information assistance in minimising their monetary risks (ATTITUDE) were then explored for the possible mediating effects. The mediated analysis was conducted by performing the Ordinary Least Squares (OLS) regression using the PROCESS Macro (Hayes 2013) in SPSS.

**Figure 6.1: A Statistical Diagram for the Indirect Effect of the Coping Response on the Use of Tax Information Assistance (After Controlling for Confounding Variables)**



<sup>a</sup> Direct effect (0.0208) with bias-corrected bootstrap confidence interval not statistically different from zero

<sup>b</sup> Indirect effect (0.1738) with bias-corrected bootstrap confidence interval entirely above zero, indicating a significant effect

\*\*\* Significant at 0.001 level

A statistical diagram illustrating the direct and indirect effects of the efficacy of the coping response (RES\_EFFI) on the use of tax information assistance is shown in Figure 6.1. Clearly, the path diagram exhibited no evidence of a significant direct effect between the two variables (coefficient = 0.0208,  $p$ -value < 0.001).<sup>177</sup> Instead, the effect was found to be of an indirect form. It is also worth noting that several confounding variables were controlled in order to exclude, as much as possible, the

<sup>176</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.6).

<sup>177</sup> Hayes (2013, 169) claimed that such an effect should not be a prerequisite for an evidence of indirect effect, as opposed to the views highlighted by Baron and Kenny (1986, 1176)<sup>177</sup>. The approach used by Hayes (2013) has received a growing consensus from other researchers (see, for example, Shrout and Bolger 2002; MacKinnon 2008; Cerin and MacKinnon 2009; LeBreton, Wu and Bing 2009; Rucker et al. 2011). Based on this argument, the mediating relationship was further analysed.

prospect that the mediating effect of attitude was due to the shared relationship with a third variable (Hayes 2013, 176). This included controlling for the possible effects of a tax penalty, audit probability, detection probability, perceived trustworthiness, gender, age, occupational group, qualifications, income, years of filing experience and complexity in return completion.

**Table 6.8: The Model Coefficients for RES\_EFFI on USAGE Mediated by ATTITUDE (After Controlling for the Effects of Confounding Variables <sup>a</sup>)**

Antecedents	Consequence					
	ATTITUDE			USAGE		
	Coeff.	SE	p	Coeff.	SE	P
RES_EFFI	0.374	0.062	0.000***	-0.021	0.099	0.835
ATTITUDE	-	-	-	0.464	0.082	0.000***
Constant	1.803	0.339	0.000	0.942	0.541	0.082
$R^2 = 0.318$			$R^2 = 0.315$			
$F = 7.732, p < 0.001$			$F = 7.262, p < 0.001$			

<sup>a</sup> Control variables = Penalty, probability of being audited, perceived trustworthiness, gender, age, group of occupation, levels of qualification, levels of income, years of filing experience and complexity in return completion

The results illustrated in Table 6.8 and Figure 6.1 implies that, even after controlling for the effects of several confounding variables, a true indirect effect is evident.<sup>178</sup> Further, the result implies that a significant relationship is evident between efficacy of coping response and attitude towards the benefit of using tax information assistance in minimising monetary risk (coefficient = 0.3743,  $p$ -value < 0.001), and respondents who perceived so expressed a greater desire to use tax information assistance (coefficient = 0.4643,  $p$ -value < 0.001). In short, the finding implies that a taxpayer's monetary risk minimisation attitude does, indeed, mediate the relationship between the efficacy of the coping response and the individual's use of tax information assistance.<sup>179</sup>

#### 6.4.4 Hypothesis Decisions

The current study hypothesised (alternate hypotheses) that there are associations between threat appraisals (penalty, audit probability and detection probability), coping appraisals (efficacy of the coping mechanisms in assisting with tax reporting,

<sup>178</sup> A complete result is available in Appendix N.

<sup>179</sup> A bias-corrected confidence interval for the indirect effect (0.1738) was entirely above zero (0.1028 to 0.2731), indicating a significant relationship.

risk minimisation attitude, self-efficacy and ability to obtain information), and perceived trustworthiness in association with the use of tax information assistance. The null hypotheses<sup>180</sup> decisions are summarised and presented in Table 6.9. The null hypotheses, expressing no significant relationship between the use of tax information assistance in association with audit probability, monetary risk minimisation attitude and self-efficacy, were rejected in favour of the alternate hypotheses. Similarly, the null hypothesis conveying no significant mediating effect of monetary risk minimisation attitude was rejected. The decision to reject the null hypotheses led to the conclusion that there were, indeed, significant relationships between the mentioned variables depicted in Table 6.9. This offers answers to research question 2.

**Table 6.9: A Summary of Hypothesis Decisions**

<b>Research Question</b>	<b>No.</b>	<b>Null hypotheses</b>	<b>Decisions on Null Hypotheses</b>
RQ2	H <sub>0 1(a)</sub>	There is no significant relationship between PENALTY and USAGE	Failed to reject
	H <sub>0 1(b)</sub>	There is no significant relationship between PAUDIT and USAGE	Rejected
	H <sub>0 1(c)</sub>	There is no significant relationship between PDETECT and USAGE	Failed to reject
	H <sub>0 2(a)</sub>	There is no significant relationship between RES_EFFI and USAGE	Failed to reject
	H <sub>0 2(b)</sub>	There is no significant relationship between ATTITUDE and USAGE	Rejected
	H <sub>0 2(c)</sub>	There is no significant relationship between SELF_EFFI and USAGE	Rejected
	H <sub>0 2(d)</sub>	There is no significant relationship between OAPTITUDE and USAGE	Failed to reject
	H <sub>0 2(e)</sub>	ATTITUDE does not mediate the relationship between RES_EFFI and USAGE	Rejected
	H <sub>0 3</sub>	There is no significant relationship between PTRUST and USAGE	Failed to reject

<sup>180</sup> It is customary to make a decision based on the null hypothesis which is the opposite of an alternate hypothesis (Pallant 2011).

## **6.5 Tax Information Assistance and Taxpayers' Willingness to Comply**

The main focus of this section is to examine the association between the use of the provided tax information assistance (USAGE) and the taxpayers' willingness to comply. In examining this relationship, several competing variables were included to determine whether the said relationship remained significant upon inclusion of these variables. Alm and Torgler (2011, 646) emphasised the importance of incorporating deterrents, service and trust in persuading the taxpayers to comply. In the current study, deterrent variables were represented by the penalty threat (TPENALTY), audit probability (PAUDIT) and detection probability (PDETECT); the service variables was characterised by the efficacy of the coping response in supporting tax reporting (RES\_EFFI); and the trust variable was signified by the perceived trustworthiness of the tax authority (PTRUST). The respondents' willingness to comply was further categorised under administrative and reporting compliance.

### **6.5.1 Ordinary Least Squares (OLS) Regression**

A stepwise regression was performed to examine any significant association between the use of tax information assistance and the respondents' agreement as to their administrative compliance.<sup>181</sup> Since the focus of this study was to examine the associations among variables, instead of finding the main predictor, a backward elimination technique was considered to be more appropriate. Additionally, a strict alpha coefficient with  $p$ -value of less than 0.025 was applied when making the inferential analysis, as opposed to the conventional  $p$ -value of less than 0.05 (Pallant 2011, 284). This application was essential because the same analysis was performed on the variables of both administrative and reporting compliance.<sup>182</sup>

#### **6.5.1.1 Tax Information Assistance and Administrative Compliance**

The results from Table 6.10 suggest that the use of tax information assistance (USAGE) is significantly associated ( $p$ -value < 0.001) with individuals' agreement with administrative compliance (ADMINCOM). Surprisingly, the result also suggests that USAGE has the strongest association with ADMINCOM ( $\beta = 0.185$ ;  $p$ -value < 0.001) when compared with other variables. The individuals' perceptions of the

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<sup>181</sup> According to Hair et al. (2006, 209), a stepwise regression is appropriate for a multivariate association because it automatically excludes the independent variables that are not statistically significant.

<sup>182</sup> This measure was necessary to reduce the risk of making a Type I Error; namely, rejecting the null hypothesis when in fact it was true.

probability of being detected ( $p$ -value < 0.001), penalty threat ( $p$ -value < 0.05) and the effectiveness of coping mechanism ( $p$ -value < 0.05) were also significantly related with their administrative compliance.

**Table 6.10: The Regression Coefficients <sup>a</sup> for Administrative Compliance (Prior to Controlling for the Effects of Control Variables)**

	B	SE	$\beta$	t	Sig.	Tolerance	VIF
(Constant)	2.207	0.247		8.945	0.000		
TPENALTY	0.082	0.034	0.113	2.392	0.017*	0.932	1.073
PDETECT	0.124	0.035	0.173	3.546	0.000***	0.884	1.132
RES_EFFI	0.192	0.057	0.177	3.353	0.001**	0.754	1.326
USAGE	0.114	0.029	0.185	3.954	0.000***	0.953	1.049

\*\*\* Significant at 0.001 level (2-tailed)

\*\* Significant at 0.01 level (2-tailed)

\* Significant at 0.025 level (2-tailed)

<sup>a</sup> Variables with  $p$ -value > 0.025 were excluded from the table.

Wenzel (2005, 10) and Hayes (2013, 176) cautioned that the independent variable's effect on a dependent variable might be none other than the manifestation of individual differences. Therefore, in order to test the true relationship between USAGE and ADMINCOM, several taxpayers' characteristics were controlled.<sup>183</sup> The results presented in Table 6.11 indicate that, even after controlling for these variables and imposing a strict alpha coefficient ( $p$ -value < 0.025), individuals' use of information assistance (USAGE) remained significantly associated ( $p$ -value < 0.001) with their agreement in respect to administrative compliance (ADMINCOM), although the probability of being detected (PDETECT) and response efficacy (RES\_EFFI) were found to have a stronger association ( $p$ -value < 0.001).

<sup>183</sup> Control variables included gender, age, occupational groups, levels of income, qualifications and complexity of tax return. Taxpayers' characteristics were binary-coded prior to analysis.

**Table 6.11: The Regression Coefficients <sup>a</sup> for Administrative Compliance (After Controlling for the Effect of Control Variables)**

	B	SE	$\beta$	t	Sig.	Tolerance	VIF
(Constant)	2.514	0.224		11.230	0.000		
PDETECT	0.150	0.034	0.210	4.429	0.000**	0.952	1.051
RES_EFFI	0.252	0.052	0.233	4.870	0.000***	0.935	1.070
USAGE	0.126	0.029	0.205	4.384	0.000*	0.976	1.025

\*\*\* Significant at 0.001 level (2-tailed)

\*\* Significant at 0.01 level (2-tailed)

\* Significant at 0.025 level (2-tailed)

<sup>a</sup> Variables with  $p$ -value > 0.025 were excluded from the table.

### 6.5.1.2 Tax information Assistance and Reporting Compliance

Table 6.12 displays the regression coefficients of reporting compliance prior to controlling for the effects of control variables. The results suggest that the use of the supplied tax information assistance (USAGE) was significantly associated with the individuals' agreement in regard to their reporting compliance (REPORTCOM). Interestingly, these two variables were negatively associated ( $\beta = -0.116$ ,  $p$ -value < 0.025). This result suggests that a greater reliance on tax information assistance is consistent with the individuals' lack of willingness to correctly report their tax liabilities. In other words, individuals with higher usage of tax information appeared to have a lower level of agreement in regard to their reporting compliance, and vice versa.

Another interesting finding is that the probability of audit was found to be negatively associated with reporting compliance ( $p$ -value < 0.025). This finding suggests that having a higher belief in the probability of being audited is not consistent with greater willingness to correctly report tax liabilities. In contrast, the probability of detection was found to be positively related to reporting compliance (significant at  $p$ -value = 0.000) which suggests that the higher are the individuals' perceptions of the chances of being detected, the higher will be their willingness to correctly report their tax liabilities.

**Table 6.12: The Regression Coefficients for Reporting Compliance (Prior to Controlling for the Effects of Control Variables)**

	B	SE	$\beta$	t	Sig.	Tolerance	VIF
(Constant)	2.565	0.303		8.468	0.000		
PAUDIT	-0.169	0.057	-0.158	-2.947	0.003**	0.829	1.207
PDETECT	0.259	0.058	0.246	4.465	0.000***	0.781	1.281
USAGE	-0.116	0.045	-0.128	-2.549	0.011*	0.941	1.062

\*\*\* Significant at 0.001 level (2-tailed)

\*\* Significant at 0.01 level (2-tailed)

\* Significant at 0.025 level (2-tailed)

<sup>a</sup> Variables with  $p$ -value > 0.025 were excluded from the table.

In order to determine the true relationship between the use of tax information assistance and reporting compliance, Wenzel (2005, 10) and Hayes (2013, 176) each suggested controlling for individual differences.<sup>184</sup> The results are presented in Table 6.13.

**Table 6.13: The Regression Coefficients for Reporting Compliance (After Controlling for the Effects of Control Variables)**

	B	SE	$\beta$	t	Sig.	Tolerance	VIF
(Constant)	2.172	0.333		6.531	0.000		
PAUDIT	-0.119	0.063	-0.111	-1.901	0.058	0.805	1.243
PDETECT	0.148	0.068	0.136	2.174	0.031	0.703	1.422
USAGE	-0.110	0.052	-0.118	-2.130	0.034	0.893	1.120

\*\*\* Significant at 0.001 level (2-tailed)

\*\* Significant at 0.01 level (2-tailed)

\* Significant at 0.025 level (2-tailed)

<sup>a</sup> Taxpayers' characteristics and complexity were binary coded prior to analysis.

As indicated in Table 6.13, upon controlling for the effect of control variables, the association between USAGE and REPORTCOM was significant at a standard  $p$ -value of less than 0.05. This result suggests that, at least 95 times out of 100, we can be sure that USAGE and REPORTCOM are significantly related, with only 5% likelihood that the relationship does not exist. However, when a strict  $p$ -value was applied ( $p$ -value < 0.025) in order to reduce the risk of making a Type I Error, the association was no longer statistically significant ( $p$ -value > 0.025). Similarly, audit probability and detection probability both were found to be statistically insignificant

<sup>184</sup> The complexity of return form and taxpayer's characteristics were controlled. These included the respondent's gender, qualifications, level of income, age and occupational group.

( $p$ -value > 0.025). Thus, the findings from this study suggest that, while deterrent and service variables were important elements in encouraging compliance among the taxpayers,<sup>185</sup> their individual characteristics were critical in shaping the taxpayers' reporting compliance. However, since the objective of this study does not include examining the associations between the individual characteristics and tax compliance, individual characteristics will not be discussed in this thesis.

### 6.5.1.3 Hypotheses Decisions

The current study hypothesised (as an alternate hypothesis) that there is a significant association between the use of tax information assistance and the respondents' willingness to comply. A summary of the hypotheses decisions is presented in Table 6.14, which provides answers for research question 3. The null hypothesis, stating no significant association between information usage and the respondents' administrative compliance, was rejected in favour of the alternate hypothesis. As such, this decision led to the conclusion that there is, indeed, a significant association between information usage and administrative compliance. On the other hand, the association between information usage and reporting compliance was not supported. In other words, there appeared to be a lack of statistical evidence to conclude that information usage and reporting compliance were significantly related at a strict  $p$ -value of 0.025.

**Table 6.14: A Summary of the Hypothesis Decisions**

Research Question	No.	Null Hypotheses	Decisions on Null Hypotheses
RQ3	H <sub>0 4(a)</sub>	There is no significant relationship between USAGE and ADMINCOM	Rejected
	H <sub>0 4(b)</sub>	There is no significant relationship between USAGE and REPORTCOM	Failed to Reject

<sup>185</sup> This was evidenced by the significant association of PAUDIT, PDETECT and USAGE with REPORTCOM, all below the standard  $p$ -value of 0.05.

## 6.5.2 Moderation (Conditional) Analysis

This section explores whether perceived trustworthiness (PTRUST) moderates the relationship between tax information usage (USAGE) and the individuals' willingness to comply (ADMINCOM and REPORTCOM). The moderation test involved two stages. It began by performing a Pearson Correlation followed by an Ordinary Least Squares (OLS) regression. The results of the Pearson Correlation matrix are presented in Table 6.15.

**Table 6.15: Correlation, Mean and Standard Deviation of the Variables under Conditional Effects Study**

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1 USAGE	3.5584	.9638	(X)								
2 ADMINCOM	4.4768	.5945	.255***	(X)							
3 REPORTCOM	2.9450	.8709	-.117*	.149**	(X)						
4 PTRUST	3.4907	.6469	.188***	.272***	.135**	(X)					
5 GENDER	.5490	.4982	.164**	-.044	-.238***	.042	(X)				
6 OCCUP	.8093	.3934	-.357***	-.024	.269***	-.035	-.255***	(X)			
7 AGE	.8015	.3994	-.036	-.074	.011	-.172**	.029	-.061	(X)		
8 INC	.8763	.3297	.063	.064	.066	.067	-.026	.017	.088	(X)	
9 QUALIF	.1830	.3872	.053	.007	-.146***	-.044	-.067	-.110*	-.216***	.056	(X)

\*\*\* Correlation is significant at the 0.001 level (2-tailed).

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

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

Alpha reliabilities are shown in parentheses on the diagonal.

N = 388

The results from Table 6.15 reveal that individuals' use of information assistance (USAGE) is positively correlated ( $p$ -value < 0.001) with their agreement in regard to administrative compliance (ADMINCOM) but negatively correlated ( $p$ -value < 0.05) with reporting compliance (REPORTCOM). The inconsistency in this finding warrants further analysis. Hence, the individuals' level of perceived trustworthiness of the tax authority (PTRUST) was tested for its potential moderating effect.

In order to test a moderating effect, Aiken and West (1991) recommended the testing of "simple slopes" by comparing the effect across three levels (one standard deviation above mean, the mean itself and one standard deviation below mean) of the moderating variable (in this case, PTRUST) on the predictor variable (in this case, USAGE). Hence, the moderating effect of USAGE on willingness to comply was expressed at high, mean and low levels of PTRUST. In order to facilitate the

Aiken and West (1991) procedures, the OLS regression analysis was performed using PROCESS Macro, introduced by Hayes (2013).<sup>186</sup> The results are discussed below.

### 6.5.2.1 Effect of Perceived Trustworthiness on Administrative Compliance

The moderating effect of perceived trustworthiness (PTRUST) on the relationship between the use of tax information assistance (USAGE) and administrative compliance (ADMINCOM) is displayed in Table 6.16. A closer examination of the moderating effect of PTRUST implied that the positive relationship between USAGE and ADMINCOM was significant across three levels of PTRUST.<sup>187</sup> In other words, the findings suggest that, regardless of the intensity of taxpayers' trustworthiness perception, their usage of tax information assistance remained positively and significantly related with their administrative compliance, with no indication of changes in direction.

**Table 6.16: The Conditional Effect of USAGE on ADMINCOM across Three Levels of PTRUST**

PTRUST	Effect	SE	<i>p</i>	LLCI	ULCI
-0.6469 (-1 SD)	0.1796	0.0521	0.0006	0.0772	0.2820
0.0000 (MEAN)	0.1505	0.0309	0.0000	0.0898	0.2113
0.6469 (+1 SD)	0.1215	0.0316	0.0001	0.0593	0.1836

The graphical representation illustrated in Figure 6.2 provides support for the moderating role of PTRUST. The regression slopes are steep but parallel across all three levels of PTRUST,<sup>188</sup> suggesting a lack of statistical evidence to conclude that all three levels (slopes) of PTRUST are distinct from one another. These findings imply that, regardless of a low, moderate or high level of perceived trustworthiness held by these individuals, their use of tax information assistance remains

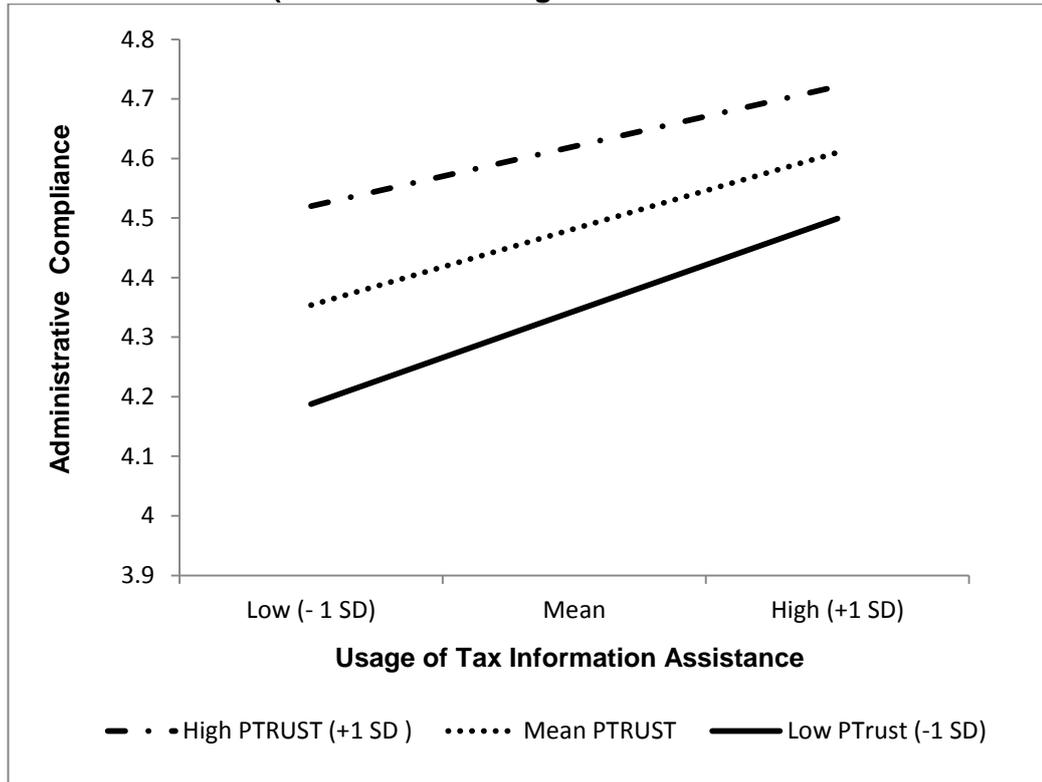
<sup>186</sup> PROCESS Macro (Hayes 2013) was programmed to automatically generate output from the 'pick-a-point' approach. The 'pick-a-point' approach, also known as 'simple-slope' analysis, is the most popular approach in probing the conditional effect (Aiken and West 1991; Cohen et al. 2003). PROCESS (Hayes 2013) was also programmed to provide the mean-centred product and to be robust on violation of the homogeneity of variance.

<sup>187</sup> No evidence of significant interactions between USAGE and PTRUST ( $B = -0.0442$ ,  $p > 0.025$ ,  $CI = -0.1331$  to  $0.0447$ ) on ADMINCOM were shown.

<sup>188</sup> LOW PTRUST: slope estimate = 0.180,  $t = 3.448$ ,  $p < 0.025$ ; MODERATE PTRUST: slope estimate = 0.1505,  $t = 4.8727$ ,  $p < 0.025$ ; HIGH PTRUST: slope estimate = 0.122,  $t = 3.842$ ,  $p < 0.025$ .

associated, considerably, with their administrative compliance.<sup>189</sup> Hence, these results lead to the conclusion that taxpayers' perceived trustworthiness of the tax authority does not have an effect on their administrative compliance.<sup>190</sup> The varying effect of information assistance usage on reporting compliance across different levels of perceived trustworthiness is discussed next.

**Figure 6.2: The Varying Effect of USAGE on ADMINCOM across Three Levels of PTRUST (Prior to Controlling for the Effects of Control Variables)**



### 6.5.2.2 Effect of Perceived Trustworthiness on Reporting Compliance

The conditional effect of the use of tax information assistance (USAGE) on reporting compliance (REPORTCOM), at the three levels of trustworthiness perception (PTRUST), is shown in Table 6.17. In conducting the moderation test, several individuals' characteristics (gender, occupational category, age, level of income and qualification level) were controlled to exclude, as much as possible, the prospect that the moderating effect was due to a shared relationship (Wenzel 2005, 10; Hayes 2013, 176). The test revealed that the relationship between USAGE and

<sup>189</sup> Please refer to Appendix Q1 for the complete result.

<sup>190</sup> Since the moderating effect of PTRUST on the relationship between USAGE and ADMINCOM was not supported, further analysis was unnecessary.

REPORTCOM was conditional upon the levels of PTRUST ( $p$ -value < 0.025).<sup>191</sup> As shown in Table 6.17, the negative relationship between USAGE and REPORTCOM appears to be significant at a low level of PTRUST ( $B = -0.1707$ ,  $p$ -value < 0.025) but weakens and is no longer significant ( $B = -0.0074$ ,  $p$ -value > 0.025) at the high level of PTRUST. In its simplest term, the findings suggest that the unfavourable effect on non-compliance eases as the level of PTRUST improves from low, to moderate, to high.

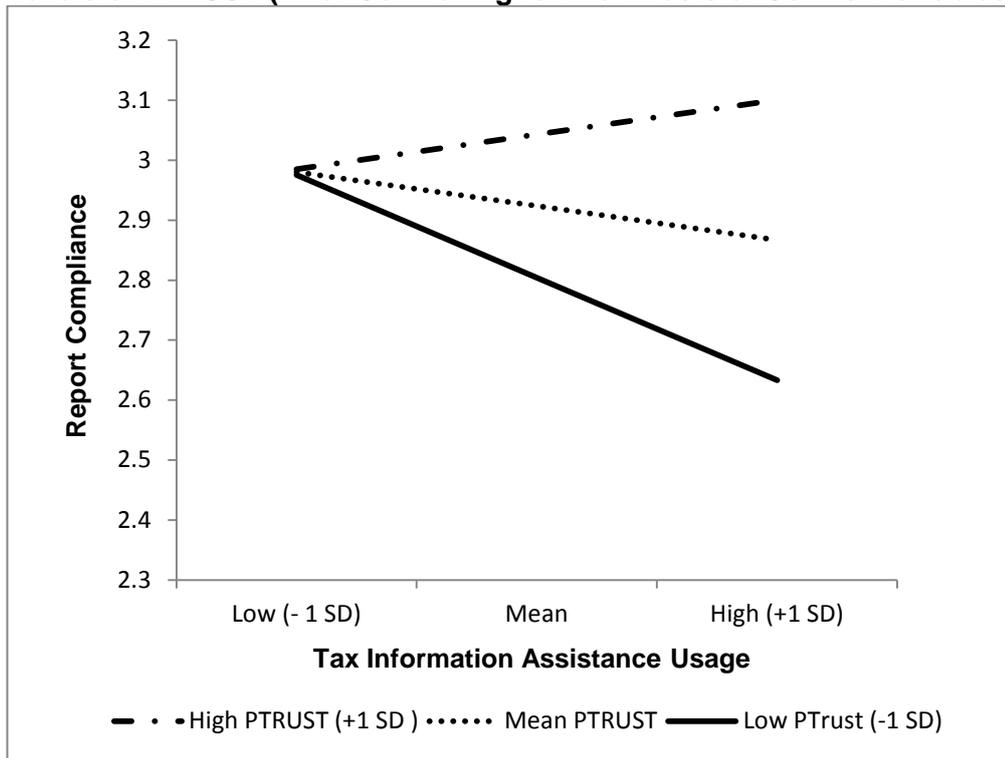
**Table 6.17: The Conditional Effect of USAGE on REPORTCOM across Three Levels of PTRUST (After Controlling for the Effects of Control Variables)**

PTRUST	Effect	SE	$p$	LLCI	ULCI
-0.6469 (-1 SD)	-0.1707	0.0708	0.0164	-0.3100	-0.0315
0.0000 (MEAN)	-0.0479	0.0528	0.3647	-0.1518	0.0559
0.6469 (+1 SD)	-0.0075	0.0673	0.2663	-0.0574	0.2071

The graphical depiction of the moderating effect of PTRUST is illustrated in Figure 6.3. The regression slope is steeper for the low level of PTRUST (slope estimate = 0.171,  $t = 2.411$ ,  $p < 0.025$ ) than for the high level of PTRUST (slope estimate = 0.008,  $t = 0.113$ ,  $p > 0.025$ ). The steeper regression slope implies that the negative association between USAGE and REPORTCOM is significant among individuals with low PTRUST. On the other hand, the mild regression slopes suggest the negative association is no longer statistically significant among those with moderate and high levels of PTRUST. Based on these findings, it can be concluded that taxpayers' favourable perceptions of the tax authority have an encouraging effect on their reporting compliance.

<sup>191</sup> The complete result is available in Appendix Q2. A strict alpha coefficient with a  $p$ -value of less than 0.025 was applied in order to reduce the risk of making a Type I Error. This was necessary since the same analysis was repeated twice on two categories of dependent variable; namely, both administrative and reporting compliance.

**Figure 6.3: The Varying Effects of USAGE on REPORTCOM across Three Levels of PTRUST (After Controlling for the Effects of Control Variables)**



### 6.5.2.3 Hypothesis Decisions

The current study hypothesised (as an alternate hypothesis) that the perceived trustworthiness of the tax authority (PTRUST) moderates the relationships between the use of tax information assistance (USAGE) and taxpayers' willingness to comply (both ADMINCOM and REPORTCOM). A summary of the hypothesis decisions is presented in Table 6.18, which provides answers for research question 4. The null hypothesis, stating that there is no significant moderating effect of PTRUST on the relationship between USAGE and REPORTCOM, was rejected in favour of the alternate hypothesis, which concluded that PTRUST, indeed, functions as a moderator for the said relationship. On the contrary, there appeared to be a lack of statistical evidence to conclude that the association between USAGE and ADMINCOM was conditional upon the levels of PTRUST, hence the decision to reject the null hypothesis was not supported.

**Table 6.18: A Summary of the Hypothesis Decisions**

Research Question	No	Null Hypotheses	Decisions on Null Hypotheses
RQ4	H <sub>0 5(a)</sub>	PTRUST does not moderate the relationship between USAGE and ADMINCOM	Failed to Reject
	H <sub>0 5(b)</sub>	PTRUST does not moderate the relationship between USAGE and REPORTCOM	Rejected

## 6.6 Chapter Summary

This chapter presents the findings from the quantitative data analyses. In terms of individual characteristics, it was found that gender, location, opinions in the completion of return forms, levels of qualification and occupational sector were, each, significantly associated with the use of tax information assistance.<sup>192</sup> Consequently, the probability of being audited, the monetary risk minimisation attitude and self-efficacy, each played a significant role in motivating the use of the tax authority information assistance. Above all, the individuals' attitudes towards the benefit of using tax information assistance in minimising their monetary risk had the strongest association ( $p$ -value < 0.001) with information usage.<sup>193</sup> Surprisingly, the efficacy of coping mechanisms in supporting tax reporting was not significantly associated with the use of tax information assistance. However, its effect was, rather, in an indirect form, whereby its significant effect ( $p$ -value < 0.001) was mediated by the individuals' monetary risk minimisation attitudes.<sup>194</sup>

The use of tax information assistance was positively associated with the individuals' administrative compliance, significant at a strict  $p$ -value of less than 0.025.<sup>195</sup> This positive relationship implies that the usage of tax information assistance moved in the same direction as the respondents' agreement in regard to their administrative compliance. By contrast, the use of tax information assistance was negatively associated with the individuals' reporting compliance, significant at a standard  $p$ -value of 0.05. This negative association suggests that their greater usage of

<sup>192</sup> Please refer to Section 6.3.1.1 – 6.3.6 (Table 6.4).

<sup>193</sup> Please refer to Section 6.4.2 (Table 6.7).

<sup>194</sup> Please refer to Section 6.4.3 (Figure 6.1).

<sup>195</sup> Please refer to Section 6.5.1.1 (Table 6.11).

information was consistent with a lower willingness to report their tax liabilities.<sup>196</sup> Interestingly, the negative association between usage of information assistance and reporting compliance was found to be conditional under various levels of perceived trustworthiness. In particular, the negative relationship was found to be significant among individuals with a low level of trust but remained insignificant among those with a high level of trust.<sup>197</sup> However, the perception of trustworthiness held by an individual did not moderate the relationship between information usage and administrative compliance.<sup>198</sup>

In a nutshell, the respondents of this sample responded well to certain threat and coping elements, in their usage of tax information assistance for tax reporting, consistent with the Protection Motivation Theory established by Rogers (1975, 1983). From the aspect of tax compliance, an individual's reporting compliance appeared to be more strongly associated with his or her perception of the likelihood of detection than with the use of information assistance, consistent with the A-S Economic Theory pioneered by Allingham and Sandmo (1972). The knowledge concept underscored by Lewis (1982, 71), which postulated a change in taxpayers' behaviours when they are more informed, was not supported, as evidenced by the negative correlation between information usage and reporting compliance. However, the higher level of trust held by individuals did help to ease the unfavourable relationship, consistent with the concept emphasised under motive-based trust (Tyler 2001). The analyses and discussions of the qualitative data are presented in the subsequent chapter.

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<sup>196</sup> Please refer to Section 6.5.1.2 (Table 6.13).

<sup>197</sup> Please refer to Section 6.5.2.2 (Table 6.17).

<sup>198</sup> Please refer to Section 6.5.2.1 (Table 6.16).

## **CHAPTER SEVEN**

### **ANALYSIS AND RESULTS OF INTERVIEW DATA**

#### **7.1 Chapter Overview**

Interviews were conducted in the second phase of the study to complement the quantitative findings reported in Chapter 6. Briefly, the views and perceptions of participants regarding various aspects were pursued as part of this research. This included the participants' experiences of using the supplied tax information assistance, and their views of both audit probability and monetary risk minimisation. In addition, the individuals' opinions about tax knowledge, the exploitation of tax information and the importance of trustworthiness perceptions were sought. This chapter begins with the chapter overview followed by the discussions of participants' backgrounds. Next, the procedures conducted to prepare and organise the data for analysis are provided. Thereafter, the interview findings are presented and the chapter summary concludes.

#### **7.2 Background of Participants**

##### **7.2.1 Introduction**

Individual taxpayers, who participated in the survey between the months of June to October 2013, were invited to participate in the interviews.<sup>199</sup> A total of 43 out of 597 individuals expressed their interest by returning the completed consent forms.<sup>200</sup> Those potential participants were contacted in May, 2014, via emails and telephone calls. They were notified of the up-coming interviews, debriefed on the focus of the study, and informed that participation was voluntary and that they may withdraw at any time without prejudice. The proposed sample for the qualitative study was 30 participants. Fourteen participants conveyed their interest in participating in the interviews, providing a response rate of slightly lower than 50%. The remaining individuals were excluded due to unanswered e-mails, change of contact numbers, being on maternity leave, inter-state transfers, or having withdrawn from the interviews.

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<sup>199</sup> A detailed explanation was provided in Chapter 4, Section 4.4.5.

<sup>200</sup> Seven individuals were later excluded because they did not fulfil the necessary criteria, (namely, were not registered as a taxpayer and did not self-preparing their own return forms).

## 7.2.2 Demographic Background

The participants numbered nine males and five females. Four of them resided in the eastern part of Malaysia while the remaining ten were from the western part of Malaysia. This proportion was considered to be acceptable since the populations in East and West Malaysia are approximately in the ratio of 1 : 5.<sup>201</sup> In terms of the taxpaying categories, twelve were from the salaried and wages group while the remaining two were sole proprietors. Given that the aim of conducting these interviews was to complement the survey findings, and it was not intended to seek a generalised finding, the small number of participants was considered to be acceptable. McKerchar (2003, 132) and Devos (2009, 29) concurred that low participation was not considered a major issue, particularly when interviews of an explanatory sequential nature were being considered, given that the objective was merely to add value rather than to provide statistical generalisation. Similarly, Patton (1990, 196) and Reid (1996, 388) accentuated that a small sample of articulate participants were sufficient to obtain key information and unique views. A summary of the participants' demographic backgrounds is presented in Table 7.1.<sup>202</sup>

**Table 7.1: A Summary of the Participants' Demographic Backgrounds**

	Number	Percentage
Gender:		
Male	9	64%
Female	5	36%
<b>Total</b>	<b>14</b>	<b>100%</b>
Location:		
East Malaysia	4	29%
West Malaysia	10	71%
<b>Total</b>	<b>14</b>	<b>100%</b>
Taxpayer Category:		
Salary and wage earner	12	86%
Self-employed	2	14%
<b>Total</b>	<b>14</b>	<b>100%</b>
Level of Qualification:		
High school qualification	2	14%
Undergraduate degree	9	64%
Postgraduate degree	3	22%
<b>Total</b>	<b>14</b>	<b>100%</b>

<sup>201</sup> Department of Statistics Malaysia, 2014

<sup>202</sup> Of the urban population at the time, 68% resided in the selected areas of West Malaysia, while 51% of the total population consisted of males (Department of Statistics Malaysia 2013).

### **7.3 Data Analysis and Results**

The discussions of interview findings are presented in the ensuing sections. The first section offers the participants' experiences in using the provided tax information assistance. The second section presents the findings on their motivation to use the tax information assistance, while the third section presents findings in relation to the taxpayers' compliance behaviours.

#### **7.3.1 Tax Information Assistance**

The interview findings revealed that all the participants admitted to having encountered difficulties during their early years of filing returns. However, at the time of the study, 79% of the participants were of the opinion that their tax return forms were easy to understand and complete. These individuals comprised the group of salaried taxpayers with filing experiences ranging between 4 and 20 years. On the other hand, 21% of the participants admitted to having difficulties in understanding and completing their tax returns. This group was comprised of both salaried and small business taxpayers with filing experiences ranging between 2 and 5 years. In terms of fulfilling their tax obligations, 65% of the participants had utilised both direct and indirect forms of assistance, 21% revealed that they had relied on indirect assistance only and 14% had relied on direct assistance only.

The participants collectively agreed that the availability of tax information assistance had, one way or another, supported their filing and reporting obligations. Table 7.2 presents some of their views. Notably, the tax information had assisted them in three significant ways that are evident from the table; confidence in the accuracy of reporting (86%), verification of general filing matters (79%) and timely submission of tax returns (71%). Clearly, the provision of tax information assistance must have supported the smooth transition of the two major tax reforms in Malaysia during the recent decade, namely the self-assessment system and e-filing.<sup>203</sup> Hence, it offered assurance and established confidence among taxpayers, notably among the novice filers and those with more complex returns.

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<sup>203</sup> The self-assessment system was introduced for individual taxpayers in the year of assessment 2004, while e-filing was introduced in 2008.

**Table 7.2: Respondents' Views on the Benefits of Tax Information Assistance**

<b>Tax Compliance</b>	<b>Details</b>	<b>Percentage</b>
Reporting Compliance	Completion of tax returns	64%
	Deduction entitlement <sup>1</sup>	57%
	Determination taxable income	50%
	Confidence in the accuracy of reporting	86%
Filing Compliance	Timely submission	71%
	Verification of general filing matters <sup>2</sup>	79%

<sup>1</sup> Included reliefs, rebates and tax deductions

<sup>2</sup> Their views included password matters, and reservations about online payment and electronic filings.

An interesting finding from this study was that the availability of tax information assistance actually assisted and refocused participants' personal tax planning. Those with families, for instance, noted that their relief entitlements had evolved over time. Hence, the availability of tax information assistance had enabled them to plan ahead as to the best way of minimising their taxes while benefiting from the products they consumed. The following are examples of their statements.

*"The information on insurance and the other types of relief was helpful. It had assisted me in deciding which type of insurance to buy for my children."*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*"I am now married with children, so there are some reliefs to which I am entitled. ... their (IRBM) website provides me with the necessary information."*

*(Participant 12 – Executive Accountant, Male, Salaried Group)*

### **7.3.2 Motivation to Use the Provided Tax Information Assistance**

The effects of the participants' views of audit probability and their attitudes about monetary risk in influencing their use of tax information assistance are presented in this section.

#### **7.3.2.1 Probability of Audit**

The survey findings suggested that threat, in the form of audit probability, was statistically significant in association with the use of tax information assistance.<sup>204</sup> Hence, the participants' views on the possibility of being audited and how this had influenced their decision of whether or not to rely on tax information were sought.

<sup>204</sup> Please refer to Chapter 6, Section 6.4.2.

After obtaining background information (Question 1 and 2), the interview began with the following question:

**Question 3(a) : Do you think you have the possibility of being tax audited by the IRBM?**

**Table 7.3: Tax Audit Experience and Opinion of Future Audit Possibility**

<b>Audit Experience</b>	<b>Number</b>	<b>Possibility of Tax Audit in Future</b>	<b>Number</b>
Yes	4 (29%)	Yes	3 (75%)
		No	1 (25%)
No	10 (71%)	Yes	8 (80%)
		No	2 (20%)

Table 7.3 above, presents the number of participants with and without experience of an audit and their responses regarding the probability of being audited. The results reveal that 71% of the participants had not been audited by the IRBM while 29% had. In particular, 75% of the audited participants believed that future audit was likely, while 25% thought otherwise. Similarly, 80% of the unaudited participants considered a future audit as probable, while 20% perceived a future audit as unlikely. The beliefs that the IRBM may want to focus on high income earners and that the participants were cleared from audit due to favourable dealings were mentioned as reasons for the unlikelihood of future audit. The following are examples of their statements.

*“No ... it is not likely (probability of audit). Probably they want to concentrate on the rich. Most government servants are not rich people.”*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*“I think it (possibility of audit) is unlikely as my pay is not that much.”*

*(Participant 6 – Insolvency Officer, Female, Salaried Group)*

**Question 3(b) : Why is audit probability relevant (or irrelevant) in your decision to rely on information assistance for tax reporting?**

The following discussions present the participants' opinions on the relevance of audit probability in relation to their decisions to rely on information assistance. The finding revealed that 21% participants felt that the probability of a tax audit did not have a profound impact, while 79% considered that it had either directly or indirectly forced them to rely on information assistance for correct reporting. Table 7.4 presents their opinions on why the probability of audit was relevant in their decisions to rely on information assistance.

**Table 7.4: Relevance of Audit Probability on Information Assistance Usage**

Participant	View	Theme	Number
P2	Knowing that someone is monitoring or the thought of being examined by them (IRBM) ...	Threat	11
P3	I feel intimidated by the possibility (of being audited).		
P4	They (IRBM) may discover mistakes.		
P5	The idea of being selected (for audit) and questioned for my mistakes ...		
P7	I might be in trouble.		
P8	I would be worried if I was selected (for audit) if I knew my tax form was inaccurate.		
P9	... penalised for something I am not aware of.		
P10	... to safeguard myself from being punished.		
P11	I have to ensure that my forms are correct.		
P12	The presence of audit made me more cautious in preparing my form.		
P13	I don't want to make mistakes in my tax form ...		

Majority of the participants were compelled to use the tax information assistance because the probability of being audited, in itself, posed as a threat. The very idea of being selected for tax audit brings about fear of being punished due to inaccurate reporting. However, some felt that threat was necessary because concern about punishment for tax non-compliance causes anxiety, which brings about a realisation of the importance of seeking information to diminish that threat. These thoughts were reflected in the following dialogues.

- P2 : Knowing that someone is monitoring did have an impact (decision to use information).*  
*R : You mentioned 'someone is monitoring'. Can you elaborate further?*  
*P2 : I mean ... if people know they can get away, nobody wants to obey the rule.*

*(Participant 2 – Credit Officer, Male, Salaried Group)*

- P3 : *I believe it (audit probability) is one of the main reasons (to use information assistances).*
- R : *Why do you think so, if I may ask?*
- P3 : *I feel intimidated ... I seek help when I'm not confident (completing tax return). I don't want to be penalised again.*  
*(Participant 3 – Hair Salon Owner, Female, Business)*

While the interviewees generally disliked the possibility of being examined, others acknowledged it as necessary since it made them more cautious in their reporting, to avoid punishment. Advancing to another level, audit probability may, in itself, carry a 'spill-over' effect by reinforcing the responsibility for educating oneself through reliance on tax information assistance.

*"In a way, it (audit probability) has indirectly made me responsible for educating myself ..."*

*(Participant 10 – Auditor, Male, Salaried Group)*

*"I have to ensure my forms are correct ... it (audit) is necessary so that people follow the law."*

*(Participant 11 – Legal Assistant, Male, Salaried Group)*

*"... checking (audit) is important. It forced me to learn to be responsible."*

*(Participant 13 – Communication Officer, Female, Salaried Group)*

On the contrary, not all participants believed that audit probability was a prominent factor in their decision to use tax information assistance for tax reporting. Instead, their concerns over the possibility of 'overpaid tax' and being a 'responsible taxpayer' were perceived as more significant. In short, audit probability may only be seen as a risk by those who respond to threat, but this may not be so among those who do not, or among submissive respondents.

*"... it is our responsibility to ensure our forms are correct ..."*

*(Participant 6 – Insolvency Officer, Female, Salaried Group)*

*"I am more concerned about overpaying my tax ... I need to read them (information sources) carefully."*

*(Participant 14 – Health Officer, Male, Salaried Group)*

### 7.3.2.2 Monetary Risk Minimisation

The survey findings revealed that the attitude towards monetary risk minimisation was strongly associated with the use of tax information assistance.<sup>205</sup> Hence, a follow-up study was needed to help understand the significance of monetary risk minimisation. The participants were initially asked if they considered the monetary risk as being relevant. Thereafter, they were requested to explain their responses. This was achieved by asking the following question:

**Question 4 : Do you consider monetary risk (example: risk of overpaid tax and penalty cost) as an important factor in your decision to rely on information assistance? Please explain.**

Based on the findings, all 14 participants viewed monetary risk as an important factor in their decisions to use the provided tax information assistance. In particular, all of them (100%) were concerned about the overpayment of tax, although 86% of the participants viewed penalty costs as equally important. Three main themes emerged as justification for their reluctance to overpay tax, namely wasteful spending by the government, an economic reason and distrust of the refund system. Table 7.5 presents a summary of these reasons.

**Table 7.5: Reasons for Reluctance to Overpay Tax**

Participant	View	Theme	Number
P1	... they (government) may spend it unwisely.	Government Spending	4
P7	I don't see much change in the infrastructure over the last couple of years.		
P11	I don't mind paying a little extra (tax) as long as they (the government) use it wisely.		
P14	I am not happy with the development in my state.		
P3	Business is suffering due to rising costs.	Economic Reason	8
P5	I work hard for my money and everything seems to be getting expensive.		
P6	It's wasteful. My family needs the money.		
P7	I can do a lot of things with that money.		
P8	I would rather keep or invest it.		
P9	... I have bills to pay.		
P12	That (paying extra tax) is quite wasteful.		
P14	I am only an average income person.		
P1	Refund (of tax) takes longer.	Tax Refund	7
P2	I have concern about whether they (IRBM) will refund the actual amount ...		
P3	Are they going to refund the right amount?		
P4	It will take time before I get my money back.		

<sup>205</sup> Please refer to Chapter 6, Section 6.4.2.

P5	They will refund back but it may take time.		
P6	I prefer not to have the money taken and refunded later.		
P12	I have my doubts in their refund system.		

The interview findings suggest that reluctance to overpay tax was mainly triggered by economic reasons. Hence, the tax information provided by the IRBM served as a guide to minimise the outflow of their earnings. Their reluctance not to over-contribute included concerns over the high cost of living, debt issues, wastefulness, the need to meet daily expenses, the need for savings and many more.

*“... I can’t afford (to overpay tax) as I have a business to run ... debts to pay.”*  
*(Participant 3 – Hair Salon Owner, Female, Business)*

*“... things are getting expensive. I only want to pay my fair share, no more, no less.”*  
*Participant 5 (Contractor, Male, Business)*

Frustration over the government’s wasteful spending and unjust allocations of revenue were seen as a firm reason for their reluctance to over-contribute tax. The individuals felt that their contributions were not justified as they were dissatisfied over the unjust allocation of revenue at all levels, may it be to the state, community or individuals. Another point emphasised by several participants, and which underscored cronyism among government officials when awarding big projects, was their discontentment about the rich living lives of plenty.

*“... cronyism is very common in Malaysia and I am concerned. For that money to go back to the rich, that’s absurd!”*  
*(Participant 1 – Assistant Director, Male, Salaried Group)*

*“... nothing much changed. Allocation is not fair.”*  
*(Participant 7 – Insurance Agent, Female, Salaried Group)*

*“There are too many unnecessary projects ... wasteful projects. Cronyism among government officials is nothing new.”*  
*(Participant 11 – Legal Assistant, Male, Salaried Group)*

Despite the IRBM’s assurance of efficiency in their tax refund system,<sup>206</sup> several participants remained sceptical. Doubts about the tax authority’s refund system,

<sup>206</sup> From date of receipt of the income tax return via e-filing and manually prepared forms, refund cases were processed within 30 and 90 days, respectively, (Inland Revenue Board of Malaysia 2012, 32).

such as concerns over the inaccuracy of the amount refunded and late payment of a refund, reinforced their reasons to remain prudent and, hence, the need to rely on tax information assistance for accuracy of reporting.

*“I am concerned whether they (IRBM) will refund the actual overpaid amount and not less than that.”*

*(Participant 2 – Credit Officer, Male, Salaried Group)*

*“I am not aware of their procedures. It is better to do it (reporting) right the first time.”*

*(Participant 3 – Hair Salon Owner, Female, Business)*

*“I have my doubt in their refund system.”*

*(Participant 12 - Accounts Executive, Male, Salaried Group)*

Table 7.6 presents a summary of reasons why the respondents were reluctant to incur penalty costs and, hence were compelled to use tax information for correct tax reporting. A few sub-themes emerged from the findings, which were later merged to form two main themes, namely reputation and cost.

**Table 7.6: Reasons for Reluctance to Incur Penalty Costs**

Participant	View	Theme	Number
P5	They (IRBM) will think of me as a dishonest person.	Reputation	4
P6	It (being penalised) gives them (IRBM) a bad impression of me.		
P9	It spoils my reputation.		
P14	I am concerned about making mistakes. They (IRBM) may label me as a cheater.		
P2	The amount may not be much but it (penalty cost) is still a waste of my money.	Cost	8
P4	I dislike dealing with consequences.		
P7	It (penalty payment) could have been well spent.		
P8	I have to incur yet another cost.		
P10	Paying for a penalty is wasteful.		
P11	Making another payment is a waste of my money.		
P12	It is wasteful (incurring penalty costs).		
P13	There is extra cost.		

Fear of a tarnished reputation was among the concerns of those who were reluctant to incur penalty costs. Interestingly, the individuals were more concerned about the IRBM's perceptions of them. This psychological effect, that is the fear of a tarnished

reputation, induces concern about being labelled as a non-complier or dishonest taxpayer and, hence, the need for assistance.

*“They (IRBM) will think of me as a dishonest person.”*  
(Participant 5 – Contractor, Male, Business)

*“I am not comfortable with it (penalty). It (being penalised) gives them (IRBM) a bad impression of me.”*  
(Participant 6 – Insolvency Officer, Female, Salaried Group)

In addition, the cost of a tax penalty was seen as wasteful, and remained the most cited reason for reluctance to incur a penalty. While the survey findings revealed that penalty had an insignificant influence on the decision to use information assistance,<sup>207</sup> it appeared to raise concerns among the interview participants, possibly due to the fact that they were the average income earners. Hence, penalty costs were seen as a careless outflow of their earnings.

*“ ... in addition to paying tax, I have to incur yet another cost (tax penalty).”*  
(Participant 8 – Administrative Executive, Female, Salaried Group)

*“If people take their responsibility (for tax reporting) seriously, the penalty could be prevented.”*  
(Participant 10 – Auditor, Male, Salaried Group)

*“Making another payment for my mistake is a waste of my money.”*  
(Participant 11 – Legal Assistant, Male, Salaried Group)

### **7.3.3 Taxpayers' Compliance**

The survey findings suggested that the use of tax information assistance is positively correlated with administrative compliance but negatively correlated with reporting compliance.<sup>208</sup> The negative correlation implies that access to tax information assistance is consistent with lower reporting compliance in a truthful sense. It has been claimed that improved tax knowledge may result in non-compliance, since taxpayers may become aware of any loopholes in the tax system (Kasipillai, Aripin and Amran 2003), hence, facilitating taxpayers in exercising tax planning via tax avoidance or even evasion (Antonides and Robben 1995, 634; Loo,

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<sup>207</sup> Please refer to Chapter 6, Section 6.4.2.

<sup>208</sup> Please refer to Chapter 6, Section 6.5.2 (Table 6.11 and Table 6.13).

McKerchar and Hansford 2009, 189). Additionally, Slemrod, Blumenthal, and Christian (2001, 481) believed that the probability of detection may not be an effective deterrent mechanism, due to the general belief that the tax authority is resource-constrained. Hence, a follow-up study was conducted to help understand the present findings.

### **7.3.3.1 Usage of Tax Authority Information Assistance**

The issues surrounding exploitation of tax information, and perceptions of tax knowledge and detection probability, are presented in this section. Taking the sensitivity of the questions into consideration, it had been anticipated that engaging in personal discussions with the participants may pose as a challenge. Hence, their perceptions in relation to general taxpayers were sought so as to create a non-threatening context. The first question sought the participants' views on what they considered to be exploitation of tax information. The second question pursued their beliefs about its prevalence among the individual taxpayer community. The third question obtained their assessment of increased tax knowledge and its possible impact on tax evasion. The final question requested their opinions on the probability of detection.

**Question 5(a) : What would you consider as an exploitation (misuse) of tax information (example: information on tax reliefs or deductions) for tax reporting?**

Overall, the participants appeared to have some general understanding of what they considered to be exploitation of tax information. In general, the act was believed to be irresponsible, wrongful and performed deliberately in the hope of gaining benefit for oneself. Table 7.7 offers a summary of their general views.

**Table 7.7: A Summary of Views on Exploitation of Tax Information**

Participant	View
P1	... using information in the hope of reducing tax, or even better, to get a refund.
P2	It involves using information but with wrong or bad intentions.
P3	... intention to avoid paying tax.
P4	... taking advantage for your own benefit.
P5	... not being ethical.
P6	It is like ... not being entitled for something but claiming it anyway.
P7	... misusing information with the intention to cheat.
P8	... something which is wrong and unacceptable.
P9	Inappropriate use of information ...
P10	... taking advantage of any loopholes by misusing information.
P11	... something which is not honest ... manipulation of information.
P12	... using information to give a favourable outcome.
P13	... conduct which is wrong.
P14	... wrongful ... unethical use of information

**Question 5(b) : Do you think the exploitation of tax information is rampant among individual taxpayers? Please explain.**

**Table 7.8: Exploitation of Tax Information and Its Prevalence**

Agreement	Number	Percentage
Yes	3	21%
Unsure (but have heard about it)	8	58%
No knowledge	2	14%
No comment	1	7%

Table 7.8 displays the participants' views on the prevalence of the exploitation of tax information within the individual taxpayers' community. Approximately 21% of the participants believed that exploitation of tax information was prevalent among the individual taxpayer group, 58% acknowledged to having heard about it but did not have a clear idea about its current state, 14% have no knowledge while 7% offered no comment. Table 7.9 summarises of the factors believed to be associated with the exploitation of information for tax reporting.

**Table 7.9: Factors Associated with Exploitation of Tax Information**

Participant	View	Main Theme	Number (Percentage)
P1	They know they can get away with it.	Deterrent	9 (64%)
P3	The authority is acting too slowly and is not effective ...		
P5	They think it is easy to dodge.		
P6	... there is poor enforcement.		
P9	... difficult to check every single taxpayer.		
P10	I think they (IRBM) are doing their best but it is impossible to control.		
P11	Their (IRBM) approaches are not effective.		
P12	The IRBM will not be able to detect them.		
P14	If they know they have succeeded in a previous attempt, they are more likely to try again.		
P1	There are always loopholes.	Opportunity	4 (29%)
P9	They have the experience ...		
P10	Maybe they have the necessary knowledge.		
P13	I think, because there are opportunities to do so.		
P1	The taxpayer's attitude plays a role.	Moral	5 (36%)
P6	... lack of moral values.		
P10	There are other things to consider, for example, morals.		
P12	They are not ethical and may even find it (cheating) amusing.		
P13	... they are not honest.		
P3	People don't like to pay (tax) because it is not well spent.	Government Spending	5 (36%)
P5	... allocation (of revenue) is unfair.		
P8	... the benefit they get is not in line with how much they contribute.		
P10	... dissatisfaction over how money is spent.		
P14	Distribution (of benefits) is not equal ... certain states are more developed.		

The perception that taxpayers were not deterred by the tax authority's enforcement efforts was cited as the most common reason for the exploitation of tax information. While the interviewees acknowledged such exploitation as being immoral, they believed that people were tempted to do so due to the realisation that it was easy to elude detection and because they may have succeeded in their previous attempts.

*"They know it is wrong... but they continue to do so because they know they can get away with it."*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*"They (IRBM) are acting too slowly and not are effective in their approach."*

*(Participant 3 – Hair Salon Owner, Female, Business)*

*"If they know they have succeeded in their previous attempts, they are more likely to try again."*

*(Participant 14 – Health Officer, Male, Salaried Group)*

Dissatisfaction over unwise spending of tax revenue was perceived to be among the factors why individuals were reluctant to comply and were tempted to make irresponsible use of tax information.

*"I believe they are dissatisfied with the way it (tax) is spent. The allocation is unfair ... (inaudible) ... the benefits are focused on certain groups."*

*(Participant 5 – Contractor, Male, Business)*

*"Some people receive more benefit, others less or not at all - things like that."*

*(Participant 8 – Admin. Executive, Female, Salaried Group)*

In addition, participants perceived that opportunity played a role in fuelling the irresponsible act of exploiting tax information. Awareness of the existence of loopholes in the system and possessing the necessary knowledge to take advantage of these loopholes may have explained why individuals were bold in their conduct.

*"There are always loopholes in any system. Knowledgeable people use them to gain benefit ..."*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*"They may have discovered the weaknesses (of IRBM)..."*

*(Participant 13 – Communication Officer, Female, Salaried Group)*

Factors that are beyond the control of the tax authority further impose challenges in dealing with irresponsible use of tax information, making the effort to achieve full compliance futile. While the participants' views about tax evasion are crucial in the tax authority's dealings with future non-compliance, the interviewees felt that threat alone may not be the sole solution because other psychological factors, such as the ethics, moral values and attitudes held by the taxpayers, may play a stronger role.

*"Their (taxpayers) attitudes play a role as well ..."*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*"It has to do with lack of moral values ... something instilled at home ..."*

*(Participant 6 – Insolvency Officer, Female, Salaried Group)*

**Question 5(c) : An increased knowledge in taxation may lead to tax non-compliance (example: excessive claims of tax reliefs or deductions to reduce tax burden). What is your view on this?**

While the provision of information is crucial in supporting voluntary tax compliance, the prospect of a leap in tax compliance is an overstatement. Participants were sceptical that responsible use of tax information was going to hold, since they generally perceived an increase in tax knowledge could make a person either compliant or defiant. Table 7.10 reveals the participants' views on the impact of increased tax knowledge upon tax non-compliance.

**Table 7.10: Increased Tax Knowledge Will Lead to Tax Non-Compliance**

Agreement	Number	Percentage
Agree	9	64%
Disagree	5	36%

Knowledgeable people were recognised as having an advantage over those lacking in knowledge because the former were believed to be well-versed in the existence of likely opportunities and loopholes. Of the 14 participants, 64% agreed that an increase in tax knowledge would lead to tax non-compliance. The following are examples of their statements.

*"They are in a better position to understand and abuse it (knowledge) ..."*  
*(Participant 1 – Assistant Director, Male, Salaried Group)*

*"They (knowledgeable people) know the kind of information to exploit."*  
*(Participant 9 – Assistant Engineer, Male, Salaried Group)*

On the other hand, 36% of the participants disagreed that increased knowledge will lead to tax non-compliance. Interestingly, 80% of those who disagreed rationalised that while knowledgeable people stand in a better position to evade tax, this does not rule out the possibility that less knowledgeable people may seek other means to cheat if they are dishonest in nature. While this may indirectly insinuate that knowledge is the culprit behind tax evasion, they believed, in fact, that the moral and ethical values held by the individuals make a greater contribution. The following statements were taken from two participants.

*“... they may still ask for help from knowledgeable friends.”*  
*(Participant 2 – Credit Officer, Male, Salaried Group)*

*“Dishonest people may seek ways to avoid paying tax...”*  
*(Participant 13 – Communication Officer, Female, Salaried Group)*

**Question 5(d) : Do you think the IRBM has the capacity to detect misstatements in the tax return form (example: underreported income or over-claimed deductions)? Please elaborate.**

**Table 7.11: Respondents’ Perceptions of the IRBM’s Capacities**

	Human Resources	Cost	General Knowledge	Technical Knowledge
Yes	-	-	7 (50%)	6 (43%)
No	12 (86%)	14 (100%)	1 (7%)	1 (7%)
Undecided	2 (14%)	-	6 (43%)	7 (50%)

Table 7.11 summarises the respondents’ perceptions of the tax authority’s capacity. In particular, the tax authority’s capacity was classified according to several aspects, namely human resources, cost, and the IRBM officers’ general and technical knowledge. It was found that 86% of the participants agreed that the tax authority lacked the capacity in terms of human resources, while all participants agreed that cost remained a constraint. In terms of knowledge capabilities, approximately half of the participants had confidence in the competency of the IRBM officers, while the other half remained undecided.<sup>209</sup> The following are some of the statements made by the participants.

*“... they are qualified and have undergone proper training.”*  
*(Participant 8 – Administrative Executive, Female, Salaried Group)*

*“The older ones are more knowledgeable and have the expertise.”*  
*(Participant 4 – Lecturer, Male, Salaried Group)*

*“It depends on the individual’s capability ... (silence) ... trainings, experience and many more.”*  
*(Participant 10 – Auditor, Male, Salaried Group)*

<sup>209</sup> The participants who were undecided felt that the knowledge capabilities of the IRBM officers depended on their individual experience, the training received and their individual capacity to handle the differing complexity of each tax return.

As indicated in Table 7.11, all the participants appeared to agree that budget was a constraint for the IRBM. Thus, it was viewed as an obstacle in pursuing an effective deterrent programme. In particular, a limited budget was seen as an impediment to the recruitment of staff and widening the scope of their enforcement programme. Due to the large number of self-prepared taxpayers, the IRBM was at a disadvantage in terms of their workforce, further setting a limit to their detection efforts.

*“ ... I do not think they have enough resources (human) ... this is a common problem in most government departments.”*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*“They have minimal capacity (human and cost).”*

*(Participant 5 – Contractor, Male, Business)*

*“I believe they don’t have the capacity in terms of cost. The government needs money to run an effective programme.”*

*(Participant 6 – Insolvency Officer, Female, Salaried Group)*

### **7.3.3.2 Perceived Trustworthiness of the Tax Authority**

The survey results found that the use of information assistance was negatively correlated with reporting compliance, which also implies that those who rely on information assistance appear to be less willing to report their true tax liabilities. Interestingly, however, the negative correlation was found to be significant among individuals with lower levels of trustworthiness perception but it appeared to be insignificant among those with moderate and high levels of trustworthiness perception.<sup>210</sup> Hence, the findings indicated that the negative association was conditional upon the levels of trustworthiness perception held by the individuals. This section presents the interview findings that helped to explain why a perception of trustworthiness is imperative in reporting compliance.

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<sup>210</sup> Please refer to Chapter 6, Section 6.5.2.2.

**Question 6(a) : In general, do you think the IRBM is dependable in terms of helping the taxpayers? Please explain.**

A vast majority of the participants (86%) viewed the IRBM as dependable in terms of helping the taxpayers. They perceived the IRBM as being accommodating and supportive in fulfilling their needs. The fact that the individuals held favourable perceptions of the IRBM suggests that they acknowledge the tax authority as a reliable provider of assistance and an enabler in their compliance decisions. This perception is imperative in persuading taxpayers to engage with the tax authority; it is a starting point to bridge the gap between the two. Hence, the perception of continued loyalty and relentless support of the taxpayers serves as a stepping stone in building trust. Some of their responses were:

*"I have good experience with them. They were very helpful."*  
(Participant 1 – Assistant Director, Male, Salaried Group)

*"The staff are friendly and professional."*  
(Participant 3 – Hair Salon Owner, Female, Business)

*"They were helpful..."*  
(Participant 8 – Administrative Executive, Female, Salaried Group)

Interestingly, while most participants carried favourable perceptions of the IRBM, some rationalised that the staff were well-mannered only to obey the top management's directives in their quest of creating a good image. They felt that these individuals were merely fulfilling the expectations of their managers, even though they were not genuinely helpful in nature. Despite this, they acknowledged that any policy that addresses the needs of taxpayers, in a non-threatening environment, is necessary to gain cooperation from the taxpayers. The following were some of their statements.

*"The staff are carrying the image (IRBM's image). They have to follow what the top management say."*  
(Participant 5 – Contractor, Male, Business)

*"I do not know their true intentions. They have to be helpful even if it is not their nature."*  
(Participant 6 – Insolvency Officer, Female, Salaried Group)

*"They have their own target to achieve."*  
(Participant 10 – Auditor, Male, Salaried Group)

Despite many favourable statements, several instances of dissatisfaction were raised. For example, those who relied on indirect assistance were clearly frustrated by their own inability to comprehend the information and, hence, found it unhelpful in supporting their compliance obligations. In addition, directly-assisted respondents agonised over the on-going dilemma of slow service during the peak season. While the Malaysian culture of doing things at the very last minute may be blamed for contributing to the bottleneck, others expressed that more should be done by the tax authority, on their part, to ensure smooth services. Some of their dissatisfactions were expressed as follows.

*"They should open more counters."*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*"I find some of the information difficult to understand. They (IRBM) just assume that we should use our common sense."*

*(Participant 2 – Credit Officer, Male, Salaried Group)*

*"... there are instances where I require assistance from friends to interpret it."*

*(Participant 9 – Assistant Engineer, Male, Salaried Group)*

*"I have no other complaints except for slow service."*

*(Participant 13 – Communication Officer, Female, Salaried Group)*

**Question 6(b) : Do you perceive the IRBM staff as being 'kind and respectful' when dealing with taxpayers? (Please relate to your own experiences or experiences of others.)**

The interview findings indicated that 86% of the participants perceived the IRBM staff as being kind and respectful, while the remaining 14% perceived otherwise. Those with experience in dealing with the IRBM described their direct dealings in benevolent terms. Some of their strong views are presented below.

*"... they were kind and respected me as a customer."*

*(Participant 4 – Lecturer, Male, Salaried Group)*

*"They didn't raise their voices or treat me in an offensive manner."*

*(Participant 8 – Administrative Executive, Female, Salaried Group)*

*"... the officers were not harsh in assisting me."*

*(Participant 11 – Legal Assistant, Male, Salaried Group)*

On the other hand, indirectly-assisted participants' opinions of 'respectful' appeared to diverge from the conventional views. Those who experienced indirect assistance indicated that the IRBM had indirectly demonstrated respect towards the taxpayers by providing the necessary support system and ensuring that information was regularly updated and easily understood. This included providing convenient ways to comply, such as electronic filing, on-line payment, and web-based information and assistance. In short, the sign of respect was expressed indirectly through the positive experiences gained when using web-based assistance. The following statements are taken from participants.

*"The information (on-line) can be assessed easily... so, I think it shows that they (IRBM) were being respectful to us."*

*(Participant 1 – Assistant Director, Male, Salaried Group)*

*"... they respect us by providing the necessary help and making it (execution of tax obligation) convenient for us."*

*(Participant 14 – Health Officer, Male, Salaried Group)*

While the IRBM has been vocal in promoting excellence in their services, it has not been without shortcomings. Approximately 29% of the participants reported having experienced unpleasant personal dealings. The unfavourable finding was a noteworthy reminder that the tax authority is not immune to criticism of this nature, despite being acknowledged for its quality service.<sup>211</sup> The following are examples of their discontented statements.

*"The person in charge was disrespectful ... expecting me to know this and that ..."*

*(Participant 9 – Assistant Engineer, Male, Salaried Group)*

*"I have had unpleasant experience with a staff member ..."*

*(Participant 10 – Auditor, Male, Salaried Group)*

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<sup>211</sup> The IRBM was awarded with the People's Choice Award for Best Government Sector 2011 and Service Innovation Best Practice Electronic Revenue Accounting System 2012.

**Question 6(c) : In your opinion, will it make a difference in terms of your willingness to comply with your filing and reporting obligations if you receive good service (example: helpful, respectful and kind treatment) from the IRBM?**

Their perceptions of the trustworthiness of the tax authority were obtained by seeking the participants' opinions from the point of view of good service. After further consideration that the participants may include both directly- and indirectly-assisted individuals, they were notified to relate good service to a conduct that promoted good faith. This may include an act of benevolence, such as being respectful and kind when dealing with taxpayers, displaying effort in assisting the taxpayer community, or being a dependable source of help. The participants were initially probed, on the impact this had upon their administrative compliance and, subsequently, on their reporting compliance.<sup>212</sup>

The findings confirmed that taxpayers generally favoured good services. In particular, they expressed willingness to cooperate when the IRBM personnel were being respectful, kind and accommodating towards them. When further probed on the impact this had on their administrative compliance, they noted that such treatment had no profound impact on their administrative compliance. They rationalised this by expressing fear over the consequences of not completing and submitting their tax returns. Furthermore, failure to complete and submit a tax return, among the registered self-prepared taxpayers, can be detected fairly easily by the tax authority. As a conclusion, the perceived trustworthiness of the tax authority was found to have little influence over the participants' administrative compliance. The following were some of their statements.

*"Even if I receive a bad service, I still have to submit my tax form. So, it doesn't make much difference ..."*

*(Participant 5 – Contractor, Male, Business)*

*"I will be upset but it doesn't change the fact that I have to file my form."*

*(Participant 7 – Insurance Agent, Female, Salaried Group)*

*" ... if there is a delay in the submission, it is our fault and we suffer the consequences, not those who offended us."*

*(Participant 9 – Assistant Engineer, Male, Salaried Group)*

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<sup>212</sup> The participants also were informed about the difference between administrative and reporting compliance.

Interestingly, the perception of whether or not the tax authority is acting in the best interests of taxpayers appeared to have a stronger influence over the reporting compliance of a vast majority of participants. Table 7.12 presents a summary of why trustworthiness perceptions promote reporting compliance.

**Table 7.12: The Influence of Good Service on Perceptions of Trustworthiness and Reporting Compliance**

Participant	View	Theme	Number (Percentage)
P1	They (IRBM) recognised my contribution.	Acknowledgement	5 (36%)
P2	... people want to feel appreciated for what they contribute.		
P3	I feel respected and that they acknowledge my effort.		
P4	...they (IRBM) appreciate my contribution.		
P10	I will feel reluctant (to cooperate) because they (IRBM) are ungrateful.		
P1	... bad service is upsetting.	Human Nature	7 (50%)
P3	I don't like the idea of being disrespected. It goes against my principles.		
P5	How you treat people is how others treat you back.		
P7	I feel belittled (due to bad service).		
P8	Generally, people want to be respected and treated with kindness.		
P9	When people are rude, I feel hurt and insulted.		
P12	I will feel offended for being disrespected ...	Justification	4 (29%)
P5	I pay my tax, therefore I expect good service, so it's a win-win situation.		
P10	Since I'm contributing from my own pocket, I demand a good service.		
P11	... good service must never be compromised.		
P12	Getting good service is important in order to obtain support from the taxpayers.		

The interview findings demonstrated that the very nature of human to demand appropriate treatment by others was the most often mentioned reason, underscoring the importance of good service. While the result remains inconclusive due to the limited number of participants, the findings suggest that humans are sensitive creatures and, hence, it is natural that they will want to feel respected and to be treated in a considerate manner when dealing with any authority. Hence, the individuals were encouraged to cooperate when they were treated favourably. The following are some of the respondents' statements.

*“... Those who are treated respectfully tend to respond well.”*  
(Participant 5 – Contractor, Male, Business)

*“If they give bad service, it means they disrespect me ... I feel belittled.”*  
(Participant 7 – Insurance Agent, Female, Salaried Group)

*“When people are rude, I feel hurt and insulted. As a human, it is our nature to disobey. That’s just my opinion.”*  
(Participant 9 – Assistant Engineer, Male, Salaried Group)

Additionally, the participants expressed that, through the staff being accommodative and sensitive of their needs, it made them feel that their contributions were being acknowledged by the tax authority, as a sign of gratitude and appreciation towards their commitment in developing the nation. In short, acknowledgement holds great value in gaining cooperation. Some of their views are reflected in the following statements.

*“Generally, people want to feel appreciated for what they contribute.”*  
(Participant 2 – Credit Officer, Male, Salaried Group)

*“... it shows that they (IRBM) acknowledge my contribution.”*  
(Participant 3 – Hair Salon Owner, Female, Business)

*“... they (IRBM) appreciate my contribution in building the nation.”*  
(Participant 4 – Lecturer, Male, Salaried Group)

In addition, the participants expressed that their contributions were affected by the provision of good service. They maintained that if the IRBM expects cooperation from the taxpayers, then good service must be in place and that should not be compromised. For instance, the following statements reflected some of their beliefs.

*“I pay my tax therefore I expect good service, so it’s a win-win situation.”*  
(Participant 5 – Contractor, Male, Business)

*“I think people want justification for their contribution ...”*  
(Participant 10 – Auditor, Male, Salaried Group)

*“If they (IRBM) want us to pay (tax), good service must never be compromised.”*  
(Participant 11 – Legal Assistant, Male, Salaried Group)

Contrary to the general belief that individuals are less persuaded when treated unfavourably (Tyler 2001; Kirchler and Wahl 2010), this may not hold true for some. Approximately 21% of the participants expressed that it had no profound impact, in terms of their tax reporting obligations, if they were to receive unfavourable treatment from the tax authority. They reasoned their responses as being due to a matter of principle held by an individual, the duty of citizen or a strong belief in abiding by the rules. While the findings remain inconclusive due to the small sample size, they have contributed the intriguing idea that dishonest people are drawn to do immoral conducts despite the treatment they receive. Some participants believed that any offensive treatment by the IRBM would be used by these individuals as a validation for their wrong-doings. The following were some of their interesting opinions.

*“... I don't think it (good service) has an effect (on reporting compliance). Some people are dishonest and use it (bad service) as an excuse...”*

*(Participant 4 – Lecturer, Male, Salaried Group)*

*“People lacking in values may find ways to get away with things (cheat).”*

*(Participant 13 – Communication Officer, Female, Salaried Group)*

*“... they (taxpayers) may do unethical things even though they receive good service.”*

*(Participant 14 – Health Officer, Male, Salaried Group)*

#### **7.4 Chapter Summary**

This chapter presented the interview findings, which complements the survey results. While the findings cannot provide generalisations due to the limited number of participants, they offered possible explanations for the individuals' motivations to use the tax information assistance and their willingness to comply.

In general, the participants believed that the availability of tax information assistance had supported their tax compliance obligations. Interestingly, all the participants agreed that their reluctance to overpay tax had implicitly forced them to use the tax information assistance, citing dissatisfaction over the government's spending, personal economic reasons and distrust over the tax refund system as reasons not to overpay tax. Additionally, 86% considered the cost of a penalty as an equally important factor, citing the loss of reputation and the cost itself as reasons to use tax

information assistance. Similarly, 71% of the participants believed that the probability of an audit signified a threat and, hence, they were compelled to use tax information for correct reporting.

Nevertheless, the findings suggest that tax information assistance may only be effective in supporting taxpayers in the execution of their tax obligations and may not necessarily improve their reporting compliance, given that, a majority (64%) of the participants agreed that tax knowledge is unlikely to result in truthful reporting. Since the frequent use of tax information assistance contributes to an increase in tax knowledge, knowledgeable taxpayers were perceived to be well-versed in finding loopholes. The findings also revealed that the exploitation of tax information appeared to be nothing new among the participants because 21% of them believed it to be prevalent among the community of individual taxpayers, while 42% admitted to having heard about it.

Awareness of the IRBM's incapacity to regulate the rules was perceived as the main reason why individuals were not deterred by their enforcement efforts. Apparently, all the participants agreed that the IRBM lacked the capacity, in terms of cost, while 86% also believed that human resources remained a major constraint, hence its enforcement efforts were stretched to the limit. At the same time, 86% of the participants perceived the IRBM as being kind and respectful, although they appeared to agree that it did not have a profound impact upon their administrative compliance. Nevertheless, 79% of them affirmed that a malevolent act indeed have a deep impact, as reflected in their unwillingness to cooperate. They viewed the act of benevolence as being crucial and believed that it is the nature of human to desire respectful treatment and appreciation for their contributions, in this case, particularly as justification for their payment of tax.

These findings may benefit policy-makers in developing strategies to improve public perceptions of the government and to promote fairness in the allocation of revenue at all levels, be it to the states, communities or individuals. The findings may also benefit the Inland Revenue Board of Malaysia (IRBM) in terms of encouraging their persistence in incorporating good services for their taxpayers and mobilising their enforcement efforts, in spite of the current constraints.

## **CHAPTER EIGHT DISCUSSIONS OF FINDINGS AND IMPLICATIONS OF THE STUDY**

### **8.1 Chapter Overview**

This chapter presents the discussion of the survey and interview findings, and offers essential recommendations for policy-making. It begins with discussion of the survey findings pertaining to the use of tax information assistance, its association with tax compliance, and the conditional effect of trustworthiness perception on the 'information assistance and tax compliance' relationship. Following this, the interview findings are integrated with the survey results to complement them. Appropriate recommendations are offered before concluding with the chapter summary.

### **8.2 Characteristics of Users of Tax Information Assistance**

There is evidence of significant mean differences in the use of information assistance among groups of gender, location, different opinions in return form completion, level of education and occupational sector.<sup>213</sup> In particular, males had higher mean usage of information assistance than females, while respondents from West Malaysia recorded higher mean usage than those from East Malaysia. As expected, the mean usage of information assistance increased with individuals' perceived difficulty in completion of their tax return forms. Notably, self-employed individuals documented the highest mean usage, followed by those working in the private sector and, lastly the public sectors. Finally, it appeared that individuals possessing a professional qualification recorded higher agreement on reliance of information assistance than those with other forms of qualification.

### **8.3 Factors Associated with the Use of Tax Information Assistance**

This section presents the discussion of variables associated with the use of tax information assistance, ascertained under research objective 2. Specifically, the roles of threat appraisal, coping appraisal and perceived trustworthiness in encouraging the use of tax information assistance are highlighted. The findings

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<sup>213</sup> Please refer to Chapter 5, Section 5.2.3.

derived from the survey and interview results have assisted the researcher in providing a rich discussion on the subject at hand.

### 8.3.1 Threat Appraisals

Research objective 2 seeks to explore, among others, the relationship between threat appraisals (penalty threat, perceived probability of being audited and perceived probability of being detected) and taxpayers' usage of tax authority information assistance. Despite the taxpayers' general aversion towards the imposition of threat,<sup>214</sup> the survey results suggested that the possibility of tax audit is important in coercing their help-seeking behaviour. This is evidenced by the significant association between audit probability and the use of tax information assistance ( $p$ -value < 0.001)<sup>215</sup>, consistent with the findings of Dubin et al. (1992), Erard (1993), and Long and Caudill (1993).<sup>216</sup> Thus, this particular survey result suggested that, when individuals encounter tax uncertainty, those who perceive audit probability to be high appear to have greater reliance on tax information assistance.

Findings from the interviews revealed that participants were compelled to use tax information assistance because the thought of being examined and monitored brought about anxiety. Hence, they viewed information as an important tool to support their compliance decisions. Their views reinforced the findings of Fleischman and Stephenson (2012, 434) who documented that, in the absence of threat, individuals will have less desire for accuracy in their returns. While the possibility of audit was considered to be low in Malaysia,<sup>217</sup> 79% of the interviewees did not dismiss the possibility of being audited, thus reinforcing the view that taxpayers tend to overestimate the probability of audit, consistent with the statements made by Erard and Feinstein (1994, 78) and Neilson (2003, 184).

On the other hand, the association between threat of a tax penalty and tax information usage was not supported by the survey result ( $p$ -value > 0.05).<sup>218</sup> This finding contradicts those of Dubin et al. (1992) and Long and Caudill (1993), who

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<sup>214</sup> Please refer to Chapter 2, Section 2.5.2.

<sup>215</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.7).

<sup>216</sup> Dubin et al. (1992) and Long and Caudill (1993) found a significant positive relationship between the use of paid preparer and audit rate

<sup>217</sup> The actual field audit in 2010 covered only 0.003% of returns, while desk audit was 0.30% (Inland Revenue Board of Malaysia 2010, 19).

<sup>218</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.6).

concluded that fear of penalties as significantly associated with the employment of a paid preparer. While the mean scores for tax penalty anxiety were relatively high (i.e. mean score between 3.852 and 4.044 on a 5 point Likert scale),<sup>219</sup> their anxiety in terms of being penalised for non-compliance, the unaffordable cost of a penalty and the inconvenience caused by a penalty were not significantly correlated with information usage.

Surprisingly, the survey results did not support the association between detection probability and the usage of tax information assistance ( $p$ -value > 0.05).<sup>220</sup> This result suggests that the perceived likelihood of detecting false deductions and underreported income, and the thoroughness of tax officers in examining tax returns, were not perceived as strong reasons to use the available tax information assistance. While the descriptive analysis revealed that respondents generally perceived the tax officers' probability of detecting errors as being high,<sup>221</sup> those who believed so did not necessarily have higher reliance on information assistance. The findings from the interviews revealed that approximately half of the interviewees perceived the tax officers as lacking in proficiency, which may have indirectly affected their judgement on the capability of the tax officers to detect erroneous misstatements. Interestingly, all the interviewees (100%) agreed that the IRBM lacked capacity in terms of budget, while 86% believed human resources to be a major constraint.<sup>222</sup> Hence, awareness of resource constraints amid the huge volume of tax returns may have given the taxpayers the perception that in-depth checking and verifying were less likely.

In a nutshell, the presence of a threat element is necessary to coerce taxpayers to use tax information assistance. While most taxpayers remained prudent in their decision to use tax information assistance, they appeared to be sensitive towards the policy that has been implemented by the tax authority. The limited scope of enforcement efforts, due to budget constraints, for instance, could lead to a decision not to rely on tax information assistance. More positively, the probability of tax audit was perceived as being more effective in persuading the use of tax information assistance. Despite staff being considered as friendly, tax audit is inquisitorial in nature; therefore, the possibility of being cross-examined for evidence and probed

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<sup>219</sup> Please refer to Chapter 5, Section 5.3 (Table 5.15).

<sup>220</sup> Please refer to Chapter 6, Section 6.4.2.

<sup>221</sup> Please refer to Chapter 5, Section 5.3 (Table 5.15).

<sup>222</sup> Please refer to Chapter 7, Section 7.3.3.1 (Table 7.11).

about inaccuracies in respondents' tax returns could have compelled them to seek help.

### 8.3.2 Coping Appraisals

The following discussion presents the findings, in line with research objective 2. In particular, the association between coping appraisals (self-efficacy, monetary risk minimisation attitude, ability to seek out and obtain tax information, and the efficacy of coping response) and the use of tax information assistance are explored. The survey results revealed that the taxpayers' self-efficacy, or their ability to understand and use the basic tax-related information, was significantly associated with information usage ( $p$ -value < 0.01).<sup>223</sup> This positive relationship suggests that taxpayers' usage of tax information assistance moves in the same direction as their self-efficacy.

Correspondingly, the interview findings revealed that participants favoured indirect assistance, such as websites and written materials, as their main source of information, consistent with the statistics provided by the IRBM (2007 – 2013)<sup>224</sup> suggesting the growing importance of their website as the main source of tax-related information. While the individual's ability to seek out and obtain tax information (aptitude for obtainment) has been frequently emphasised in the provision of services (see, for example, OECD 2007, 13; OECD 2010), the survey results failed to support the individuals' capability for obtaining information as a significant factor in persuading them to use information assistance ( $p$ -value > 0.05).<sup>225</sup> This finding appears to deviate from the conventional view that suggests the individual's capability to obtain the information is linked with his or her usage of information (Cloyd 1995; Spilker 1995; Schmidt and Karsten 2004, 85).

The survey respondents' attitudes toward the benefit of using tax information assistance were significantly associated with their agreement on its usage ( $p$ -value = 0.000).<sup>226</sup> In particular, the survey findings suggest that individuals are more likely to use the provided tax information assistance when its benefits in terms of monetary risk minimisation are emphasised; for instance, when the information assistance is perceived as helping in minimising incorrect tax reporting,

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<sup>223</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.7).

<sup>224</sup> Please refer to Chapter 2, Section 2.3.3 (Table 2.4).

<sup>225</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.7).

<sup>226</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.7).

overpayment of tax and/ or penalty costs for non-compliance. Thus, information assistance is seen as a coping tool for reducing the risk of incurring costs that are additional to the correct tax payment. The interview findings further reinforced this relationship. It was found that all of the participants (100%) were reluctant to overpay their tax, citing support for their disinclination as dissatisfaction over the government's spending, personal economic reasons and distrust over the tax refund system.<sup>227</sup> On the other hand, 86% of the respondents were apprehensive over the cost of tax penalties.<sup>228</sup> Their anxiety was influenced by concerns of tarnished reputations and annoyance over the hassle of having to deal with yet another cost.

Interestingly, the external qualities of tax information assistance were identified as being trivial in encouraging its use, evidenced by their insignificant association with the use of tax information assistance ( $p$ -value > 0.05),<sup>229</sup> and contradicting the findings of Connolly, Bannister, and Kearney (2010, 656). However, the present study revealed that the effect of external qualities on the usage of information assistance appears to be in an indirect form, whereby the relationship is mediated by the individual's monetary risk minimisation attitude. In other words, the external qualities of the information assistance are strongly associated with taxpayers' perceptions of the associated benefit in minimising their monetary risks, which subsequently leads to usage of the information assistance.

Briefly, the findings of this study suggest that self-efficacy and the monetary risk minimisation attitude held by the individual are both significantly associated with the use of tax information assistance, while the ability to seek out and obtain tax information and the external qualities of the tax information itself are insignificant. Not surprisingly, self-efficacy and attitudes are internally held by individuals while the qualities of the tax information itself are classified as external features. The main contribution of these findings rests in the understanding that internal coping appraisals appear to play a more important role in persuading taxpayers to use tax information assistance than external coping appraisals. However, this is not to conclude that external coping appraisals should be given less emphasis. Instead, the findings indicate that internalised coping appraisals deserve equal emphasis, if not more, and should not be overlooked by the tax authority in their enthusiasm to provide assistance for the self-prepared taxpayers.

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<sup>227</sup> Please refer to Chapter 7, Section 7.3.2.2 (Table 7.5).

<sup>228</sup> Please refer to Chapter 7, Section 7.3.2.2 (Table 7.6).

<sup>229</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.7).

### 8.3.3 Perceived Trustworthiness

In line with research objective 2, the participants' trustworthiness perceptions of the tax authority were explored for the association with their usage of tax information assistance. The perceived trustworthiness of the tax authority was found to be significantly correlated with the individuals' use of tax information assistance ( $p$ -value < 0.001).<sup>230</sup> The findings revealed that those who perceived the tax authority as being trustworthy, consistently showed a stronger agreement on usage of information assistance when they encountered a tax-related problem. The conduct of regression analysis, however, revealed that perceived trustworthiness had a weak effect in comparison with threat and coping elements but remained significant ( $p$ -value < 0.01). Conversely, when individual differences were controlled, the relationship was no longer considered to be significant ( $p$ -value > 0.05).<sup>231</sup> This finding suggests that individuals' regard of the tax authority's trustworthiness is not significant enough to influence their usage of information assistance, as when compared to threat and coping elements.

## 8.4 Tax Authority Information Assistance and Tax Compliance

This section presents the discussion of findings in relation to research objective 3. Specifically, a discussion of the relationships between the use of tax authority information assistance and both administrative and reporting compliance are offered.

### 8.4.1 Administrative Compliance

There was a significant positive association between taxpayers' use of information assistance and their administrative compliance ( $p$ -value < 0.05).<sup>232</sup> The positive relationship suggests that the two variables move in the same direction, whereby higher agreement on usage of information assistance is consistent with higher agreement on the importance of observing administrative compliance. Hence, the findings imply that those with higher usage of tax information assistance acknowledge the importance of observing timely filing of their tax returns and payment of tax, consistent with the findings of Alm et al. (2010, 585). The findings

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<sup>230</sup> Please refer to Chapter 6, Section 6.4.1 (Table 6.5).

<sup>231</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.6 and 6.7).

<sup>232</sup> Please refer to Chapter 6, Section 6.5.1.1 (Table 6.11).

from the interviews further reinforced the importance of information assistance as a supporting tool for administrative compliance. In fact, 79% noted that it had helped them with general filing matters, while 71% reported that it made them aware of the need for timely submission of their tax returns.<sup>233</sup>

#### **8.4.2 Reporting Compliance**

The survey study provided sufficient statistical evidence to infer that, the use tax information assistance is negatively correlated with the individuals' reporting compliance ( $p$ -value < 0.05),<sup>234</sup> which contradicts the findings of Alm, Jackson, and McKee (2009, 401) and Alm et al. (2010, 585).<sup>235</sup> Several possible explanations were identified. The differences in the methods employed, nature of the study and participants themselves may have contributed to the inconsistency of the findings. For instance, the studies of Alm, Jackson, and McKee (2009) and Alm et al. (2010) were confined to a laboratory experiment, with participants consisting of students and staff from a public university. In a laboratory experiment, it is difficult to capture the participants' perceptions and discontentment over the tax system. Furthermore, the use of students hardly reflects the taxpaying experiences and attitudes of an actual taxpaying community.

On the other hand, the findings of the current study appear to be consistent with the survey findings by Palil (2010, 327), which revealed that taxpayers' knowledge of tax in particular areas was negatively correlated with their compliance behaviour. A similar conclusion was drawn from the findings of Kamil (2015, 107). These findings echoed the views of Beemer and Gregg (2008, 361) and Forslund (1995), who asserted that an advisory assistance only acts as a tool in aiding the decision-making process of an individual, while the final decision remains with the user. Similarly, Kornhauser (2007, 630) claimed that knowledge of tax law may not necessarily increases taxpayers' compliance since they are often guided by their experiences and reasoning when making judgements.

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<sup>233</sup> Please refer to Chapter 7, Section 7.3.1 (Table 7.2).

<sup>234</sup> Please refer to Chapter 6, Section 6.5.1.2 (Table 6.13).

<sup>235</sup> The study of Alm et al. (2010) was conducted in a laboratory setting hence the manipulation of information services was possible. Their study suggested that the presence of uncertainty lowers the reporting compliance rate (sig at 0.000 level), but the provision of information service that resolves the uncertainty increases tax reporting (sig at 0.000 level).

Since the findings suggest that higher usage of tax information assistance is consistent with lower reporting compliance, this significant negative association warrants further analysis. Furthermore, previous findings have strengthened the notion that tax knowledge may not necessarily result in taxpayers' compliance (see, for example, Collins, Milliron and Toy 1992; Tan and Chin-Fatt 2000, 46; Devos 2009, 20). As the taxpayers' levels of tax knowledge improve over time, the prospect of discovering loopholes and opportunities to evade tax may become more likely (Antonides and Robben 1995, 634; Kasipillai, Aripin and Amran 2003, n.a; Loo, McKerchar and Hansford 2009, 181) and the taxpayers may become less concerned about legal compliance (Fleischman and Stephenson 2012, 425). Findings from the interviews further revealed that 64% of the participants believed that tax knowledge may likely to lead to non-compliance because knowledgeable individuals are in a better position to elude tax, in general.<sup>236</sup> Furthermore, a small amount of evasion is usually perceived as acceptable (Lewis 1979) and viewed as a less serious crime than a violent or property-related crime, even though it is slightly more serious than 'stealing a bicycle' (Song and Yarbrough 1978, 445), shoplifting or driving an unregistered vehicle (Niemiroski, Baldwin and Wearing 2003, 154).

The interview participants provided a more subtle opinion, accentuating tax information assistance as the supporting tool for tax reporting. For example, 86% of the participants asserted that information assistance had enhanced their confidence in executing their reporting obligations while 64% expressed that it had assisted them in the completion of their tax returns.<sup>237</sup> Despite the professed benefits, these findings also suggested that tax information assistance may only go as far as assisting individuals, since the assurance that taxpayers were compliant in a truthful sense was not supported by the survey findings.<sup>238</sup> It follows that 21% of the interview participants believed that the irresponsible use of tax information among individual taxpayers did occur, while 42% confessed to having heard about it but were undecided as to its level of pervasiveness.<sup>239</sup> While the interview findings lack statistical support to make a generalisation, several studies have highlighted that individuals whose attitudes are skewed towards 'non-compliant' behaviour also believe that non-compliance is pervasive among those known to them (see, for example, Spicer and Lundstedt 1976; De Juan, Lasheras and Mayo 1994; Webley, Cole and Eidjar 2001). Similarly, Silver (1995, 33) reported that 56% of his survey

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<sup>236</sup> Please refer to Chapter 7, Section 7.3.3.1 (Table 7.10).

<sup>237</sup> Please refer to Chapter 7, Section 7.3.1 (Table 7.2).

<sup>238</sup> Please refer to Chapter 6, Section 6.5.1.2 (Table 6.13).

<sup>239</sup> Please refer to Chapter 7, Section 7.3.3.1 (Table 7.8).

respondents perceived taxpayers, in general, as being dishonest, while Niemiowski, Baldwin, and Wearing (2003, 160) discovered that 75% of the surveyed tax agents believed that their clients do not always reveal their actual tax matters.

Several possible explanations for the irresponsible use of tax information by other taxpayers were offered by participants during the interviews. The perceptions that other taxpayers were not deterred by the tax authority's enforcement efforts was the most often mentioned reasons for such unethical behaviour (64%), followed by dissatisfaction over government spending (36%), lack of moral values (36%) and having opportunities for evasion (29%).<sup>240</sup> A noteworthy finding was that all participants were aware of the cost constraints faced by the IRBM and, hence, the limitations of its ability to hire more tax officers and to widen the scope of its enforcement were recognised. This finding was consistent with the strong view provided by Slemrod, Blumenthal, and Christian (2001, 481) in claiming that audit will not be able to detect or uncover evasion due to the belief that the IRS was resource-constrained. On a brighter note, approximately half of the respondents acknowledged that tax officers were competent in detecting false statements and, hence, may pose as the strength of the tax authority.<sup>241</sup>

In short, while tax information assistance has been portrayed as a valuable tool under the self-assessment system, the same understanding may not hold true in terms of truthful reporting. At least, this was the case for the current sample. Since the survey findings suggest that the use of tax information assistance supports administrative compliance but does not necessarily encourage taxpayers' perceptions of tax non-compliance as being immoral, the concealed disincentive due to providing knowledge that could lead to taxpayers' non-compliance, will continue to be a challenge to the tax authority.

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<sup>240</sup> Please refer to Chapter 7, Section 7.3.3.1 (Table 7.9).

<sup>241</sup> Please refer to Chapter 7, Section 7.3.3.1 (Table 7.11).

## 8.5 Moderating Effect of Perceived Trustworthiness

Research objective 4 seeks to explore the conditional effect of perceived trustworthiness of the tax authority on taxpayers' compliance. In particular, the relationship between usage of information assistance and taxpayers' compliance is examined at the low, moderate and high levels of trust. A discussion of the research findings are presented below.

As mentioned in the previous section,<sup>242</sup> the usage of tax information assistance was significantly correlated with lower levels of agreement on the importance of reporting compliance, which suggests that greater reliance on tax information assistance is consistent with a lack of willingness to truthfully report tax liabilities. Interestingly, the negative relationship between information usage and reporting compliance ( $p$ -value < 0.001) was significant among individuals with low levels of perceived trustworthiness but appeared to be insignificant among those with high levels of perceived trustworthiness of the tax authority.<sup>243</sup> Hence, these findings suggest that the negative relationship is conditional upon the levels of trust held by the individuals, which strongly implies that trustworthiness perceptions can help to shape taxpayers' compliance behaviour. These findings are consistent with the findings of Kogler et al. (2013, 176), which affirm that the highest level of tax compliance and lowest level of evasion were found when there was a condition of high trust. Similar views were professed by Hammar, Jagers, and Nordblom (2008, 540) and Bergman (2003) in that individuals are more likely to defy the authority by engaging in an unacceptable behaviour, if they perceived the authority as being untrustworthy.

The interview findings revealed that participants generally favoured good service from the tax authority. Approximately 79% felt that their dissatisfaction over possible poor treatment had an influence on the way they perceived the tax authority. Some of their thoughts were revealed in the following comments.

*"... I might be tempted to get even because it (being disrespected) is upsetting."  
(Participant 1 – Assistant Director, Male, Salaried Group)*

*"If they (tax authority) are rude or unhelpful, how do they expect people to cooperate?"  
(Participant 3 – Hair salon owner, Female, Business)*

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<sup>242</sup> Please refer to Chapter 6, Section 6.5.1.2 (Table 6.13).

<sup>243</sup> Please refer to Chapter 6, Section 6.5.2.2 (Figure 6.3).

*“Those who are treated with kindness tend to respond well.”*  
(Participant 5 – Contractor, Male, Business)

*“When people are rude, I feel hurt and insulted ... as a human it is our nature to disobey. That’s just my opinion.”*  
(Participant 9 – Assistant Engineer, Salaried Group)

However, participants appeared to be prudent in terms of their filing decisions, despite the possibility of receiving bad service or being disrespected as a client. They rationalised this by expressing their apprehension over the consequences of not completing and submitting their tax returns. Their responses were anticipated, since failure to do so among registered taxpayers can be detected fairly easily by the tax authority. Their fears were reflected in the following statements.

*“Even if I receive bad service, I still have to submit my tax form. So, it doesn’t make much difference”*  
(Participant 5 – Contractor, Male, Business)

*“If there is a delay in the submission, ... we suffer the consequences, not those who offended us.”*  
(Participant 9 – Assistant Engineer, Salaried Group)

When asked why people were drawn to cooperate when treated favourably by the tax authority, several possible explanations were provided. Interestingly, the very nature of humans to desire respect was the most often mentioned reason (50%).<sup>244</sup> Secondly, 36% of interviewees felt that good service was viewed as an acknowledgement of their contribution, or a sign of gratitude and appreciation toward their commitment in developing the nation. Finally, 29% of the participants believed that people seek justification for their contribution. They upheld the notion that an individual’s contribution of tax must be rewarded with good service, and that good service should not be compromised.

While there are growing evidences to support trust as an important element in gaining cooperation (see, for example, Tyler 2001; Kirchler, Hoelzl and Wahl 2008; Alm and Torgler 2011; Gangl et al. 2012), evidence to the contrary has suggested that people will continue to cheat, even if they perceive the tax authority as being trustworthy. Approximately 21% of the interview participants expressed that the benevolent acts had no profound impact on their reporting obligations. Their

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<sup>244</sup> Please refer to Chapter 7, Section 7.3.3.2 (Table 7.12).

submissive attitudes were supported by their strong principles, citizenly duties and strong beliefs in abiding by the rules. They believed that dishonest people would be drawn toward immoral conduct despite the positive treatment they may receive. Another intriguing remark was that any insensitive treatment by the tax authority could be used as an excuse to substantiate their wrong doings.

Despite the growing attention to the subject of trust in recent decades,<sup>245</sup> the current findings are distinct from those of previous studies because this study encompassed the usage of tax information assistance. Its main contribution rests in the understanding of how variations in trustworthiness perceptions of the tax authority moderate the negative association between information usage and reporting compliance. The above findings substantiate the stance that an atmosphere of trustworthiness, displayed via conduct that promotes good faith, plays an important role in tax compliance (Tyler 2001; Kirchler, Hoelzl and Wahl 2008; Alm and Torgler 2011). However, one needs to be cautious in interpreting this statement. This is not to imply that favourable perceptions of the trustworthiness of the tax authority are definitive in ensuring tax compliance. It does, however, suggest that there is enough statistical evidence to support the view that a favourable trustworthiness perception eases the unfavourable effect of non-compliance; hence, the topic should warrant further attention.

## **8.6 Policy Implications**

The findings from this study may be of benefit to the tax authority and policy-makers. They include recommendations that may encourage the use of tax information assistance and enhance tax compliance. Persuading self-prepared taxpayers to use the supplied tax information assistance in times of uncertainty is important, particularly under the self-assessment regime. While little can be done from the perspective of individuals, the role played by the tax authority, at least as evidenced in this study, appears to provide a promising lead. Thus, cohesion between the threat and coping elements is imperative because it helps to lessen the likelihood of unintentional non-compliance. The remainder of this section presents the recommendations that could assist in the relevant policy implementation of the IRBM.

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<sup>245</sup> Please refer to Chapter 2, Section 2.5.3.2.

### 8.6.1 Threat Appraisals and Usage of Tax Information Assistance

It is recommended that threat should be coerced with coping elements in an effort to impart the responsibility for seeking information assistance among self-lodgers. This is not to authenticate that the imposition of threat will guarantee the use of information assistance. There is, however, sufficient statistical evidence to support that both are significantly associated,<sup>246</sup> hence should merit attention.

Despite the implementation of self-assessment well over a decade ago, unintentional non-compliance remains a grey area and it may continue to be so if necessary steps are not taken to address this issue. Therefore, the tax authority should be persistent in its effort to clarify the term 'non-compliance' so that taxpayers are made aware that it covers both intentional and, more pertinently, unintentional non-compliance. This includes reiterating that tax penalties are a consequence of both forms of non-compliance. Hence, in order to ensure that the information reaches the general public, focus should be directed in broadcasting such messages during TV and radio commercial breaks. Information generated through 'pop-up' messages prior to the filing of tax returns is also a good way of communicating the terms and consequences of 'non-compliance'. This move is necessary because individuals have the tendency to screen out information on the website or in circulated references.

While focusing attention on riskier groups appears to be a cost-effective measure, the tax authority should be cautious in revealing an obvious pattern of tax audit to the public. This may have an adverse consequence if the possibility of being audited is viewed as leaning towards the higher risk group, such as those with higher incomes. Hence, merely encouraging taxpayers to be responsible for seeking help may remain ineffectual. Therefore, the taxpayers' prediction of the tax authority's actions should be thwarted by conducting tax audits at various levels of income, even though there are constraints. This will provide a public affirmation that a tax audit is possible, on-going and cannot be anticipated in a foreseeable manner.

The presence of threat elements should not be intended to instil apprehension but should serve as a reminder for the self-prepared taxpayers to take the initiative in educating themselves. The objectives of the above recommendations are two-fold.

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<sup>246</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.7)

At the individual level, there is a need to accept responsibility for seeking tax information assistance during times of uncertainty. From the tax authority's perspective, it is important to devise a coherent policy to deter taxpayers from non-compliance, and to be consistent in its execution.

### **8.6.2 Coping Appraisals and Usage of Tax Information Assistance**

While the tax authority in Malaysia has remained supportive in assisting the self-prepared taxpayers, more emphasis should be placed in strengthening their internal coping appraisals.<sup>247</sup> Self-efficacy is indispensable among the self-prepared taxpayers, particularly among those with a preference for indirect assistance, because a lack of self-efficacy could impede the quest for on-line assistance. Hence, it is pivotal to address this issue, particularly when one is expected to self-assess amid the repeated changes in tax law. There are two ways in which this can be achieved, namely by addressing both tax literacy<sup>248</sup> and language literacy, thus:

- (i) The implementation of a basic tax law syllabus in schools and universities<sup>249</sup> has been long-awaited. Since these are the future generations of taxpayers, it is apparent that now is the appropriate time to make this syllabus compulsory. This effort is crucial in order to generate knowledgeable and responsible citizens that support the objectives of the government.
- (ii) Understanding specific tax terms within a tax return, guidelines and other circulated references may pose as a bigger challenge. While the use of tax terms is inevitable, references should not be made on the assumption that all taxpayers possess the ability to understand and interpret them. An easy and well-defined manual is likely to benefit the self-prepared taxpayers with no taxation background.
- (iii) The ability of the tax personnel to communicate in other languages within the customer-contact setting is advantageous, especially in the eastern part of Malaysia (Sabah and Sarawak). Therefore, deployment of native officers, or

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<sup>247</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.6).

<sup>248</sup> Being tax literate can be understood as having the capability to understand the basic tax information and the terms used in the guidelines, and possessing the knowledge on how to apply the information.

<sup>249</sup> The tax law papers are not made compulsory in other programmes. It is only introduced among those taking the Business Accounting programmes.

officers capable of communicating in native language, will be beneficial in providing a smooth and meaningful interaction.

Unlike changing moral and ethical behaviour, the perceived benefit of using tax information assistance in minimising monetary risk is within the tax authority's scope. Hence, the tax authority should play a stronger role in voicing the monetary benefits in terms of minimising unintentional mistakes, reducing the risk of overpaid taxes and avoiding penalties for non-compliance. The survey findings revealed that taxpayers' attitudes towards monetary risk minimisation had the strongest association with the use of tax information assistance.<sup>250</sup> Therefore, proper measures which emphasise the taxpayers' awareness of monetary risk for tax non-compliance and the benefits gained from using information assistance are recommended. This may include:

- (i) A short drama, introduced during TV commercial breaks that emphasises the anxiety and hassle of dealing with penalty payments.
- (ii) Publicising the benefit of using information assistance in minimising the risk of overpaid tax. This should include clear messages that the tax authority supports taxpayers in their contribution of a fair share of tax and that help is available in resolving their tax issues.

As the gate-keeper of tax information, the tax authority should place greater emphasis on knowledge management so that information-pooling and access to that knowledge, are attainable. While the survey findings suggested that the external qualities of the tax information assistance were not significantly associated with its usage,<sup>251</sup> their importance in supporting the internal coping appraisals cannot be understated. Hence, the following recommendations are proposed:

- (i) The tax authority should identify the appropriate preferences for conveying information to different categories of taxpayer. This will allow the tax authority to deploy human resources and appropriate assistance accordingly. For instance, as it becomes evident that the new generation of Malaysian taxpayers are moving towards an IT-based system, a focus on providing easy access to information, on-line advice and a discussion forum is imperative.

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<sup>250</sup> Please refer to Chapter 5, Section 5.3 (Table 5.16) for detailed explanation.

<sup>251</sup> Please refer to Chapter 6, Section 6.4.2 (Table 6.5 and 6.6).

- (ii) In the enthusiasm to move towards an IT-based system, the conventional approach should not be underemphasised because it offers support for novice filers, filers with complex tax returns, filers in need of verification on the latest tax updates and confidential matters, or those in need of human affirmations. Therefore, outreach activities, office-based assistances, workshops, seminars, conferences and other settings involving direct contact with the taxpayers should still remain viable.
  
- (iii) The provision of tax information assistance should be aligned with the demand for information. Since the usage of information assistance is significantly higher among the small business group,<sup>252</sup> emphasis should be focused in the deployment of taxpayer services during the peak season or after normal business hours for this group. Ideally, the availability of a discussion forum with business advisory panels would provide a platform for expressing taxpayers' concerns and can be used to gauge apprehension among business individuals.

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<sup>252</sup> Please refer to Chapter 6, Section 6.3.2.6 (Table 6.3).

### **8.6.3 Usage of Tax Information Assistance and Tax Compliance**

The survey findings suggested that the use of information assistance is significantly related to the respondents' administrative compliance.<sup>253</sup> However, the frequent changes in tax law pose as an on-going challenge for the tax authority because information changes need to be consistently dealt with, in order to ensure that accurate information is disseminated in a timely manner. In this regard, the tax authority should focus on two critical areas, namely information change management and knowledge management.

Change management deals solely with internal measures such as the updating of information, availability of human and IT resources for such measures, and support for the implementation of knowledge management. Therefore, the strategies formulated as part of information change management also help to ensure successful implementation of knowledge management. The following recommendations are proposed in managing changes in tax information:

- (i) Information changes must be appropriately verified to help ensure that accurate information is disseminated among all office branches. The provision of internal workshops on any changes in tax law, as well as procedural and IT training, is crucial for new and existing personnel. Most importantly, briefings and trainings of these personnel should be appropriately monitored since inter-departmental and state transfers are common among tax personnel. Such a culture may impede the main objective of providing accurate information in a timely manner.
- (ii) An IT-based system needs to be designed for easy updates of tax information and tracking of tax law changes. This should allow the storage of outdated and current tax information, simultaneously. Such a system would not only benefit the IRBM personnel in assisting self-prepared taxpayers, but, it would also benefit the tax officers from the Tax Audit and Investigation units in conducting back duty investigations.

On the other hand, knowledge management deals with internal and external measures that include the pooling of updated information, harmonisation of

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<sup>253</sup> Please refer to Chapter 6, Section 6.5.1.1 (Table 6.11).

information among the IRBM personnel and dissemination of accurate information to the taxpayers. In response to the ever-growing taxpayer population, frequent changes and complexity in tax law, and the growing demand for assistance under the self-assessment regime, knowledge management has become increasingly important. In order to help ensure successful implementation of knowledge management, the following recommendations are proposed:

- (i) The identification of taxpayers' preferences for channels of information would allow efficient deployment of personnel in critical areas and minimises wasteful allocation of resources. For example, novice taxpayers and those with complicated tax returns will, most likely, prefer direct assistance. Therefore, emphasis should be placed on identifying their areas of concern and providing appropriate training of personnel on how to best assist these taxpayers. On the other hand, it may be more practical to communicate explicit information<sup>254</sup> using the web-based assistance. This includes tax-related information that is easy to understand, such as simple procedures, guidelines and other information.
- (ii) Knowledge management should be appropriately supervised. Uniformity must be ensured in managing knowledge across all IRBM branches. Hence, standardised training for all personnel is necessary to achieve harmonisation in terms of officers articulating their tax knowledge when dealing with taxpayers. This would minimise the risk of inconsistent information being received by taxpayers.
- (iii) While the conventional-based system is essential, the findings from the study found that existing taxpayers are opting for an online service. Hence, there is value in investing in the human resources, IT resources and training that will best facilitate the web-based system. Additionally, investment in a user-friendly and interactive form of assistance that emulates human assistance, such as those implemented in Australia and the US, should be considered. This interactive technology is both feasible and accessible, and provides assistance after office hours.

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<sup>254</sup> Explicit information is that which can be easily understood, such as simple guidelines and procedural information, while tacit information relates to information which needs detailed explanations.

- (iv) Ensuring timely and accurate supply of information is the key to administrative compliance. Therefore, pooling of information from both direct and indirect assistance should take into consideration the necessary time frame for taxpayers to obtain, comprehend and apply these information.
- (v) The policy-makers need to implement a continued effort to educate individuals in various forms, namely tax literacy, language literacy and IT skills. These measures are necessary to facilitate the taxpayers in their understanding of tax information and to familiarise them with the web-based assistance for tax compliance.

#### **8.6.4 Deterrent Variables and Tax Compliance**

While the use of threat to enforce tax compliance has been met with ambivalence, it is necessary to deter the potential evaders and to offer assurance among the obedient taxpayers. Furthermore, the quantitative findings do not negate the fact that threat has penetrated the mainstream of taxpayers' awareness, indicated by the positive association between the tax authority's probability to detect and reporting compliance (significant at  $p$ -value < 0.05).<sup>255</sup> The IRBM should therefore mobilise its intelligence assets in strengthening its enforcement efforts. Interestingly, the interview findings suggested that the respondents were well aware of the cost constraints faced by the IRBM. Hence, the scope of enforcement is perceived as limited.<sup>256</sup> However, the IRBM's strength in terms of possessing the intelligence to detect discrepancies was acknowledged. It is therefore recommended that persistent emphasis should be placed in improving the tax officers' knowledge and skills through on-going workshops. On that note, taxpayers' awareness of the knowledge and skills possessed by the tax officers, offers the impression that the tax authority is always ahead of them, which help deter future offences.

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<sup>255</sup> Please refer to Chapter 6, Section 6.5.1.2 (Table 6.13).

<sup>256</sup> Please refer to Chapter 7, Section 7.3.3.1 (Table 7.11).

### 8.6.5 Perceived Trustworthiness and Tax Compliance

The survey findings suggest that tax information assistance brings little assurance of truthful reporting and may only go as far as assisting taxpayers with their administrative compliance.<sup>257</sup> On a brighter note, the survey findings also revealed that taxpayers' non-compliance is insignificant among individuals with a high level of trustworthiness perception of the tax authority.<sup>258</sup> As such, this highlights the importance of building trust in narrowing the cooperation gap between taxpayers and tax authorities. The following recommendations are, therefore, proposed:

- (i) Policies that are responsive in nature must be supported by the policy-makers. This includes giving priority to the acts of benevolence so that the IRBM is perceived as being helpful, considerate, friendly, respectful and empathetic towards taxpayers. The administrator of the IRBM should consistently promote courtesy and a genuine desire to help taxpayers among its service personnel. In addition, officers should possess a good knowledge of tax law, taxpayers' obligations, filing requirements and other office procedures. This helps to create a professional image and demonstrate their readiness to help taxpayers.
- (ii) In the same manner, trust is likely to be achieved through indirect assistance when the IRBM acts in the best interests of taxpayers by being respectful of their needs. For example, the IRBM should provide accurate information that is feasible to obtain, can be comprehended easily and is provided in a timely manner. This offers the perception that the IRBM is consistently in pursuit of providing excellent support and, hence, can be relied upon.
- (iii) Media campaigns, such as normative appeals that accentuate the benefits reaped by the nation through collection of tax funds, should be linked to the IRBM's function in realising this goal, and given focus prior to the filing season. The perception that the IRBM robs people may damage its efforts in collecting revenue. Hence, such positive media campaigns can help in clarifying the honourable functions of the IRBM. For example, the launch of a short advertisement that associates the functions of the IRBM as a revenue

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<sup>257</sup> The use of tax information assistance is negatively associated with reporting compliance, significant at  $p$ -value < 0.05. Please refer to Chapter 6, Section 6.5.1.2 (Table 6.13).

<sup>258</sup> Please refer to Chapter 6, Section 6.5.2.2 (Table 6.17).

collector with supports for the nation's development may lead to a better appreciation of the tax authority and assist in building trust.

- (iv) It is pivotal that responsive policies in dealing with customers are harmonised among all government departments and agencies in Malaysia. An intriguing finding from the interviews was that other government departments were perceived as comparable to the IRBM.<sup>259</sup> Though the finding lacks validity due to the small sample size, a similar view was expressed by Hammar, Jagers, and Nordblom (2008, 541), who asserted that individuals who dislike the public sector tend to dislike taxes in general. Hence, poor experiences with one government agency can be damaging to other government agencies. In short, standardisation in the implementation of excellent service among all government departments and agencies of Malaysia, enables more favourable perceptions of the IRBM.
- (v) Since the IRBM is a government agency, taxpayers' disagreements with the government in general will be likely to lead to distrust of the IRBM. The IRBM is therefore faced with an immense challenge in convincing the taxpayers to do their duty independently and in exercising justice when executing its duty. Hence, policies that improve the taxpayers' perceptions of the government are highly recommended. For instance, the government should be transparent in its spending, and fair in its allocation of funds, whether at the state, community or individual level, and should obtain consensus from citizens regarding investment in big projects.

## **8.7 Chapter Summary**

The integration of coping and threat appraisals is important in the effort to persuade the public to use tax information assistance. The findings from this study suggest that audit probability and internal coping appraisals are significantly associated with the use of tax information assistance. In particular, internal coping appraisals, such as self-efficacy and attitudes towards monetary risk minimisation, serve as a stronger motivation in persuading individuals to use information assistance than the external qualities of coping appraisals. In terms of background characteristics, the

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<sup>259</sup> The IRBM is a statutory body and acts as the agent of the government in collecting revenues. Hence, it is not surprising that the IRBM is perceived as equivalent to other government departments by the public.

study suggests that individuals possessing a professional qualification, who are self-employed, who perceive a high difficulty in completion of their tax return, are male, and or are those located in West Malaysia reveal a significantly higher use of information assistance.

The interview findings suggest that respondents are more likely to desire the use of information assistance when they perceive the probability of audit as high. A vast majority of interviewees believed that they were likely to be audited, which reinforces the existing view that taxpayers perceive audit probability to be higher than it really is. On the other hand, possessing self-efficacy is viewed as crucial in influencing one's decision to use tax information assistance. Self-efficacy was acknowledged as inevitable under the self-assessment system and a prerequisite for on-line users. The available tax information assistance also was seen as a coping tool in minimising the risk of incurring extra costs, additional to the correct tax payment.

In terms of taxpayer's compliance, the use of tax information assistance was positively associated with administrative compliance but negatively associated with reporting compliance. On a brighter note, the negative association was conditional upon the level of trustworthiness perception held by the individual. Since checking every single return and not leaving any stone unturned may not be a cost-effective method of deterring taxpayers. Hence, a psychological aspect offers a more cost-effective measure to enhance voluntary compliance. In this regard, improved perceptions of the tax authority as being trustworthy will help to alleviate negative feeling towards the tax authority.

In a nutshell, different appraisals may offer different merits for compliance but these appraisals share a common goal, in general, which is to achieve tax compliance. Due to the diversity of individual taxpayers' backgrounds, there is no apparent 'one size fits all' solution. Therefore, the integration of different appraisals in providing a holistic approach to compliance strategies, consistency in their implementation and incorporation of the role of trust are all keys to achieving and sustaining the long term goals of the IRBM.

# **CHAPTER NINE**

## **CONCLUSIONS, FUTURE DIRECTIONS FOR RESEARCH AND LIMITATIONS**

### **9.1 Chapter Overview**

This chapter presents the overall summary of the study. It consists of four main sections. The first section summarises the study undertaken and underlines the major contribution of the study. The second section offers directions for future research. The third section addresses the limitations of the study, while the final section concludes the chapter.

### **9.2 Summary of the Study**

Tax authority information assistance is an important catalyst of the self-assessment system. Despite its significance in assisting the self-prepared taxpayers, little attention has been rendered to examine the factors associated with the use of information assistance and the nature of its relationship with tax compliance. The effect of taxpayer information assistance on tax compliance had been studied previously by Alm et al (2010) using a laboratory experiment in which subjects of the study were confined to undergraduate students and staff from a US public university.

The current study employed a mixed methods approach consisting of a survey and interviews that were carried out among salaried individuals and small business proprietors of Malaysia. Hence, this study determines whether the same conclusions can be drawn from a mixed methods approach conducted among actual taxpayers, with that of the previous laboratory experiment conducted among students and university staff by Alm et al (2010). The survey approach made use of random clustered and snowball sampling techniques in identifying the sample. A mixed-mode method was employed in distributing the instruments, which provided a final 406 useable questionnaires. The survey findings were subsequently complemented by interviews with 14 participants from the same sample.

The identified knowledge gap regarding tax authority information assistance led to the development of four objectives. The first objective examined the background characteristics of the users of tax authority information assistance. Independent

sample t-tests and one-way ANOVA were performed to determine the significant mean differences between groups. It was found that the users of tax authority information assistance were significantly different between groups according to gender, location, different opinions in the completion of tax return form, level of qualification and occupational sector.

The second objective explored the relationship between threat appraisals, coping appraisals and perceived trustworthiness of the tax authority in association with the use of tax authority information assistance. Roger's Protection Motivation Theory (1975 and 1982) and Tyler's motive-based trust model (2001) were used to support the proposed relationship. The relationship was subsequently analysed by performing an OLS regression analysis. The results from the study indicated that the perceived probability of audit (threat appraisal), self-efficacy expectancy and monetary risk minimisation attitude (coping appraisal) were significantly associated with the use of tax authority information assistance. Interestingly, efficacy of the coping mechanism in assisting tax reporting (coping appraisal) did not have a direct effect on the use of information assistance. Instead, its effect was in indirect form and was mediated by the individuals' monetary risk minimisation attitudes. In short, the Protection Motivation Theory (Rogers 1975 and 1982) supported several elements of the threat and coping appraisals as the antecedents for the usage of tax information assistance, while the motive-based trust concept (Tyler 2001) did not support the understanding that individual's trustworthiness perception is significant in persuading the use of tax information assistance.

The third objective examined the relationship between the use of tax authority information assistance and tax compliance. The use of information assistance was positively associated (significant at  $p$ -value  $< 0.025$ ) with the individuals' administrative compliance but negatively related (significant at  $p$ -value  $< 0.05$ ) to their reporting compliance. This relationship warranted further attention. Therefore, the fourth objective was examined by exploring the moderating effect of the individuals' trustworthiness perception of the tax authority, on the said relationship. The motive-based trust concept (Tyler 2001) was used to support the moderating effect. The test revealed that the significant negative relationship between information usage and reporting compliance was only significant among individuals with a low level of perceived trustworthiness of the tax authority. Interestingly, the negative association was no longer significant among individuals with a high level of perceived trustworthiness, with the effect improving from a strong to a weak

negative effect. The findings provided support not only for the motive-based trust concept (Tyler 2001) but also for the literature exploring associations between trust and individuals' compliance in the taxation field. The contributions of the study can be made from both theoretical and practical standpoints, which are discussed next.

### **9.2.1 Theoretical Contributions**

This study has made a contribution in terms of new knowledge, methodology and theory. With the exception of Alm et al (2010), studies to date have devoted little attention to tax authority information assistance because studies have been mainly focused on the use of tax practitioners (see, for example, Jackson and Milliron 1989; Klepper, Mazur and Nagin 1991; Christian, Gupta and Lin 1993; Hite and Hasseldine 2003; McKerchar 2005; Fleischman and Stephenson 2012).

The findings of this study have contributed new knowledge by recognising the role of threat and coping appraisals as the antecedents for the use of tax information assistance. Of similar importance, studies to date have offered little knowledge of the taxpayers' characteristics in terms their usage of information assistance. The current study found gender, location, difficulty in tax return completion, level of education and occupational sector as the significant characteristics that distinguished the users of tax authority information assistance.

In addition, the findings of this study have narrowed the research gap by recognising the moderating effect of perceived trustworthiness on the unfavourable outcome of lower compliance. To the best of the researcher's knowledge, the conditional effect of perceived trustworthiness on the 'information assistance – reporting compliance' relationship had not been examined in any published journals. Thus, this study acknowledges the importance of psychological aspects in understanding the taxpayers' willingness to comply.

In examining the effect of information assistance on tax compliance, Alm et al (2010) utilised students and staff of a university as their subjects in a laboratory experiment. The present study has contributed in terms of its use of different approaches and more representative participants. Specifically, this study utilised a mixed methods approach comprising of a survey and interviews. Compared to a laboratory experiment, such methodology allowed the capture of the taxpayers' perceptions and their discontentment over the tax system of Malaysia. Additionally, individuals

were given the opportunity to explain and express their dissatisfaction in an interview. The strength of this study rests in the use of actual taxpaying individuals from the salaried and small business groups. Accordingly, their responses were a reflection of the actual attitudes of the taxpayer community. In addition, the present study examined the individual's reporting compliance from the aspect of willingness to report honestly, instead of merely the tendency to report, that was highlighted in the study of Alm et al (2010). As expected, these two differing definitions have resulted in different findings.

Reviews from published journals revealed that this study was probably the first in the area of taxation to adapt the Protection Motivation Theory (Rogers 1975 and 1982) in examining threat and coping appraisals in association with the use of tax information assistance. Notably, this study contributed to the theory by integrating the element of perceived trustworthiness with threat and coping appraisals as the antecedents for adapting a preventive action. While there appears to be a lack of statistical evidence to support perceived trustworthiness as a significant antecedent for adapting a preventive behaviour, the findings of this study have provided a base for understanding help-seeking behaviour among self-prepared taxpayers.

### **9.2.2 Practical Contributions**

This study offers valuable findings which are beneficial for the IRBM and Malaysian policy-makers. In general, it has provided a basis for understanding the taxpayers' motivations to use information assistance and the compliance behaviour of individual taxpayers. The findings may benefit the IRBM in various ways. Firstly, the study accentuated the appropriate strategies that the IRBM can undertake in addressing the dilemma of unintentional non-compliance. Hence, in instilling the responsibility for seeking help among individual taxpayers, the integration of both threat and coping mechanisms is recommended. The presence of threat in the form of likelihood of being audited is necessary to initiate the first step in seeking assistance. Additionally, evidence from the study suggested that the IRBM may need to focus in the internal coping mechanism, such as self-efficacy and monetary risk minimisation attitude of the self-prepared taxpayers.

Secondly, the findings implied that the use of tax information assistance is consistent with individuals' filing compliance and that taxpayers' preference for assistance, currently, is leaning towards indirect assistance. The IRBM can benefit

from these findings by paying special attention to the provision of websites and other written references, and by strengthening its information change and knowledge management strategies to ensure a smooth flow of services. Hence, this study will allow the IRBM to be better prepared in terms of the availability of human and IT resources, pooling of updated information, harmonisation of information and dissemination of accurate information to the users.

Thirdly, the use of tax information assistance revealed an alarming finding whereby the higher usage of tax information assistance was consistent with a lower willingness to truthfully report the individuals' tax liabilities. Interestingly, this relationship was significant among individuals who regarded the IRBM as less trustworthy but it remained insignificant among those who considered the IRBM as being highly trustworthy. The practical contribution of these findings rests on the recognition of trust in easing the effect of non-compliance. Since taxpayers are moving towards heavy reliance on indirect assistance, social interaction that leads to trust is difficult to attain. Therefore, a motive-based trust concept that works well in both traditional and non-traditional environments is likely to benefit the IRBM. For instance, the display of conduct which promotes good faith, demonstration of desirable behaviour such as acting in the best interests of the taxpayers' community, consistency in pursuing good services manifested by smooth accessibility of web-based information, and the provision of updated and simplified information that allows confident interpretations are all likely to promote trust among taxpayers.

Last but not the least, the findings from interviews revealed that all the participants were aware of the cost constraints faced by the IRBM in their deterrence efforts, while a vast majority (86%) perceived the constraints to be in terms of human resources. Interestingly, approximately half of these participants were confident in the knowledge capabilities (general and technical) of the tax officers. Similarly, the survey results suggested that the IRBM's probability of detecting non-compliance was significantly associated with reporting compliance.<sup>260</sup> In short, both findings suggest that the taxpayers within this sample recognised the capabilities of tax officers in detecting non-compliance, despite their awareness of the authority's resource constraints. Hence, the contribution of these findings is that the IRBM should invest in training its officers, or in improving their proficiencies, since this serves as a stern warning to deter non-compliance.

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<sup>260</sup> Please refer to Chapter 6, Section 6.5.12 (Table 6.12).

The overall findings of this study may help the policy-makers in developing a holistic strategy to improve the levels of compliance. This study recognised the importance of integrating the elements of threat, coping and trust to encourage voluntary compliance. An intriguing finding from the interviews was that the dissatisfactions of the taxpayers appeared to originate from their discontentment with the government in general. Notably, the taxpayers' perceptions of the government are important because an unfavourable perception of the government may indirectly impair the positive efforts made by the IRBM. Moreover, the IRBM serves as the government's agent in collecting taxes to support government projects. Hence, appropriate strategies in building and maintaining trust are highly beneficial in enhancing voluntary compliance.<sup>261</sup>

### **9.3 Future Directions for Research**

While the findings of this study have provided an understanding of the tax authority's information assistance within Malaysia, further studies are recommended to strengthen these findings. Firstly, embarking on future research among self-prepared taxpayers within other countries should be considered. The conduct of a similar study across countries is crucial because it would not only allow comparison of findings between countries but also, most importantly, would provide affirmation on the general applicability of the initial survey findings. Additionally, it is recommended that the same study is repeated over time to mitigate the inherent weaknesses of the survey, that is, to consider the possibility of changes in the taxpayers' receptivity over time.

Secondly, a future study should consider obtaining a larger sample size of self-prepared taxpayers from the small business group. While the sample size of the current study exceeded the minimum required sample of 30 respondents, a larger sample size is needed to provide stronger support for inferences made about this group. Moreover, a bigger sample would allow the comparison of findings between various occupational groups.

Thirdly, this study should be extended by exploring several other possible aspects. Thus, future research should explore the comprehensive types of tax information, since a limited subset of items of tax information assistance was examined in this

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<sup>261</sup> Please refer to Chapter 8, Section 8.4.2.

study. The future research should examine which types of information are strongly associated with taxpayers' non-compliance. Such a study may benefit the tax authority in addressing the irresponsible use of tax information since it could provide a focus on identifying which information supports misappropriation by uncovering which types of tax information are heavily used by non-compliers.

Fourthly, it also would be interesting to examine whether taxpayers' compliance is conditional upon the types of assistance used. For instance, does the type of service channel moderate the relationship between information usage and tax compliance? This study would be important because the future generations of taxpayer are moving towards indirect forms of assistance. Hence, the findings would benefit the policy-makers in evaluating the appropriateness of the current service channels and whether the move towards heavy reliance on indirect assistance can be supported.

Lastly, since the use of indirect assistance is inevitable in this technological era, future research should compare whether individuals exhibit similar levels of trust when using different forms of assistance (direct versus indirect). Since individuals are moving towards virtual assistance, acts of benevolence are seen as being less relevant due to a lack of direct interaction. Hence, the wider aspect of virtual trust should be explored in a future study because it may benefit the IRBM in its effort to build and maintain trust. On that note, a future study should consider examining the moderating effect of various service channels on the relationship between trust and tax compliance.

#### **9.4 Limitations of the Study**

As with most survey studies, some limitations are inevitable. While it is impossible to completely eliminate these weaknesses, several measures have been taken to mitigate their effects. Additionally, relevant tests were conducted, where applicable, to determine the significance of the problems, which are discussed next.

The survey approach has been criticised for its self-reporting nature that leads to biased responses. In order to minimise the effect of differing interpretations by the respondents, simple and straightforward questions were asked, and examples were provided where necessary. Additionally, the questionnaire was pre-tested among senior HDR students with tax research backgrounds, and pilot tested among the actual taxpaying group under study, prior to the final data collection. This helped to ensure that the questions and instructions were readable, clear and understandable. Scholars also have raised concerns about imprecise responses since respondents may: not always convey their true feelings (Forest and Sheffrin 2002, 86); conceal information (Alm et al. 2010, 578); concerns about the social desirability of their responses (Hessing, Elffers and Weigel 1988; Wenzel 2004, 224); or fear that the tax authority may discover their non-compliance actions (Wenzel 2004, 224). In this regard, asking actual compliance questions may not be suitable. Therefore indirect questions developed by Yankelovich, Skelly, and White Inc. (1984) were applied because the questions appeared to be less threatening. Additionally, respondents were furnished with information sheets that emphasised the purpose of the study, assured confidentiality and provided the contact numbers of the university, supervisor and researcher. Such measures helped to increase the credibility of the study and provide assurance that the study was independent from the tax authority.

There was also a concern about obtaining a response bias due to the tendency of respondents to provide neutral responses, thus affecting the validity and reliability of their responses. In order to mitigate this problem, negatively-worded items were introduced. Additionally, two pre-determined criteria were established to minimise the out-of-frame respondents. Such measures helped to capture the appropriate respondents and, hence, to minimise the tendency to provide neutral responses because the questions were more likely to be applicable to them. Considering the need for individual respondents to have experience in itemising their deductions, the sample was drawn, as much as possible, from the higher income group of the salaried taxpayers. This was achieved by requesting the representatives of the

organisations to distribute the instruments, preferably but not exclusively, to the individuals with executive and managerial positions. This increased the chances of obtaining literate individuals and individuals whose compliance was not assured by the tax withheld under the scheduler tax deduction scheme.

A low response rate leads to bias in non-responses and non-representativeness of the sample. In order to address this problem, repeated mailings and follow-ups were conducted. Additionally, a comparison was made between the early and late responses to examine any significant mean differences. As such, the t-test analysis was conducted to compare the two groups. The result indicated that non-response bias was not a major concern, evidenced by the non-significant mean difference in most responses between the early and late response groups ( $p$ -value > 0.05). The problem of non-representativeness was another concern caused by a low response rate, so sample was contrasted against the actual urban population of the selected areas. The comparison confirmed that the sample was comprised of a reasonable representation of the general population from the urban areas.

Another limitation of this study was the inability to obtain the intended sample size of 30 interview participants. The participation rate was slightly below 50%, hence the interview findings cannot be generalised. However, since the main purpose of the interviews was to complement or support the survey findings, and they were not intended for generalisation purposes, the participation rate was not a major concern of this study. Additionally, the use of the telephone as the mode of communication during the interview process raises concern about collecting biased responses. However, this was mitigated by the use of a probing technique in an effort to slow down the conversation and to clarify any vague responses. The participants also were provided with copies of their interview transcripts, which enabled a fair and valid interpretation.

## 9.5 Chapter Summary

The issue of tax compliance has received increasing global interest in recent decades. Despite efforts to improve taxpayers' compliance, achieving and maintaining tax compliance remains an unsolved dilemma. As highlighted by this study, the use of tax information assistance may only go as far as assisting taxpayers with their filing obligations. Indeed, the usage of tax information assistance did not assure tax compliance in a truthful sense, evidenced by the individuals' lack of disagreement with the immorality of tax non-compliance. On a brighter note, trustworthiness perceptions were found to have a role in enhancing the weak compliance effect. Hence, these noteworthy findings underscore the important role of the tax authority in providing assistance to taxpayers and also emphasise its informal role in shaping a favourable perception towards the agency.

The lesson learnt from this study is that a holistic approach, through integration of threat, coping mechanisms or services, and trust elements, offers a more promising compliance strategy than focusing on each element individually. Secondly, the help-seeking responsibility of self-lodgers can be influenced by their perceptions of tax audit, their beliefs in their own capability to use and understand tax information, and their attitudes towards the benefit of information assistance in minimising monetary risk. Since the present study has helped to narrow the elements where emphasis should be focused, it is hoped that these findings may benefit the tax authority and policy-makers in identifying areas of the tax system that need improvement. Most importantly, when designing a tax structure, a holistic approach should be incorporated into its form.

## REFERENCES

- Abdul-Jabbar, H. 2009. "Income Tax Non-Compliance of Small and Medium Enterprises in Malaysia: Determinants and Tax Compliance Costs ". Doctoral Thesis, Curtin University of Technology, Bentley, Western Australia.
- Abdul-Jabbar, H, and J Pope. 2008a. "The Effects of the Self-Assessment System on the Tax Compliance Costs of Small and Medium Enterprises in Malaysia." *Australian Tax Forum* 23: 291-310.
- . 2008b. "Exploring the Relationship between Tax Compliance Costs and Compliance Issues in Malaysia." *Journal of Applied Law and Policy*: 1-20.
- Abdul-Latiff, A, B Amin-Nordin, M Che-Omar, and D Harijito. 2005. "Tax Literacy Rate among Taxpayers: Evidence from Malaysia." *JAAI* 9 (1): 1-11.
- Abdul, M. 2001. "Personal Income Tax Non Compliance in Malaysia." Doctoral Thesis, Victoria University, Melbourne Australia.
- Ahmad, M, H Mohd Hanefah, and M Mohd-Noor. 2007. "The Effect of Tax Knowledge on Tax Compliance Behaviours among Malaysian Taxpayers" *Proceedings of International Conference on Business and Information, Tokyo, Japan*,
- Aiken, L, and S West. 1991. *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park: Sage.
- Ali, A, and N Ahmad. 2014. "Trust and Tax Compliance among Malaysian Working Youth." *International Journal of Public Administration* 37 (7): 389-396.
- Allen, E, and C Seaman. 2007. "Likert Scales and Data Analyses." *Quality Progress* 40 (7): 64-65.
- Allingham, M, and A Sandmo. 1972. "Income Tax Evasion: A Theoretical Analysis." *Journal of Public Economics* 1 (3-4): 323-338.
- Alm, J, T Cherry, M Jones, and M McKee. 2010. "Taxpayer Information Assistance Services and Tax Compliance Behavior." *Journal of Economic Psychology* 31 (4): 577-586.
- Alm, J, B Jackson, and M McKee. 2009. "Getting the Word Out: Enforcement Information Dissemination and Compliance Behavior." *Journal of Public Economics* 93 (3-4): 392-402.
- Alm, J, I Sanchez, and A De Juan. 1995. "Economic and Noneconomic Factors in Tax Compliance." *KYKLOS* 48 (1): 3-19.
- Alm, J, and B Torgler. 2011. "Do Ethics Matter? Tax Compliance and Morality." *Journal of Business Ethics* 101 (4): 635-651.
- American Institute of Certified Public Accountants. 1992. *Blueprint for Tax Simplification*. New York.
- Andreoni, J, B Erard, and J Feinstein. 1998. "Tax Compliance." *Journal of Economic Literature* 36 (2): 818-860.
- Antonides, G, and H Robben. 1995. "True Positives and False Alarms in the Detection of Tax Evasion." *Journal of Economic Psychology* 16 (4): 617-640.
- Appelgren, L. 2008. "The Effect of Audit Strategy Information on Tax Compliance: An Empirical Study." *eJournal of Tax Research* 6 (1): 67 - 81.
- Arbuckle, J. 1996. "Full Information Estimation in the Presence of Incomplete Data." In *Advanced Structural Equation Modeling: Issues and Techniques*, eds G Marcoulides and R Schumacker. Mahwah, N.J: Erlbaum.
- Armstron, J, and T Overton. 1977. "Estimating Nonresponse Bias in Mail Surveys." *Journal of Marketing Research* 14 (3): 396-402.
- Ashley, T, and M Segal. 1997. "Paid Tax Preparer Determinants Extended and Reexamined." *Public Finance Review* 25 (3): 267-284.
- Asmussen, K, and J Creswell. 1995. "Campus Response to a Student Gunman." *The Journal of Higher Education* 66 (5): 575-591.

- Assael, H, and J Keon. 1982. "Non Sampling Versus Sampling Errors in Survey Research." *Journal of Marketing Research*: 114-123.
- Asubonteng, P, K McCleary, and J Swan. 1996. "Servqual Revisited: A Critical Review of Service Quality." *The Journal of Services Marketing* 10 (6): 62-81.
- Aujirapongpan, S, P Vadhanasindhu, and C Achara. 2010. "Indicators of Knowledge Management Capability for Km Effectiveness." *VINE* 40 (2): 183-203.
- Australian Tax Office. 2007. Measuring Compliance Effectiveness. [www.ato.gov.au](http://www.ato.gov.au).
- . 2012. Measuring Compliance Effectiveness. [www.ato.gov.au](http://www.ato.gov.au).
- Ayer, A.J. 1959. *Logicalpositivism*. New York: The Free Press.
- Ayres, I, and J Braithwaite. 1992. *Responsive Regulation*. Cambridge: Cambridge University Press.
- Babbie, E. 2008. *The Basics of Social Research*. 4th ed. Belmont, CA: Wadsworth.
- Babin, L, A Tricot, and C Marine. 2009. "Seeking and Providing Assistance While Learning to Use Information Systems." *Computers and Education* 53: 1029-1039.
- Balch, G. 1980. "The Stick, the Carrot and Other Strategies : A Theoretical Analysis of Government Intervention." *Law and Policy Quarterly* 2 (1): 35-60.
- Bandura, A. 1977. "Self-Efficacy: Toward a Unifying Theory of Behavioral Change."
- . 1982. "Self-Efficacy Mechanism in Human Agency." *American Psychologist* 37 (2): 122-147.
- Barnette, J. 2000. "Effects of Stem and Likert Response Option Reveals on Survey Internal Consistency: If You Feel the Need, There Is a Better Alternative to Using Those Negatively Worded Stems." *Educational and Psychological Measurement* 60 (3): 361-370.
- Baron, R, and D Kenny. 1986. "The Moderator-Mediator Variable Distinction in Social Psychological Reseachr: Conceptual, Strategic, and Statistical Consideration." *Journal of Personality and Social Psychology* 51: 1173-1182.
- Barr, N, S James, and A Prest. 1977. *Self-Assessment for Income Tax*. London: Heinemann Educational Books Ltd.
- Barwick, A, A de Man, and S McKelvie. 2009. "Personality Factors and Attitude Towards Seeking Professional Help." *North American Journal of Psychology* 11 (2): 333-342.
- Baurer, L. 2005. "Tax Administrations and Small and Medium Enterprises (Smes) in Developing Countries." 1-45.
- Beck, P, J Davis, and W Jung. 1991. "Experimental Evidence on Taxpayer Reporting under Uncertainty." *The Accounting Review* 66 (3): 535-558.
- Becker, G. 1968. "Crime and Punishment: An Economic Approach." *Journal of Political Economy* 76 (2): 169 - 217.
- Beemer, B, and D Gregg. 2008. *Advisory Systems to Support Decision Making*. USA: Springer.
- Benk, S, and T Budak. 2012. "Power and Trust as Determinants of Voluntary Versus Enforced Tax Compliance: Empirical Evidence for the Slippery Slope Framework from Turkey." *African Jornal of Business Management* 6 (4): 1499 - 1505.
- Bergman, M. 2003. "Tax Reforms and Tax Compliance: The Divergent Paths of Chile and Argentina." *Journal of Latin American Studies* 35: 593-624.
- Berry , R. 1999. "Collecting Data by in-Depth Interview." In *British Educational Research Association Annual Conference, University of Sussex, Brighton, Sept 2 - 5, 1999*.
- Birskyte, L. 2008. "The Effects of Irs Audit Rates on State Individual Income Tax Compliance." Doctoral Thesis, Indiana University, Indiana.
- Blickle, G, A Schlegel, P Fassbender, and U Klein. 2006. "Some Personality Correlates of Business White-Collar Crime." *Applied Psychology: An International Review* 55 (2): 220-233.
- Bloomquist, K. 2008. "Who Does Your Taxes? Social Learning and the Decision to Use a Tax Preparer." *National Tax Association Proceedings*: 130-140.

- . 2012. "Agent-Based Simulation of Tax Reporting Compliance." 3521973, George Mason University, Virginia.
- Blumenthal, M, and J Slemrod. 1992. "The Compliance Cost of the U.S. Individual Income Tax System : A Second Look after Tax Reform." *National Tax Journal* 45 (2): 185-202.
- Borjayai, B. 1992. "Tax Illiteracy in Malaysia: Problems and Solutions." *ACCACMADIA, Journal of School of Accountancy MARA Institute of Technology* 2 (2): 7-31.
- Bortoleto, A. 2015. *Waste Prevention Policy and Behaviour: New Approaches to Reducing Waste Generation and Its Environmental Impact*. New York: Routledge.
- Bradley, E, L Curry, and K Devers. 2007. "Qualitative Data Analysis for Health Services Research: Developing Taxonomy, Themes and Theory." *Health Services Research* 42 (4): 1758-1772.
- Braithwaite, V. 2003a. "Dancing with Tax Authorities: Motivational Postures and Non-Compliant Action." In *Taxing Democracy: Understanding Tax Avoidance and Tax Evasion*, ed. V Braithwaite, 15-39. Aldershot: Ashgate Publishing Ltd. Original edition, Aldershot, UK: Ashgate Publishing Ltd.
- . 2003b. "A New Approach to Tax Compliance." In *Taxing Democracy: Understanding Tax Avoidance and Tax Evasion*, ed. V Braithwaite, 1-11. Aldershot: Ashgate Publishing Ltd.
- . 2007. "Responsive Regulation and Taxation: Introduction." *Law and Policy* 29 (1): 3.
- Braithwaite, V, and E Ahmed. 2005. "A Threat to Tax Morale: The Case of Australian Higher Education Policy." *Journal of Economic Psychology* 26 (4): 523-540.
- Braithwaite, V, and J Braithwaite. 2001. "An Evolving Compliance Model for Tax Enforcement." In *Crimes of Privilege: Readings in White Collar Crime*, eds N Shover and J Wright, 405-419.
- Braithwaite, V, K Murphy, and M Reinhart. 2007. "Taxation Threat, Motivational Postures, and Responsive Regulation." *Law and Policy* 29 (1): 137-158.
- Bruch, T, D Cico, and S Mehmood. 2011. "2009 Multi City Study of the Effect of Assistance on Compliance." In *IRS - TPC Research Conference, Urban Institute Washington, DC, June 22, 2011*.
- Bryman, A. 2006. "Integrating Quantitative and Qualitative Research: How Is It Done?" *Qualitative Research* 6 (1): 97-113.
- Bryman, A, and E Bell. 2003. *Business Research Methods*. Oxford: Oxford University Press.
- Buttross, T. 1991. *The Effect of Selected Personality and Situational Variables on the Ethical Judgments of Management Accountants in Federal Income Tax Compliance*. US: University of Mississippi.
- Carnes, G, and A Cuccia. 1996. "An Analysis of the Effect of Tax Complexity and Its Perceived Justification on Equity Judgments." *The Journal of the American Taxation Association* 18 (2): 40-56.
- Carnes, G, and T Englebrecht. 1995. "An Investigation of the Effect of Detection Risk Perceptions, Penalty Sanctions, and Income Visibility on Tax Compliance." *The Journal of the American Taxation Association* 17 (1): 26-26.
- Carroll, J. 1987. "Compliance with the Law: A Decision Making Approach to Taxpaying." *Law and Human Behavior* 11 (4): 319-335.
- . 1992. "How Taxpayers Think About Their Taxes: Frames and Values." In *Why People Pay Taxes: Tax Compliance and Enforcement*, ed. J Slemrod, 43-63. Ann Arbor: Michigan: University Press.
- Cerin, E, and D MacKinnon. 2009. "A Commentary on Current Practice in Mediating Variable Analyses in Behavioural Nutrition and Physical Activity." *Public Health Nutrition* 12 (8): 1182-1188.

- Chan, C, C Troutman, and D O'Bryan. 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.
- Chang, L. 1995. "Connotatively Consistent and Reversed Connotatively Inconsistent Items Are Not Fully Equivalent: Generalizability Study." *Educational and Psychological Measurement* 55 (6): 991-997.
- Cherry, R. 2002. "Who Uses Service Directories?: Extending the Behavioural Model to Information Use by Older People." *Research on Aging* 24.
- Cheung, D, A Mak, B Cheung, and S Kan. 1995. "The Strategic Development of Self-Assessment in Hong Kong Tax System." *Akauntan Nasional*: 24-32.
- Chinttenden, F, S Kauser, and P Poutziouris. 2003. "Tax Regulation and Small Business in the USA, UK, Australia and New Zealand." *International Small Business Journal* 21: 93-115.
- Chittenden, F, S Kauser, and P Poutziouris. 2005. "Paye-Nic Compliance Costs – Empirical Evidence from the UK Sme Economy." *International Small Business Journal* 23 (6): 635-656.
- Christensen, A. 1992. "Evaluation of Tax Services: A Client and Preparer Perspectives " *The Journal of the American Taxation Association* 11 (2): 60-87.
- Christensen, A, and P Hite. 1997. "A Study of the Effect of Taxpayer Risk Perceptions on Ambiguous Compliance Decisions." *The Journal of the American Taxation Association* 19 (1): 1-18.
- Christian, C, S Gupta, and S Lin. 1993. "Determinants of Tax Preparer Usage: Evidence from Panel Data." *National Tax Journal* 46 (4): 487-503.
- Chung, J, and V Trivedi. 2003. "The Effect of Friendly Persuasion and Gender on Tax Compliance Behavior." *Journal of Business Ethics* 47 (2): 133-133.
- Cialdini, R. 1989. "Social Motivations to Comply: Norms, Values and Principles." In *Taxpayer Compliance: Social Science Perspectives*, eds J Roth and J Scholz, 200-227. Philadelphia: University of Pennsylvania Press.
- Clotfelter, C. 1983. "Tax Evasion and Tax Rates: An Analysis of Individual Returns." *Review of Economics and Statistics* 65 (3): 363-373.
- Cloyd, C. 1995. "Prior Knowledge, Information Search Behaviours and Performance in Tax Research Tasks." *Journal of the American Taxation Association* 17: 82-107.
- Cohen, J. 1988. *Statistical Power Analysis for the Behavioural Sciences*. Hillsdale: Erlbaum.
- Cohen, J, P Cohen, S West, and L Aiken. 2003. *Applied Multiple Regression/ Correlation Analysis for Behavioural Sciences*. Mahwa, New Jersey: Lawrence Erlbaum Associates, Publishers.
- Cohen, Y, and J Cohen. 2008. *Statistics and Data with R*. 1st ed. West Sussex: Wiley and Sons Ltd.
- Collins, J, V Milliron, and D Toy. 1992. "Determinants of Tax Compliance: A Contingency Approach." *The Journal of the American Taxation Association* 14 (2): 1-1.
- Companies Commission of Malaysia. 2012. *Annual Report 2012*.
- Connolly, R, F Bannister, and A Kearney. 2010. "Government Website Service Quality: A Study of the Irish Revenue Online Service." *European Journal of Information Systems* 19 (6): 649-667.
- Cooper, D, and P Schindler. 2003. *Business Research Methods*. 8th ed. New York: McGraw-Hill.
- Costello, A. B, and J. W Osborne. 2005. "Best Practices in Exploring Factor Analysis: Four Recommendations for Getting the Most from Your Analysis." *Practical Assessment Research and Evaluation* 10 (7).
- Cox, S, and R Eger III. 2006. "Procedural Complexity of Tax Administration: The Road Fund Case." *Journal of Public Budgeting, Accounting & Financial Management* 18 (3): 259-283.

- Craner, J, and A Lymer. 1999. "Tax Education in the UK: A Survey of Tax Course in Undergraduate Accounting Degree Students." *Accounting Education: An International Journal* 8 (2): 127-156.
- Creswell, J. 2012. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. 4th ed. Boston: Pearson Education Inc.
- Creswell, J, and V Clark. 2007. *Designing and Conducting Mixed Methods Research*. 1st ed. California: Sage.
- . 2011. *Designing and Conducting Mixed Methods Research*. Boston: Sage.
- Cronbach, L. 1946. "Response Sets and Test Validity." *Educational and Psychological Measurement* 6: 475-494.
- . 1951. "Coefficient Alpha and the Internal Structure of Test." *Psychometrika* 16 (3): 297-334.
- Cullis, J, and A Lewis. 1985. "Some Hypothesis and Evidence on Tax Knowledge and Preference." *Journal of Economic Psychology* 6 (3): 271-287.
- Davies, T, J Carpenter, and G Iverson. 2001. "Issues in Federal Income Tax Complexity." *South Dakota Business Review* 59 (3): 1-11.
- Davis, J. 1971. *Elementary Survey Analysis*. Englewood, NJ: Prentice-Hall.
- De Juan, A, M Lasheras, and R Mayo. 1994. "Voluntary Tax Compliant Behaviour of Spanish Taxpayers." *Public Finance* 49: 90-105.
- Deming, W. 1960. *Sample Design in Business Research*. New York: John Wiley & Sons.
- Denscombe, M. 2002. *A Ten Point Guide for Social Researchers*: Open University Press, Buckingham.
- Denzin, N, and Y Lincoln. 2005. "Introduction: The Discipline and Practice of Qualitative Research." In *The Sage Handbook of Qualitative Research*, eds N.K Denzin and Y.S Lincoln. Thousand Oaks, CA: Sage.
- Department of Statistics Malaysia. 2012. Median Monthly Household Income for Malaysian. Accessed 23 July 2014, <https://www.statistics.gov.my>,
- . 2013. Access 16 May 2013, <https://www.statistics.gov.my>.
- . 2014. Accessed 17 July, <https://www.statistics.gov.my>,
- Devos, K. 2004. "Penalties and Sanctions for Taxation Offences in Selected Anglo-Saxon Countries: Implications for Taxpayer Compliance and Tax Policy." *Revenue Law Journal* 14: 32-91.
- . 2005. "The Attitudes of Tertiary Students on Tax Evasion and the Penalties for Tax Evasion." *eJournal of Tax Research* 3 (2): 222-273.
- . 2007. "Measuring and Analysing Deterrence in Taxpayer Compliance Research." *Journal of Australian Taxation* 10 (2): 182-219.
- . 2008. "Tax Evasion Behaviour and Demographic Factors: An Exploratory Study in Australia." *Revenue Law Journal* 18: 1-44.
- . 2009. "An Investigation into Australian Personal Tax Evaders - Their Attitudes Towards Compliance and the Penalties for Non Compliance." *Revenue Law Journal* 19 (1): 1-41.
- Diaz, C, and M Delgado. 1995. "The Compliance Costs of Personal Income Tax in Spain." In *Taxation Compliance Costs: Measurement and Policy*, ed. C Sandford, 210-225. Bath: Fiscal Publications.
- Dillman, D. 2007. *Mail and Internet Surveys : The Tailored Design Method : 2007 Update with New Internet, Visual, and Mixed-Mode Guide Updated*. ed. Hoboken, N.J: Wiley.
- Djike, M, and P Verboon. 2010. "Trust in Authorities as a Boundary Condition to Procedural Fairness Effects on Tax Compliance." *Journal of Economic Psychology* 31 (1): 80-91.
- Dohrmann, T, and G Pinshaw. 2009. *The Road to Improved Compliance. A McKinsey Benchmarking Study of Tax Compliance 2008-2009*.

- Doyle, E, K Gallery, and M Coyle. 2011. "Procedural Justice Principles and Tax Compliance in Ireland: A Preliminary Exploration in the Context of Reminder Letters." *Journal of Finance and Management in Public Service* 8 (1): 49-62.
- du Plessis, M. 2007. "The Role of Knowledge Management in Innovation." *Journal of Knowledge Management* 11 (4): 20-9.
- Dubin, J, M Graetz, M Udell, and L Wilde. 1992. "The Demand for Tax Return Preparation Services." *The Review of Economics and Statistics* 74 (1): 75-82.
- Dubin, J, M Graetz, and L Wilde. 1990. "The Effect of Audit Rates on the Federal Individual Income Tax." *National Tax Journal* 43 (4): 395-409.
- Dubin, J, and L Wilde. 1988. "An Empirical Analysis of Federal Income Tax Auditing and Compliance." *National Tax Journal* 41 (1): 61.
- Dunning, D, D Fetchenhauer, and T Schlösser. 2012. "Trust as a Social and Emotional Act: Noneconomic Considerations in Trust Behavior." *Journal of Economic Psychology* 33 (3): 686-694.
- Edmiston, K, S Mudd, and N Valev. 2003. "Tax Structures and Fdi: The Deterrent Effect of Complexity and Uncertainty." *William Davidson Institute Working Paper No.558*: 1-26.
- Eichfelder, S, and C Kegels. 2014. "Compliance Cost Caused by Agency Action? Empirical Evidence and Implications for Tax Compliance." *Journal of Economic Psychology* 40: 200-219.
- Elmore, P, and D Beggs. 1975. "Salience of Concepts and Commitment to Extreme Judgements in the Response Patterns of Teachers." *Education* 95 (4): 325-330.
- Erard, B. 1993. "Taxation with Representation: An Analysis of the Role of Tax Practitioners in Tax Compliance." *Journal of Public Economics* 52 (2): 163-197.
- . 1997. "Self-Selection with Measurement Errors a Microeconomic Analysis of the Decision to Seek Tax Assistance and Its Implications for Tax Compliance." *Journal of Econometrics* 81 (2): 319-356.
- Erard, B, and J Feinstein. 1994. "Honesty and Evasion in the Tax Compliance Game." *The RAND Journal of Economics* 25 (1): 1-19.
- Eriksen, K, and L Fallan. 1996. "Tax Knowledge and Attitudes Towards Taxation; a Report on a Quasi-Experiment." *Journal of Economic Psychology* 17 (3): 387-402.
- Evans, C, S Carlon, and D Massey. 2005. "Record Keeping Practices and Tax Compliance of Smes." *eJournal of Tax Research* 3 (2): 288-334.
- Evans, C, and B Tran-Nam. 2001. "The Compliance and Administrative Cost of the Tvm: What Are the Implications?" In *TVM Consultative Conference, Crowne Plaza Coogee Beach, 23 - 24 July*. 1-16.
- . 2013. "Towards the Development of a Tax System Complexity Index." edited by Australian School of Business.
- Evans, J. 2008. "Dual-Processing Accounts of Reasoning, Judgment, and Social Cognition." *Annual Review of Psychology* 59: 255.
- Feld, L, and B Frey. 2002. "Trust Breeds Trust: How Taxpayers Are Treated." *Economics of Governance* 3: 87-99.
- . 2005. "Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation." Rochester.
- . 2006. "Tax Evasion in Switzerland: The Role of Deterrence and Tax Morale."
- Fischer, C. 1993. "Perceived Detection Probability and Taxpayer Compliance: A Conceptual and Empirical Examination." Ph.D., The Pennsylvania State University, Ann Arbor.
- Fleischman, Gary M., and Teresa Stephenson. 2012. "Clients Variables Associated with Four Key Determinants of Demand for Tax Preparer Services: An Exploratory Study." *Accounting Horizons* 26 (3): 417-437.
- Floyd, D, S Prentice-Dunn, and R Rogers. 2000. "A Meta-Analysis of Research on Protection Motivation Theory." *Journal of Applied Social Psychology* 30 (2): 407-429.

- Forest, A, and S Sheffrin. 2002. "Complexity and Compliance: An Empirical Investigation." *National Tax Journal* 55 (1): 75-88.
- Forslund, G. 1995. "Towards Cooperative Advice-Giving Systems: A Case Study in Knowledge Based Decision Support." *IEEE Expert*: 56-62.
- Friedland, N. 1982. "A Note on Tax Evasion as a Function of the Quality of Information About the Magnitude and Credibility of Threatened Fines: Some Preliminary Research." *Journal of Applied Social Psychology* 12 (1): 54-59.
- Friedland, N, S Maital, and A Rutenberg. 1978. "A Simulation Study of Income Tax Evasion." *Journal of Public Economics* 10: 107-116.
- Gale, W. 1999. "Why Are Taxes So Complicated? And What Can We Do About It." *The Brookings Review* 17 (1): 36-39.
- Gangl, K, E Hofmann, and E Kirchler. 2015. "Tax Authorities' Interaction with Taxpayers: A Conception of Compliance in Social Dilemmas by Power and Trust." *New Ideas in Psychology* 37: 13-23.
- Gangl, K, S Muehlbacher, M de Groot, S Goslinga, E Hofmann, C Kogler, G Antonides, and E Kirchler. 2012. "'How Can I Help You?' Perceived Service Orientation of Tax Authorities and Tax Compliance." In *Tax Research Network Conference, Roehampton*, 5-7 September 2012.
- Grasmick, H, and R Bursik. 1990. "Conscience, Significant Others and Rational Choice: Extending the Deterrence Model." *Law and Society Review* 24 (3): 837-861.
- Grasmick, H, and W Scott. 1982. "Tax Evasion and Mechanisms of Social Control: A Comparison with Grand and Petty Theft." *Journal of Economic Psychology* 2 (3): 213-230.
- Gravetter, F, and L Wallnau. 2004. *Statistics for the Behavioural Sciences*. 6th ed. Belmont, CA: Thomson Learning Inc.
- Greenberg, J. 1993. "The Social Side of Fairness: Interpersonal and Informational Classes of Organizational Justice." In *Justice in the Workplace: Approaching Fairness in Human Resource Management*, ed. E Cropanzano, 79-103. Hillsdale, NJ: Erlbaum.
- Greene, J, V Caracelli, and W Graham. 1989. "Toward a Conceptual Framework for Mixed Method Evaluation Designs." *Educational Evaluation and Policy Analysis* 11 (3): 255-274.
- Hair, J, Money A, P Samouel, and M Page. 2007. *Research Methods for Business*. West Sussex: Wiley and Sons.
- Hair, J, W Black, Babin B, R Anderson, and R Tatham. 2006. *Multivariate Data Analysis* 6th ed. New Jersey: Pearson Prentice Hall.
- Halim, H, N.L Ahmad, N Katmun, and K Jaafar. 2015. "Understanding and Attitudes Towards Self-Assessment Taxation System: The Case of Malaysian Non-Accounting Undergraduates Students." *Global Review of Accounting & Finance* 6 (2): 110-122.
- Hammar, H, S Jagers, and K Nordblom. 2008. "Attitudes Towards Tax Levels: A Multi-Tax Comparison." *Fiscal Studies* 29 (4): 523-543.
- Hammar, J, and D Vogel. 2013. "Assessing the Utility of the Willingness/ Prototype Model in Predicting Help-Seeking Decisions " *American Psychological Association* 60 (1): 83-97.
- Hanefah, M. 2007. *Tax Systems Taxpayer: Compliance and Specific Tax Issues*. 1 ed. Sintok: Universiti Utara Malaysia Press.
- Hanefah, M, M Ariff, and J Kasipillai. 2001. "Compliance Cost of Small and Medium Enterprises." *Journal of Australian Taxation* 4 (1): 73-79.
- Hardin, R. 2001. "Distrust." *Boston University Law Review* 81: 495-521.
- Harris, and Associates. 1987. "Taxpayer Opinion Survey." Washington, D.C.: Internal Revenue Service Document 7292.
- Hasseldine, J, and P Hite. 2003. "Framing, Gender and Tax Compliance." *Journal of Economic Psychology* 24: 517-533.

- Hasseldine, J, P Hite, S James, and M Toumi. 2007. "Persuasive Communication: Tax Compliance Enforcement Strategies for Sole Proprietors." *Contemporary Accounting Research* 24 (1): 171-194.
- Hasseldine, J, and S Kaplan. 1992. "The Effect of Different Sanction Communications on Hypothetical Taxpayer Compliance: Policy Implications from New Zealand." *Public Finance* 47 (1): 45-60.
- Hayes, A. 2013. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. New York: The Guilford Press.
- Hessing, D, H Elffers, and R Weigel. 1988. "Exploring the Limits of Self-Reports and Reasoned Action: An Investigation of the Psychology of Tax Evasion Behavior." *Journal of Personality and Social Psychology* 54: 405-413.
- Hite, P. 1997. "Identifying and Mitigating Taxpayer Non-Compliance." *Australian Tax Forum* 13 (2): 155-180.
- Hite, P, and J Hasseldine. 2003. "Tax Practitioner Credentials and the Incidence of Irs Audit Adjustments." *Accounting Horizons* 17 (1): 1-14.
- Hite, P, and G McGill. 1992. "An Examination of Taxpayer Preference for Aggressive Tax Advice." *National Tax Journal* 45 (4): 389-404.
- Hite, P, T Stock, and C Cloyd. 1992. "Reasons for Preparer Usage by Small Business Owners: How Compliant Are They?" *The National Public Accountant* 37 (2): 20-26.
- Ho, J.K, A Sapari, R Othman, and E.C Loo. 2006. "A Study on the Taxpayers' Awareness and Confidence in Administering Self Assessment."
- Hofmann, E, E Hoelzl, and E Kirchler. 2008. "Preconditions of Voluntary Tax Compliance: Knowledge and Evaluation of Taxation, Norms, Fairness and Motivation to Cooperate." 216 (4): 209-217.
- Holland, K, and H Rasey. 2007. "Lab Research on Customer Preference and the Relationship between Service and Compliance" *2007 Internal Revenue Service Research Conference*,
- Holmes, R. 2011. "Forcing Cooperation: A Strategy for Improving Tax Compliance." *University of Chicago Law Review* 79 (4): 1415-1459.
- Ibrahim, I. 2013. "Electronic Filing of Personal Income Tax Returns in Malaysia: Determinants and Compliance Costs." Doctoral Thesis, Curtin University, Bentley, Western Australia.
- . 2014. "The Compliance Time Costs of Malaysian Personal Income Tax System: E-Filers Vs. Manual-Filers." *Procedia - Social and Behavioral Sciences* 164: 522-527.
- Inland Revenue Board of Malaysia. 2001. *Annual Report*. Kuala Lumpur.
- . 2002. *Annual Report*. Kuala Lumpur.
- . 2003. *Annual Report*. Kuala Lumpur.
- . 2004. *Annual Report*. Kuala Lumpur.
- . 2005. *Annual Report*. Kuala Lumpur.
- . 2006. *Annual Report*. Kuala Lumpur.
- . 2008. *Annual Report*. Kuala Lumpur.
- . 2009. *Annual Report*. Kuala Lumpur.
- . 2010. *Annual Report*. Kuala Lumpur.
- . 2011. *Annual Report*. Kuala Lumpur.
- . 2012. *Annual Report*. Kuala Lumpur.
- . 2013. *Annual Report*. Kuala Lumpur.
- Irvine, H, and M Gaffikin. 2006. "Getting in, Getting on and Getting Out: Reflections on a Qualitative Research Project." *Accounting, Auditing & Accountability Journal* 19 (1): 115-145.
- Isa, K. 2012. "Corporate Taxpayers' Compliance Variables under the Self-Assessment System in Malaysia: A Mixed Methods Approach." Doctoral Thesis, Curtin University, Western Australia.

- Ivankova, N, and S Stick. 2007. "Students' Persistence in a Distributed Doctoral Program in Educational Leadership in Higher Education: A Mixed Method Study." *Research in Higher Education* 48 (1): 93-136.
- Jackson, B, and P Jaouen. 1989. "Influencing Taxpayer Compliance through Sanction Threat or Appeals to Conscience." *Advances in Taxation* 2: 131-147.
- Jackson, B, and V Milliron. 1989. "Tax Preparers: Government Agent or Client Advocates?" *Journal of Accounting* 167 (5): 76-82.
- Jahng, J, H Jain, and K Ramamurthy. 2007. "Effects of Interaction Richness on Consumer Attitudes and Behavioral Intentions in E-Commerce: Some Experimental Results." *European Journal of Information Systems* 16 (3): 254-269.
- Jaidi, J, R Noordin, and A Kassim. 2013. "Individual Taxpayers' Perception Towards Self-Assessment System: A Case of Sabah." *Journal of the Asian Academy of Applied Business* 2 (1): 56-65.
- James, S. 2007. "Tax Simplifications Is Not a Simple Issue: The Reasons for Difficulty and a Possible Strategy." *Queensland University of Technology*, 26 March 2007. 1-18.
- Janis, I, and S Feshbach. 1953. "Effects of Fear Arousing Communications." *The Journal of Abnormal and Social Psychology* 48 (1): 78 - 92.
- Johnson, R, and A Onwuegbuzie. 2004. "Mixed Methods Research: A Research Paradigm Whose Time Has Come." *Educational Researcher* 33 (7): 14-26.
- Johnson, R, A Onwuegbuzie, and L Turner. 2007. "Toward a Definition of Mixed Methods Research." *Journal of Mixed Methods Research* 1 (2): 112-133.
- Joumard, I. 2002. "Tax Systems in European Union Countries." *OECD Economic Studies* 34: 91-151.
- Kamaluddin, A, and N Madi. 2005. "Tax Literacy and Tax Awareness of Salaried Individuals in Sabah and Sarawak." *Journal of Financial Reporting and Accounting* 3 (1): 71-89.
- Kamil, N. 2015. "The Effect of Taxpayer Awareness, Knowledge, Tax Penalties and Tax Authority Services on the Tax Compliance: Survey on the Individual Taxpayers at Jabodetabek and Bandung." *Research Journal of Finance and Accounting* 6 (2): 104-111.
- Kamleitner, B, C Korunka, and E Kirchler. 2012. "Tax Compliance of Small Business Owners." *International Journal of Entrepreneurial Behaviour and Research* 18 (3): 330-351.
- Kaplan, S, K Newberry, and P Reckers. 1997. "The Effect of Moral Reasoning and Educational Communications on Tax Evasion Intentions." *The Journal of the American Taxation Association* 19 (2): 38-54.
- Kaplow, L. 1996. "How Tax Complexity and Enforcement Affect the Equity and Efficiency of the Income Tax." *National Tax Journal* 49 (1): 135.
- Kasipillai, J. 2005. *A Comprehensive Guide to Malaysian Taxation under Self Assessment*. Kuala Lumpur: McGraw-Hill (Malaysia) Sdn Bhd.
- Kasipillai, J, N Aripin, and N.A Amran. 2003. "The Influence of Education on Tax Avoidance and Tax Evasion." *eJournal of Tax Research* 1 (2).
- Kasipillai, J, M Mohd-Hanefah, N Mat-Din, and Marimuthu M. 1999. "Are Malaysian Taxpayers Prepared for the Self-Assessment System." *Tax Nasional*: 9-17.
- Kasipillai, J, and N.S Sapiei. 2014a. "Determinants of Tax Compliance Behaviour of Corporate Taxpayers in Malaysia." *eJournal of Taxation Research* 12 (2): 383 - 409.
- . 2014b. "Evaluation of Corporate Income Tax Compliance Costs under the Malaysian Self-Assessment System." *Australian Tax Forum* 29 (1): 3-41.
- Kee, H, and R Knox. 1970. "Conceptual and Methodological Considerations in the Study of Trust and Suspicion." *Journal of Conflict Resolution* 14: 357-366.
- Keeter, S. 2005. "Survey Research " In *Doing Research: Methods of Inquiry for Conflict Analysis*, ed. D Druckman, 123-162. Thousand Oaks, CA: Sage.
- Keller, G, and B Warrack. 2003. *Statistics for Management and Economics*. 6th ed. California: Thomson Learning Inc.

- Khalifa, M, and V Liu. 2007. "Online Consumer Retention: Contingent Effects of Online Shopping Habit and Online Shopping Experience." *European Journal of Information Systems* 16: 780-792.
- Kim, S, S Jeong, and H Hwang. 2012. "Predictors of Pro-Environmental Behaviors of American and Korean Students: The Application of the Theory of Reason Action and Protection Motivation Theory." *Science Communication* 35: 168-188.
- Kirchler, E. 2007. *The Economic Psychology of Tax Behaviour*. 1 ed. Cambridge: Cambridge University Press.
- Kirchler, E, E Hoelzl, and I Wahl. 2008. "Enforced Versus Voluntary Tax Compliance: The "Slippery Slope" Framework." *Journal of Economic Psychology* 29 (2): 210.
- Kirchler, E, A Niemirowski, and A Wearing. 2006. "Shared Subjective Views, Intent to Cooperate and Tax Compliance: Similarities between Australian Taxpayers and Tax Officers." *Journal of Economic Psychology* 27 (4): 502-502.
- Kirchler, E, and I Wahl. 2010. "Tax Compliance Inventory Tax-I: Designing an Inventory for Surveys of Tax Compliance." *Journal of Economic Psychology* 31 (3): 331-346.
- Klepper, S, M Mazur, and D Nagin. 1991. "Expert Intermediaries and Legal Compliance: The Case of Tax Preparers." *Journal of Law and Economics* 34: 205-229.
- Klepper, S, and D Nagin. 1989. "The Deterrent Effect of Perceived Certainty and Severity of Punishment " *Criminology* 27 (4): 721-746.
- Kogler, C, L Batrancea, J Pantya, and A Belianin. 2013. "Trust and Power as Determinants of Tax Compliance: Testing the Assumptions of the Slippery Slope Framework in Austria, Hungary, Romania and Russia." *Journal of Economic Psychology* 34: 169-180.
- Kornhauser, M. 2007. "A Tax Morale Approach to Compliance: Recommendations for the Irs." *Florida Tax Review* 8 (6): 601-640.
- Koydemir, S, O Erel, D Yumurtaci, and G Sahin. 2010. "Psychological Help-Seeking Attitudes and Barriers to Help-Seeking in Young People in Turkey." *International Journal for Advancement of Counselling* 32: 274-289.
- Krause, K. 2000. "Tax Complexity: Problem or Opportunity?" *Public Finance Review* 28 (5): 395-414.
- Krejcie, R, and D Morgan. 1970. "Determining Sample Size for Research Activities." *Educational and Psychological Measurement* 30: 607-610.
- Kuhlthau, C. 1993. "A Principle of Uncertainty for Information Seeking." *Journal of Documentation* 49 (4): 339-355.
- Lai, M.L, and K Choong. 2009. "Self-Assessment Tax System and Compliance Complexities: Tax Practitioners' Perspectives." In *Oxford Business and Economic Conference Program*, 1-21.
- Langham, J, N Paulsen, and C Hartel. 2012. "Improving Tax Compliance Strategies: Can the Theory of Planned Behaviour Predict Business Compliance?" *eJournal of Tax Research* 10 (2): 364-402.
- LeBaube, R, and C Vehorn. 1992. "Assisting Taxpayers in Meeting Their Obligation under the Law." In *Improving Tax Administration in Developing Countries*, eds R Bird and M Casanegra de Jantscher, 310-335. Washington: International Monetary Fund.
- LeBreton, J, J Wu, and M Bing. 2009. "The Truths on Testing for Mediation in the Social and Organizational Sciences." In *Statistical and Methodological Myths and Urban Legends*, eds C. E Lance and R.J Vandenberg, 109-143. New York: Routledge.
- Lederman, L. 2010. "Reducing Information Gaps to Reduce the Tax Gap: When Is Information Reporting Warranted." *Fordham Law Review* 78: 1733-1759.
- Levi, M. 1988. *Of Rule and Revenue*. Berkeley: University of California Press.
- Leviner, S. 2006. "A New Era of Tax Enforcement: From "Big Stick" to Responsive Regulation." In *Recent Research on Tax Administration and Compliance, IRS Research Conference, Washington DC*, 241-303.

- Lewis, A. 1979. "An Empirical Assessment of Tax Mentality." *Public Finance* 43 (2): 244-257.
- . 1982. *The Psychology of Taxation* Oxford: Blackwell.
- Lincoln, Y, and E Guba. 2000. "Paradigmatic Controversies, Contradictions, and Emerging Confluences." In *Handbook of Qualitative Research*, eds N.K Denzin and Y.S Lincoln, 163-188. Thousand Oaks, CA: Sage.
- Lindner, J, T Murphy, and G Briers. 2001. "Handling Nonresponse in Social Science Research." *Journal of agricultural education*. 42 (4): 43-53.
- Lineback, J, and K Thompson. 2010. "Conducting Nonresponse Bias Analysis for Business Surveys" *JSM 2010*,
- Long, J, and S Caudill. 1987. "The Usage and Benefits of Paid Tax Return Preparation." *National Tax Journal* 40 (1): 35-46.
- . 1993. "Tax Rates and Professional Tax Return Preparation: Reexamination and New Evidence." *National Tax Journal* 46 (4): 511-518.
- Long, S, and J Swingen. 1987. "An Approach to the Measurement of Tax Law Complexity." *The Journal of the American Taxation Association* 8 (2): 22-36.
- Loo, E.C. 2006a. "The Influence of the Introduction of Self Assessment on Compliance Behaviour of Individual Taxpayers in Malaysia." Doctoral Thesis, University of Sydney, Sydney.
- . 2006b. "Tax Knowledge, Tax Structure and Compliance: A Report on a Quasi-Experiment." *New Zealand Journal of Taxation Law and Policy* 12 (2): 117-140.
- Loo, E.C, C Evans, and M McKerchar. 2010. "Challenges in Understanding Compliance Behaviour of Taxpayers in Malaysia." *Asian Journal of Business and Accounting* 3 (2): 145-161.
- Loo, E.C, and J.K Ho. 2005. "Competency of Malaysian Salaried Individuals in Relation to Tax Compliance under Self Assessment." *eJournal of Tax Research* 3 (1).
- Loo, E.C, M McKerchar, and A Hansford. 2009. "Understanding the Compliance Behaviour of Malaysian Individual Taxpayers Using a Mixed Method Approach." *Journal of the Australasian Tax Teachers Association* 4 (1): 181-202.
- Lopes, C, J de Basto, and A Martins. 2012. "Compliance Costs of Individual Income Taxation: Some Empirical Evidence from Portugal." *Journal of Higher Education Theory and Practice* 12 (4): 151-164.
- Lopes, C, and A Martins. 2013. "The Psychological Costs of Tax Compliance: Some Evidence from Portugal." *Journal of Applied Business and Economics* 14 (2): 53-61.
- Lymer, A, and L Oats. 2009. *Taxation: Policy and Practice*. 16th ed. Birmingham: Fiscal Publications.
- MacKinnon, D. 2008. *Introduction to Statistical Mediation Analysis*. New York: Lawrence Erlbaum Associates.
- Madi, N, and A Kamaluddin. 2003. *Tax Literacy among Salaried Individuals in Sarawak*. Institute of Research, Development and Commercialisation: Universiti Teknologi MARA.
- Makkai, T, and J Braithwaite. 1996. "Procedural Justice and Regulatory Compliance." *Law and Human Behaviour* 20: 83-98.
- Malaysia's SME Statistics and e-Commerce Readiness. 2013. Accessed 18 July 2014, <http://www.ecommercemilo.com>,
- Malaysians Are Gearing Towards Early Retirement. 2014. <https://www.nielsen.com/my/en/press-room/2014/global-aging.html>.
- Manaf, N.A, J Hasseldine, and R Hodges. 2005. "The Determinants of Malaysian Land Taxpayers' Compliance Attitudes." *eJournal of Tax Research* 3 (2): 206-221.
- Mansor, M, N Saad, and I Ibrahim. 2004. "The Self-Assessment System and Its Compliance Costs." *Journal of Financial Reporting and Accounting* 2 (1): 1-15.
- Mas'ud, A, N Abd Manaf, and N Saad. 2014. "Do Trust and Power Moderate Each Other in Relation to Tax Compliance?" *Procedia - Social and Behavioral Sciences* 164: 49-54.

- Maxwell, S, and H Delaney. 2004. *Designing Experiments and Analyzing Data*. Mahwah, NJ: Lawrence Erlbaum.
- Mayer, R, J Davis, and F Schoorman. 1995. "An Integrative Model of Organizational Trust." *The Academy of Management Review* 20 (3): 709-734.
- McCaffery, E. 1990. "The Holy Grail of Tax Simplification." *Wisconsin Law Review*: 1267-1322.
- McCloskey, W. 1999. "Taxpayer Information and Assistance and Feedback to the Tax Administration" *Inter-American Center of Tax Administration -CIAT, 33rd General Assembly*,
- McGivern, Y. 2006. *The Practice of Market and Social Research: An Introduction*: Financial Times Prentice Hall.
- McKee, D, C Simmers, and J Licata. 2006. "Customer Self-Efficacy and Response to Service." *Journal of Service Research : JSR* 8 (3): 207-220.
- McKerchar, M. 2001. "The Study of Income Tax Complexity and Unintentional Noncompliance: Research Method and Preliminary Findings." *ATAX Discussion Paper Series No 6*.
- . 2002. "The Effects of Complexity on Unintentional Non Compliance for Personal Taxpayers in Australia." Doctoral Thesis, University of New South Wales.
- . 2003. "The Impact of Complexity Upon Taxpayer Compliance: A Study of Australian Personal Taxpayers " *Research Study No.39, Australian Tax Research Foundation*.
- . 2005. "The Impact of Income Tax Complexity on Practitioners in Australia." *Australian Tax Forum* 20 (4): 529-554.
- . 2007. "Tax Complexity and Its Impact on Tax Compliance and Tax Administration in Australia." *The IRS Research Bulletin*: 185-204.
- . 2008. "Philosophical Paradigms, Inquiry Strategies and Knowledge Claims: Applying the Principles of Research Design and Conduct to Taxation." *eJournal of Tax Research* 6 (1): 5-22.
- McKerchar, M, and C Evans. 2009. "Sustaining Growth in Developing Economies through Improved Taxpayer Compliance: Challenges for Policy Makers and Revenue Authorities." *eJournal of Tax Research* 7 (2): 171-201.
- McKerchar, M, L Inghram, and S Karlinsky. 2005. "Tax Complexity and Small Business: A Comparison of the Perceptions of Tax Agents in the United States and Australia." *Journal of Australian Taxation* 8 (2): 289-327.
- McKinstry, K, and J Baldry. 1997. "Explaining the Growth in Usage of Tax Agents by Australian Personal Income Taxpayers." *Australian Tax Forum* 13 (1): 135-153.
- Miller, J, and B Glassner. 1997. "The inside and the Outside: Finding Realities in Interviews." In *Qualitative Research: Theory, Method and Practice*, ed. D Silverman, 98-111. Sage.
- Milliron, V. 1985. "A Behavioural Study of the Meaning and Influence of Tax Complexity." *Journal of Accounting Research*: 794-816.
- Milne, S, S Orbell, and P Sheeran. 2002. "Combining Motivational and Volitional Interventions to Promote Exercise Participation: Protection Motivation Theory and Implementation Intentions." *British Journal of Health Psychology* 7: 163-184.
- Mohdali, R. 2013. "The Effect of Religiosity on Tax Compliance in Malaysia." Doctoral Thesis, Curtin University, Bentley, WA.
- Morse, J. 1991. "Approaches to Qualitative-Quantitative Methodological Triangulation." *Nursing Research* 40 (2): 120-123.
- Mottiakavandar, T, H Hasnah, and J Ang. 2003. "Factors Influencing Compliance Behaviour of Small Business Entrepreneurs." *Tax Nasional* 1 Quarter: 20-26.
- Muehlbacher, S, and E Kirchler. 2010. "Tax Compliance by Trust and Power of Authorities." *International Economic Journal* 24 (4): 607-610.

- Muehlbacher, S, E Kirchler, and H Schwarzenberger. 2011. "Voluntary Versus Enforced Tax Compliance: Empirical Evidence for the "Slippery Slope" Framework." *European Journal of Law and Economics* 32 (1): 89-97.
- Muhammad, I. 2013. "Managing Mixed Responsibilities: A Grounded Theory of Malaysian Tax Auditors' Dispute Resolution Behaviour in Audit Settlement." Doctoral Thesis, University of New South Wales, Sydney.
- Murphy, K. 2004a. "Procedural Justice and Tax Compliance." *Working Paper* 56.
- . 2004b. "The Role of Trust in Nurturing Compliance: A Study of Accused Tax Avoiders." *Law and Human Behavior* 28 (2): 187-209.
- . 2005. "Regulating More Effectively: The Relationship between Procedural Justice, Legitimacy, and Tax Non-Compliance." *Journal of Law and Society* 32 (4): 562-589.
- Murphy, K, and T Tyler. 2008. "Procedural Justice and Compliance Behaviour: The Mediating Role of Emotions." *European Journal of Social Psychology* 38 (4): 652.
- Muthusamy, G. 2011. "Behavioral Intention to Use Forensic Accounting Services for Detection and Prevention of Fraud by Large Malaysian Companies." Doctoral Thesis, Curtin University of Technology, Perth.
- Nabi, R, D Roskos-Ewoldsen, and F Carpentier. 2008. "Subjective Knowledge and Fear Appeal Effectiveness: Implications for Message Design." *Health Communication* 23 (2): 191-201.
- Negash, S, T Ryan, and M Igarria. 2003. "Quality and Effectiveness in Web-Based Customer Support System." *Information and Management* 40 (8): 757-768.
- Neilson, W. 2003. "Probability Transformations in the Study of Behaviour toward Risk." *Synthese* 135: 171-192.
- Neuwirth, K, S Dunwoody, and R.J Griffin. 2000. "Protection Motivation and Risk Communication." *Risk Analysis* 20 (5): 721-734.
- Nichols, N, and J Price. 2004. "Does Representation Matter in Irs Office Audits?" *The Journal of the American Taxation Association* 26 (1): 21-42.
- Niemirowski, P, S Baldwin, and A Wearing. 2003. "Tax Related Behaviours, Beliefs, Attitudes and Values and Taxpayer Compliance in Australia." *Journal of Australian Taxation* 6 (1): 132-165.
- Noga, T, and V Arnold. 2002. "Do Tax Decision Support Systems Affect the Accuracy of Tax Compliance Decisions?" *International Journal of Accounting Information Systems* 3 (3): 125-144.
- Norman, P, H Boer, and E Seydel. 2005. "Protection Motivation Theory." In *Predicting Health Behaviour*, eds M Conner and P Norman, 81-126. England: Open University Press.
- Nunnally, J. 1978. *Psychometric Theory*. Vol. 2nd Edition. New York: McGraw Hill.
- OECD. 2004. *Compliance Risk Management: Managing and Improving Tax Compliance*. Paris.
- . 2007. *Improving Taxpayer Service Delivery: Channel Strategy Development*. Paris.
- . 2010. *Survey of Trends and Developments in the Use of Electronic Services for Taxpayer Service Delivery*. Paris.
- . 2013. *Co-Operative Compliance: A Framework from Enhanced Relationship to Co-Operative Framework*.
- . 2014. *Tax Compliance by Design: Achieving Improved Sme Tax Compliance by Adopting a System Perspective*. OECD Publishing.
- Pace, R. 1939. "Factors Influencing Questionnaire Returns for Former University Students." *Journal of Applied Psychology* 23: 388-397.
- Palil, M. 2010. "Tax Knowledge and Tax Compliance Determinants in Self Assessment System in Malaysia." Doctoral Thesis, University of Birmingham, Birmingham.
- Palil, M, and A Mustapha. 2011. "The Evolution and Concept of Tax Compliance in Asia and Europe." *Australian Journal of Basic and Applied Sciences* 5 (11): 557-563.

- Palil, Mohd Rizal. 2005. "Does Tax Knowledge Matters in Self-Assessment Systems? Evidence from Malaysian Tax Administrative." *Journal of American Academy of Business, Cambridge* 6 (2): 80-84.
- Pallant, J. 2011. *Spss Survival Manual: A Step by Step Guide to Data Analysis Using Spss*. 4 ed. Australia: McGraw-Hill.
- Parasuraman, A, L Berry, and V Zeithaml. 1991. "Understanding Customer Expectations of Service." *Sloan Management Review* 39 (48).
- Park, C, and J Hyun. 2003. "Examining the Determinants of Tax Compliance by Experimental Data: A Case of Korea." *Journal of Policy Modeling* 25 (8): 673-684.
- Patton, M. 1987. *How to Use Qualitative Methods in Evaluation*. California: Sage.
- . 1990. *Qualitative Evaluation and Research Methods* 2nd ed. Thousand Oaks, California: Sage.
- Plumley, A. 2002. "The Impact of the Irs on Voluntary Tax Compliance. Preliminary Empirical Results." In *Paper Presented at the National Tax Association, 95th Annual Conference on Taxation, Orlando, Florida, 1-16*.
- Pommerehne, W, and H Weck-Hannemann. 1996. "Tax Rates, Tax Administration and Income Tax Evasion in Switzerland." *Public Choice* 88 (1-2): 161-170.
- Pope, J. 1992. "The Compliance Costs of Taxation in Australia: An Economic and Policy Perspective." Finance Working Paper. School of Economics and Finance. Curtin University, Perth.
- . 1993. "The Compliance Cost of Taxation in Australia and Tax Simplification: The Issues." *Australian Journal of Management* 18 (1): 69-89.
- Pope, J, R Fayle, and D Chen. 1994. "The Compliance Costs of Companies' Income Taxation in Australia." Research Study No.23, Sydney: Australian Tax Research Foundation.
- Prinz, A, S Muehlbacher, and E Kirchler. 2013. "The Slippery Slope Framework on Tax Compliance: An Attempt to Formalization." *Journal of Economic Psychology*.
- Raig, J, J Pope, and D Pinto. 2014. "Determinant of Effective Tax Investigation in Malaysia." *New Zealand Journal of Taxation Law and Policy*.
- Razman, A, and A Ariffin. 2000. "Tax Literacy among Taxpayers in Klang Valley." In *Paper presented at Seminar FEP 2000, Review Beach Resort, Pulau Pinang, Oct 2000*. 20-23.
- Reid, A. 1996. "What We Want: Qualitative Research. Promising Frontier for Family Medicine." *Canadian Family Physician* 42: 387-389.
- Reifman, A, and K Keyton. 2010. "Winsorize." In *Encyclopedia of Research Design*, ed. N.J Salkind, 1636-1638. Thousand Oaks, California: Sage.
- Ribstein, L. 2001. "Law V. Trust." *Boston University Law Review* 81: 553-593.
- Richardson, G. 2006. "Determinants of Tax Evasion: A Cross-Country Investigation." *Journal of International Accounting Auditing and Taxation* 15 (2): 150-169.
- Richardson, M, and A Sawyer. 2001. "A Taxonomy of Tax Compliance Literature: Further Findings, Problems and Prospects." *Australian Tax Forum* 16 (2): 137-320.
- Rickwood, D, and V Braithwaite. 1994. "Social-Psychological Factors Affecting Help-Seeking for Emotional Problem." *Social Science Medicine* 39 (4): 563-572.
- Roberts, L, P Hite, and C Bradley. 1994. "Understanding Attitudes Towards Progressive Taxation." *Public Opinion Quarterly* 58 (2): 165-190.
- Roberts, M. 1994. "An Experimental Approach to Changing Taxpayers' Attitudes Towards Fairness and Compliance Via Television." *The Journal of the American Taxation Association* 16 (1): 67-67.
- Rogers, R. 1975. "A Protection Motivation Theory of Fear Appeals and Attitude Change." *Journal of Psychology* 91: 93-114.
- . 1983. "Cognitive and Psychological Processes in Fear Appeals and Attitude Change: A Revised Theory of Protection Motivation. In J.T. Cacioppo and R.E. Petty (Eds.), *Social Psychophysiology*, New York: Guilford Press."

- Rolfe, G. 2006. "Validity, Trustworthiness and Rigour: Quality and the Idea of Qualitative Research." *Journal of Advanced Nursing* 53 (3): 304-310.
- Roscoe, J. 1975. *Fundamental Research Statistics for the Behavioural Sciences*. 2nd ed. New York: Holt Rinehart and Winston.
- Rossi, P, J Wright, and A Anderson. 1983. "Sample Surveys: History, Current Practices and Future Prospects. In P.H Rossi, J.D Wright and A.B Anderson (Eds)." *Handbook of Survey Research*: 1-20.
- Roth, J, J Scholz, and A Witte. 1989. *Taxpayer Compliance: An Agenda for Research*. Philadelphia: University of Pennsylvania Press.
- Roulston, K. 2010. *Reflective Interviewing: A Guide to Theory and Practice*. London: Sage.
- Rucker, D, K Preacher, Z Tormala, and R Petty. 2011. "Mediation Analysis in Social Psychology: Current Practices and New Recommendations." *Social and Personality Psychology Compass* 5 (6): 359-371.
- Ryan, A, and P Pintrich. 1998. "Achievement and Social Motivational Influences on Help Seeking in Classroom." In *Strategic Help Seeking: Implications for Learning and Teaching*, ed. S Karabenick, 117-139. Mahwah, NJ: Erlbaum.
- Saad, N. 2010. "Fairness Perceptions and Compliance Behaviour: The Case of Salaried Taxpayers in Malaysia after Implementation of the Self-Assessment System." *eJournal of Tax Research* 8 (1): 32-63.
- . 2011. "Fairness Perceptions and Compliance Behaviour: Taxpayers' Judgments in Self Assessment Environments." Doctoral Thesis, University of Canterbury, Christchurch.
- Saad, N, M Mansor, and I Ibrahim. 2003. "The Self-Assessment System and Its Compliance Cost" *Paper presented at the Accounting Seminar, Kangar, Malaysia*,
- Salant, P, and D Dillman. 1994. *How to Conduct Your Own Survey*. New York: Wiley.
- Sale, J, L Lohfeld, and K Brazil. 2002. "Revisiting the Quantitative-Qualitative Debate: Implications for Mixed-Methods Research." *Quality and Quantity* 36 (1): 43-53.
- Sanders, Debra L., Philip M. J. Reckers, and Govind S. Iyer. 2008. "Influence of Accountability and Penalty Awareness on Tax Compliance." *The Journal of the American Taxation Association* 30 (2): 1-20.
- Sandford, C. 1995. *Tax Compliance Costs Measurement and Policy*. Bath: Fiscal Publications.
- Sandford, C, M Godwin, and P Hardwick. 1989. *Administrative and Compliance Cost of Taxation*. Bath: Fiscal Publications.
- Sapiei, N, and M Abdullah. 2008. "The Compliance Costs of the Personal Income Taxation in Malaysia." *International Review of Business Research Papers* 4 (5): 219-230.
- Schmidt, D, and R Karsten. 2004. "Tax Research Self-Efficacy: An Extension." *Allied Academies International Conference. Academy of Accounting and Financial Studies. Proceedings* 9 (1): 85-88.
- Scholtz, J, and N Pinney. 1995. "Duty, Fear and Tax Compliance: The Heuristic Basis of Citizenship Behaviour." *American Journal of Political Science* 39 (2): 490-512.
- Schrag, F. 1992. "In Defense of Positivist Research Paradigms." *Educational Researcher* 21 (5): 5-8.
- Schriesheim, M, and K Hill. 1981. "Controlling Acquiescence Response Bias by Item Reversals: The Effect on Questionnaire Validity." *Educational and Psychological Measurement* 41: 1101-1114.
- Schwandt, T. 2000. "Three Epistemological Stances for Qualitative Inquiry." In *Handbook of Qualitative Research*, eds N.K Denzin and Y.S Lincoln, 189-213. Thousand Oaks, CA: Sage.
- Schwartz, R, and S Orleans. 1967. "On Legal Sanctions." *University of Chicago Law Review* 34 (1): 274 - 300.

- Scotchmer, S. 1989a. "The Effect of Tax Advisor on Tax Compliance." In *Taxpayer Compliance : Social Science Perspectives*, eds Jeffry A Roth and J. T Scholz, 182-199. Philadelphia: University of Pennsylvania Press.
- . 1989b. "Who Profits from Taxpayer Confusion?" *Economic Letters* 29 (1): 45-55.
- Sekaran, U. 2000. *Research Method for Business*. 3rd ed: John Wiley and Sons Inc.
- . 2006. *Research Methods for Business: A Skill Building Approach*. 4th ed. New Delhi: Wiley and Sons Inc.
- Shanmugam, S. 2003. "Managing Self Assessment: An Appraisal " *Tax Nasional* 1st Quarter: 30-32.
- Sheikh-Obid, S.N. 1996. "Some Problems of Income Taxation Encountered by the Malaysian Self-Employed Business Taxpayers." *Akauntan Nasional* Nov/ Dec: 34-40.
- Shrout, P, and N Bolger. 2002. "Mediation in Experimental and Non-Experimental Studies: New Procedures and Recommendations." *Psychol Methods* 7: 422-445.
- Sia, G. 2008. "Tax Compliance Behaviour of Individuals under Self Assessment System." Unpublished Doctoral Thesis, University Putra Malaysia, Kuala Lumpur.
- Sieber, S. 1973. "The Integration of Fieldwork and Survey Methods." *American Journal of Sociology* 73: 1335-1359.
- Sikolia, D. 2013. "Toward a Theory of Employee Compliance with Information Security Policies: A Grounded Theory Methodology." Ph.D., Oklahoma State University, Ann Arbor.
- Silver, D. 1995. "Tax Compliance and Taxpayer Attitude." *The National Public Accountant* 40 (11): 32-32.
- Singh, V. 1999. *Malaysian Tax Administration*. 4th ed. Kuala Lumpur: Longman.
- . 2004. Understanding the Psychology of Taxpayers. *Business Times*, 04-04.
- Singh, V, and R Bhupalan. 2001. "The Malaysian Self-Assessment System of Taxation Issues and Challenges." *Tax Nasional* (3 Quarter): 12-17.
- Skyles, A. 1993. "An Introduction to Regression Analysis." Chicago Working Paper in Law and Economics.
- Slemrod, J. 2007. "Cheating Ourselves: The Economics of Tax Evasion." *Journal of Economic Perspectives* 21 (1): 25-48.
- Slemrod, J, M Blumenthal, and C Christian. 2001. "Taxpayer Response to an Increased Probability of Audit: Evidence from a Controlled Experiment in Minnesota." *Journal of Public Economics* 79 (3): 455-483.
- Slemrod, J, and N Sorum. 1984. "The Compliance Cost of the U.S. Individual Income Tax System." *National Tax Journal* 37 (4): 461-474.
- Smith, A. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Dent, London.
- Smith, J. 1983. "Quantitative Versus Qualitative Research: An Attempt to Clarify the Issue." *Educational Researcher* 12: 6-13.
- Smith, K. 1992. "Reciprocity and Fairness: Positive Incentive for Tax Compliance." In *Why People Pay Taxes: Tax Compliance and Enforcement*, ed. Joel Slemrod, 223-250. University of Michigan Press.
- Sniezek, J, and T Buckley. 1995. "Cueing and Cognitive Conflict in Judge-Advisor Decision Making." *Organizational Behavior and Human Decision Process* 62 (2): 159-174.
- Sniezek, J, and L Van Swol. 2001. "Trust and Expertise in a Judge Advisor System." *Organizational Behavior and Human Decision Process* 84: 288-307.
- Snow, A, and R Warren. 2005. "Ambiguity About Audit Probability, Tax Compliance, and Taxpayer Welfare." *Economic Inquiry* 43 (4): 865-871.
- Somasundram, N. 2003. "Tax Evasion and Tax Investigation : A Study on Tax Compliance Management." *Chartered Secretary Malaysia* (July): 20-24.
- Song, Y, and T Yarbrough. 1978. "Tax Ethics and Taxpayer Attitudes: A Survey." *Public Administration Review* 38 (5): 442-452.

- Spicer, M, and B Lundstedt. 1976. "Understanding Tax Evasion." *Public Finance* 31 (2): 295-305.
- Spicer, M, and J Thomas. 1982. "Audit Probabilities and the Tax Evasion Decision: An Experimental Approach." *Journal of Economic Psychology* 2 (3): 241-245.
- Spilker, B. 1995. "The Effects of Time Pressure and Knowledge on Keyword Selection Behaviour on Tax Research." *The Accounting Review* 70 (1): 49-70.
- Strauss, A, and J Corbin. 1990. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park: Sage.
- Sukhatme, P, and B Sukhatme. 1970. *Sampling Theory of Surveys with Applications* 2nd ed. Iowa: Iowa State University Press.
- Sutton, S. 1982. "Fear Arousing Communications: A Critical Examination of Theory and Research." In *Social Psychology and Behavioural Medicine*, ed. J.R Eiser, 303-337. London: Wiley.
- Tabachnick, B. G, and L. S Fidell. 2013. *Using Multivariate Statistics*. 6th ed. New Jersey: Pearson Education Inc.
- Tan, L, and C Chin-Fatt. 2000. "The Impact of Tax Knowledge on the Perceptions of Tax Fairness and Attitudes Towards Compliance." *Asian Review of Accounting* 8 (1): 44-58. doi: 10.1108/eb060720.
- Tashakkori, A, and C Teddlie. 1998. *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Thousand Oaks, CA: Sage.
- Togler, B. 2002. "Speaking to Theorists and Searching for Facts: Tax Morale and Tax Compliance in Experiments." *Journal of Economic Surveys* 16 (5): 657-683.
- Torgler, B. 2006. "The Importance of Faith: Tax Morale and Religiosity." *Journal of Economic Behavior & Organization* 61 (1): 81-81.
- Tran-Nam, Binh, Chris Evans, Michael Walpole, and Katherine Ritchie. 2000. "Tax Compliance Costs: Research Methodology and Empirical Evidence from Australia." *National Tax Journal* 53 (2): 229-252.
- Turner, J. 2005. "Explaining the Nature of Power: A Three-Process Theory." *European Journal of Social Psychology* 35 (1): 1-22.
- Tyler, T. 1989. "The Psychology of Procedural Justice: A Test of the Group-Value Model." *Journal of Personality and Social Psychology* 57 (5): 830-838.
- . 1997. "The Psychology of Legitimacy: A Relational Perspective on Voluntary Deference to Authorities." *Personality and Social Psychology Review* 1 (4): 323-345.
- . 2001. "Trust and Law Abidingness: A Proactive Model of Social Regulation." *Boston University Law Review* 81: 361-399.
- . 2003. "Trust within Organisations." *Personnel Review* 32 (5): 556-568,541,673.
- Tyler, T, and R Bies. 1990. "Beyond Formal Procedures: The Interpersonal Context of Procedural Justice." In *Applied Social Psychology and Organizational Settings*, ed. J Carroll, 77-98. Hillsdale, NJ: Erlbaum.
- Tyler, T, and E Lind. 1992. "A Relational Model of Authority in Groups." In *Advances in Experimental Social Psychology*, ed. M Zanna, 115-191. New York: Academic.
- Tyler, T, and C Wakslak. 2004. "Profiling and Police Legitimacy: Procedural Justice, Attribution of Motive, and Acceptance of Police Authority." *Criminology* 42 (2): 253-281.
- Van Dijke, M, and P Verboon. 2010. "Trust in Authorities as a Boundary Condition to Procedural Fairness Effects on Tax Compliance." *Journal of Economic Psychology* 31 (1): 80-91. doi: 10.1016/j.joep.2009.10.005.
- Violette, G. 1989. "Effects of Communicating Sanctions on Taxpayer Compliance." *Journal of the American Taxation Association* 11: 92-104.
- Vogel, J. 1974. "Taxation and Public Opinion in Sweden: An Interpretation of Recent Survey Data." *National Tax Journal (pre-1986)* 27 (4): 499.

- Von Neumann, J, and O Morgenstern. 1947. *Theory of Games and Economic Behavior*. 2 ed. Princeton, NJ: Princeton University Press.
- Vossler, C, M McKee, and M Jones. 2011. "Some Effects of Tax Information Service Reliability and Availability on Tax Reporting Compliance." In *IRS - TPC Research Conference, Urban Institute Washington, DC*, June 22, 2011.
- Wagner, S, and R Kemmerling. 2010. "Handling Nonresponse in Logistics Research." *Journal of Business Logistics* 31 (2): 357.
- Wahl, I, B Kastlunger, and E Kirchler. 2010. "Trust in Authorities and Power to Enforce Tax Compliance: An Empirical Analysis of the "Slippery Slope Framework"." *Law & policy* 32 (4): 383-406. doi: 10.1111/j.1467-9930.2010.00327.x.
- Webley, P. 2004. "Tax Compliance by Business." In *New Perspectives on Economic Crime*, eds H Sjogren and G Skogh. Edward Elgar: Cheltenham.
- Webley, P, M Cole, and O Eidjar. 2001. "The Prediction of Self-Reported and Hypothetical Tax-Evasion: Evidence from England, France and Norway." *Journal of Economic Psychology* 22: 141-155.
- Webley, P, H Robben, H Elffers, and D Hessing. 1991. *Tax Evasion: An Experimental Approach*. Cambridge: Cambridge University Press.
- Weems, G, A Onwuegbuzie, J Schreiber, and S Eggers. 2003. "Characteristics of Respondents Who Respond Differently to Positively and Negatively Worded Items on Rating Scales." *Assessment and Evaluation in Higher Education* 28 (6): 587-607.
- Wen-Hua, Ren. 1999. "Self-Efficacy and the Search for Government Information." *Reference & User Services Quarterly* 38 (3): 283-291.
- Wenzel, M. 2002. "The Impact of Outcome Orientation and Justice Concerns on Tax Compliance." *Journal of Applied Psychology* 87 (4): 629-647.
- . 2004. "An Analysis of Norm Process with Tax Compliance " *Journal of Economic Psychology* 25: 213-228.
- . 2005. "Motivation or Rationalisation? Causal Relations between Ethic, Norms and Tax Compliance." *Journal of Economic Psychology* 26 (4): 491-508.
- . 2006. "A Letter from the Tax Office: Compliance Effects of Informational and Interpersonal Justice." *Social Justice Research* 19 (3): 345-364.
- Wirth, A. 1994. "Changing Taxpayer Compliance: The Impact of Business Auditors as Service Providers." *Australian Tax Forum* 11 (1): 63-63.
- Witte, A, and D Woodbury. 1985. "The Effect of Tax Laws and Tax Administration on Tax Compliance: The Case of the U.S. Individual Income Tax." *National Tax Journal* 38: 1-12.
- Woellner, R, C Coleman, M McKerchar, M Walpole, and J Zetler. 2001. "Taxation or Vexation - Measuring the Psychological Costs of Tax Compliance." In *Tax Compliance Cost: A Festschrift for Cedric Sandford*, eds C Evans, J Pope and J Hasseldine, 35-49. Sydney: Prospect Media.
- . 2007. "Can Simplified Legal Drafting Reduce the Psychological Costs of Tax Compliance: An Australian Perspective." *British Law Review*: 717-733.
- Wolf, S, W Gregory, and W Stephan. 1986. "Protection Motivation Theory: Prediction of Intentions to Engage in Anti-Nuclear War Behaviors." *Journal of Applied Social Psychology* 16 (4): 310-321.
- Worsham, R. 1996. "The Effect of Tax Authority Behaviour on Tax Compliance." *The Journal of the American Taxation Association* 18 (2): 19-39.
- Yankelovich, Skelly, and White Inc. 1984. *Taxpayer Attitudes Study: Final Report*. Washington, D.C.: Dept. of the Treasury, Internal Revenue Service, Public Affairs Division.
- Yitzhaki, S. 1974. "Income Tax Evasion: A Theoretical Analysis." *Journal of Public Economics* 3 (2): 201-202.

- Yovits, M, and C Foulk. 1985. "Experiments and Analysis of Information Use and Value in a Decision-Making Context." *Journal of the American Society for Information Science (pre-1986)* 36 (2): 63.
- Zha, X, J Li, and Y Yan. 2013. "Information Self-Efficacy and Information Channels." *Online Information Review* 37 (6): 872.
- Zhao, X, E Li-Shan, and A Mattila. 2008. "The Role of Post-Training Self-Efficacy in Customers' Use of Self Service Technologies." *International Journal of Service Industry Management* 19 (4): 492-505.
- Zikmund, W. 2003. *Business Research Methods* 7ed. Ohio: Thomson South Western.

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## A STUDY OF THE TAX AUTHORITY INFORMATION ASSISTANCE IN MALAYSIA

- This survey will take approximately 15 minutes to complete.
- There are no right or wrong answers but careful consideration of each response, based on your own beliefs and experience is sought. Responses to all questions will be treated anonymously and managed confidentially.

**TAX AUTHORITY INFORMATION ASSISTANCE:** Assistance provided directly or indirectly by the INLAND REVENUE BOARD OF MALAYSIA (IRBM) to educate, support and help taxpayers in the completion and submission of their tax return form or any other tax matters.

- **Direct Assistance:** Face-to-face inquiries with the IRBM staff in the tax office or during the outreach activities in shopping malls, private and public buildings
- **Indirect Assistance:** Use of IRBM web-site (*including explanatory information from tax return form*), tax written materials (*Eg: pamphlets, tax manuals, books, public rulings etc.*), telephone calls, correspondences (*Eg: e-mail, letters and fax*), tax information from television or radio

### SECTION A: GENERAL QUESTIONS

(Please tick  where appropriate)

- A1** Who normally prepares your tax return form?
- Myself
- Spouse (husband or wife)
- Friends, relatives or other family members
- Unlicensed agents
- Qualified tax agents/ accountants
- Others. Please state \_\_\_\_\_
- A2** Are you aware of the imposition of penalty for tax non-compliance (*Eg: Incorrect reporting of tax*)?
- Yes
- No (**Proceed to A4**)
- A3** How did you know about the imposition of penalty? (*You may tick more than 1 answer*)
- Tax authority's web-site
- Published documents
- Seminars and public outreach activities
- Family, friends, colleagues
- TV and radio
- Others. Please state \_\_\_\_\_
- A4** Did you know that assistance is provided by the tax authority in helping taxpayers to comply?
- Yes
- No (**Proceed to A6**)

- A5** How did you learn about the assistance provided by the tax authority? (*You may tick more than 1 answer*)
- Tax authority's web-site
- Published documents
- Seminars and public outreach activities
- Family, friends, colleagues
- Media (TV, newspaper and radio)
- Others. Please state \_\_\_\_\_
- A6** Over the last 5 years, do you find it getting easier or harder to complete your tax return form?
- Much easier
- A little easier
- About the same
- A little harder
- Much harder
- Not sure (This is my first time filing a tax form)
- A7** How many times have you filed an income tax return form?
- Never
- Once
- 2 – 5 times
- 6 – 10 times
- More than 10 times

**SECTION B: SOCIO-DEMOGRAPHIC INFORMATION** (Please tick  where appropriate)

- B1. Age  
 Below 30 years       30 – 39 years       40 – 49 years  
 50 – 59 years       60 years and above
- B2. Gender  
 Male       Female
- B3. Level of Education  
 No formal schooling       SPM/ MCE or equivalent       STPM/ A-Level/ Certificate  
 Diploma or Degree       Masters or PhD       Professional Course
- B4. Number of dependent \_\_\_\_\_
- B5. Occupational sector  
 Private sector       Public sector       Self-employed
- B6. Annual Income before tax (Approximate):  
 RM40,000 and below       RM40,001 – RM60,000       RM60,001 – RM80,000  
 RM80,001 – RM100,000       RM100,001 – RM120,000       RM120,001 and above
- B7. Working experience:  
 Less than 1 year       1 – 5 years       6 – 10 years  
 11 – 20 years       21 years and above
- B8. Location of business or work:  
 Peninsular Malaysia       East Malaysia (*Sabah, Sarawak and FT of Labuan*)
- B9. Have you ever been audited by the tax authority?  
 Yes       No

**SECTION C: AGREEMENTS ON THREAT AND COPING APPRAISALS, TRUSTWORTHINESS AND SOCIAL REFERENCE**

State the extent to which you agree (or disagree) with the following statements by ticking  ONE answer in each line.

C1 PERCEIVED SEVERITY OF THREAT		Strongly Disagree <span style="float: right;">Strongly Agree</span>				
		1	2	3	4	5
I am <b>worried</b> about the following:						
1	Penalised for incorrect reporting of tax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Unaffordable cost of penalty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Inconvenience caused by penalty ( <i>Eg: Time or effort wasted dealing with penalty payment</i> )	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Selected for tax audit by the tax authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Questioned by the tax auditors for incorrect tax reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Loss of respect as a result of being caught cheating on my tax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Labelled as 'tax offenders' by the tax authority for cheating on my tax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## C2 PERCEIVED PROBABILITY OF OCCURENCE

Very Low  
Probability

Very High  
Probability

In your opinion, what is the perceive likelihood of the followings:

- |   |  |         |   |   |   |   |
|---|--|---------|---|---|---|---|
| 1 | Tax return forms of <u>salaried taxpayers</u> will be selected for tax audit   | 1       | 2 | 3 | 4 | 5 |
|   |  | ←—————→ |   |   |   |   |
| 2 | <u>My tax return form</u> will be selected for tax audit by the tax authority  | 1       | 2 | 3 | 4 | 5 |
|   |  | ←—————→ |   |   |   |   |
| 3 | Tax auditors can easily detect <u>false deduction</u> in the tax return form<br><i>(Eg: False claim of reliefs, expenses or rebates)</i> | 1       | 2 | 3 | 4 | 5 |
|   |  | ←—————→ |   |   |   |   |
| 4 | Tax auditors can easily detect <u>underreported income</u> in the tax return form  | 1       | 2 | 3 | 4 | 5 |
|   |  | ←—————→ |   |   |   |   |
| 5 | Tax officers are thorough in conducting tax audit  | 1       | 2 | 3 | 4 | 5 |
|   |  | ←—————→ |   |   |   |   |

## C3 PERCEIVED EFFICACY OF COPING RESPONSE

Strongly  
Disagree

Strongly  
Agree

What is your perception of the information assistance provided by the tax authority?

- |    |  |                          |                          |                          |                          |                          |
|----|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|    |  | 1                        | 2                        | 3                        | 4                        | 5                        |
| 1  | Reduces unintentional mistakes (honest mistake) in tax reporting   | <input type="checkbox"/> |
| 2  | <u>Does not</u> assist me in correct reporting of tax  | <input type="checkbox"/> |
| 3  | <u>Does not</u> assist me in the completion of my tax return form  | <input type="checkbox"/> |
| 4  | Helps reduce my tax liability  | <input type="checkbox"/> |
| 5  | Information assistance is reliable   | <input type="checkbox"/> |
| 6  | Information assistance is accurate   | <input type="checkbox"/> |
| 7  | Available through variety of service channels <i>(Eg: web-site, walk-in inquiries, correspondences, written documents, phone-call)</i> | <input type="checkbox"/> |
| 8  | Minimise the risk of incorrect payment of tax  | <input type="checkbox"/> |
| 9  | Minimised the risk of overpaid tax   | <input type="checkbox"/> |
| 10 | Minimised the risk of penalty cost for tax non-compliance  | <input type="checkbox"/> |

#### C4 SELF-EFFICACY EXPECTANCY

Strongly  
Disagree

Strongly  
Agree

I am capable of (No. 1 – 6):

	1	2	3	4	5
1 understanding the tax information	<input type="checkbox"/>				
2 understanding the language used in the tax information	<input type="checkbox"/>				
3 using the tax information	<input type="checkbox"/>				
4 obtaining the tax information without disrupting my daily routine	<input type="checkbox"/>				
5 obtaining the tax information in a timely manner	<input type="checkbox"/>				
6 obtaining the tax information conveniently	<input type="checkbox"/>				

#### C5 PERCEIVED TRUSTWORTHINESS

Strongly  
Disagree

Strongly  
Agree

What is your perception of the tax authority?

	1	2	3	4	5
1 Acts in the best interest of taxpayers	<input type="checkbox"/>				
2 Does its best to help taxpayers	<input type="checkbox"/>				
3 <u>Lacks</u> expertise in assisting taxpayers	<input type="checkbox"/>				
4 Knowledgeable about the services it provides	<input type="checkbox"/>				
5 Has sincere desire to be fair to all taxpayers	<input type="checkbox"/>				
6 Decides based on law (that is, not on personal bias)	<input type="checkbox"/>				
7 There are many policies of the tax authority that <u>should be changed</u>	<input type="checkbox"/>				

## SECTION D: RELIANCE ON TAX AUTHORITY INFORMATION ASSISTANCE

### D1 USAGE OF INFORMATION ASSISTANCE

I relied on information assistance provided by the Inland Revenue Board of Malaysia when I encountered difficulties in the following areas (Please relate to your most recent experience):

		Strongly Disagree ▼				Strongly Agree ▼
1	Completion of tax return forms	1	2	3	4	5
2	Determining taxable income	1	2	3	4	5
3	Eligibility about deductions <i>(Eg: reliefs, rebates and expenses)</i>	1	2	3	4	5
4	Inquiries about tax payments	1	2	3	4	5
5	General enquiries about filing (lodgement) matters	1	2	3	4	5
6	Password matters	1	2	3	4	5
7	Obtaining tax return forms	1	2	3	4	5

Please indicate the types of service channel (s) used. You may tick more than one answer.

	PROBLEM-TASK	SERVICE CHANNELS						NOT APPLICABLE (N/A)
		Face-to-face	On-line (web-site/ email)	Telephone calls	References (Books/ tax - manuals/ manuals etc.)	Correspondence (Fax/ letters)	Others	
1	Help in completion of my tax return form							
2	Deductions entitlement <i>(Eg: Reliefs, rebates or expenses)</i>							
3	Determining taxable income							

## SECTION E: AGREEMENT ON TAX COMPLIANCE

Here are some statements that some people think about certain aspects of tax. Please tick ONE answer in each line that best describes your personal opinion.

E1 TAX COMPLIANCE		Strongly Disagree					Strongly Agree				
		1	2	3	4	5	1	2	3	4	5
1	It is important that I submit my tax return form on time	<input type="checkbox"/>									
2	It is important that I pay my tax liability on time	<input type="checkbox"/>									
3	I feel tense when a 'larger than usual' amount of tax appears in my e-filing form (tax return form)	<input type="checkbox"/>									
4	It is <u>not considered</u> cheating when you bend the rules a little to find ways to pay a lower amount of tax	<input type="checkbox"/>									
5	With what things cost these days, it is <u>all right</u> to 'stretch' the tax deductions in order to minimise the tax burden (Eg: Claiming excessive tax reliefs)	<input type="checkbox"/>									
6	It is <u>all right</u> to underreport certain income since it does not really hurt anyone	<input type="checkbox"/>									

If you are interested to participate in an interview, please provide your correspondence details below

Name

*(Leave it blank if you wish to maintain anonymity)*

Contact Number

e-mail

**Thank you for taking the time to complete this questionnaire.**

Kindly return this questionnaire using the self-addressed envelope to:

Susan Hydra Sikayu  
UiTM Sarawak, Peti Surat 1258,  
Jalan Meranek, 94300 Kota Samarahan, Sarawak

## APPENDIX B



Date: May 9, 2013

Dear valued respondent,

Thank you for your involvement in this research.

I am a Ph.D candidate from the Curtin University of Western Australia. Currently, I am conducting research on "Tax Authority Information Assistance and the Compliance Behaviour of Malaysian Taxpayers". You have been selected as a respondent for this survey. Your participation is completely voluntary.

The objective of this research is to investigate the factors motivating the use of information assistance among Malaysian taxpayers and its impact on their behavioural compliance. This survey is NOT an assessment of your knowledge. However, a careful consideration of each response, based on your own belief and experience is sought.

This research project has been reviewed and approved by the Human Research Ethics Committee of Curtin University. The responses to all questions will be treated anonymously and managed confidentially.

We request your kind assistance to complete the attached questionnaire and return the completed form using the enclosed reply paid envelope. If you wish to participate in an interview of a follow-up study, please fill out the form, attached at the end of the survey booklet.

Should you have any concern or need assistance in completing this questionnaire, please do not hesitate to contact the researcher at [susanhydrasikayu@sarawak.uitm.edu.my](mailto:susanhydrasikayu@sarawak.uitm.edu.my) or contact number +614 5250 6077.

Thank you in advance for your most valued cooperation.

Yours Sincerely,

*Susan Sikayu*

**SUSAN HYDRA SIKAYU**

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Facsimile: +618 9266 2605

*This study has been approved under Curtin University's process for low-risk studies (Approval Number E&F-12-12. This process complies with the National Statement on Ethical Conduct in Human Research (paragraph 5.1.7 and paragraphs 5.1.18 – 5.1.21)*

**Memorandum**

<b>To</b>	Susan Hydra Sikayu
<b>From</b>	<i>Steve Fleming</i>
<b>Subject</b>	Protocol Approval <b>E&amp;F-12-12</b>
<b>Date</b>	6 November 2012
<b>Copy</b>	

Office of Research and Development  
**Human Research Ethics Committee**

**TELEPHONE** 9266 2784

**FACSIMILE** 9266 3793

**EMAIL** [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au)

Thank you for your "Form C Application for Approval of Research with Low Risk (Ethical Requirements)" for the project titled "EXPLORING THE IMPACT OF REVENUE AUTHORITY INFORMATION ASSISTANCE ON TAX COMPLIANCE IN MALAYSIA". On behalf of the Human Research Ethics Committee I am authorised to inform you that the project is approved.

Approval of this project is for a period of twelve months **29/10/2012** to **29/10/2013**.

The approval number for your project is **E&F-12-12**. *Please quote this number in any future correspondence.* If at any time during the twelve months changes/amendments occur, or if a serious or unexpected adverse event occurs, please advise me immediately.

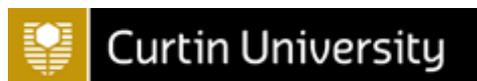
- Your project has the following special conditions: NIL

Yours sincerely,

**Steve Fleming**

**Admin Officer | School of Economics & Finance**

**Tel |** +61 8 9266 7796



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 CRICOS Provider Code 00301J (WA), 02637B (NSW)

Please Note: The following standard statement must be included in the information sheet to participants:

*This study has been approved under Curtin University's process for low-risk Studies (Approval Number **E&F-12-12**.*

*This process complies with the National Statement on Ethical Conduct in Human Research (paragraph 5.1.7 and paragraphs 5.1.18-5.1.21).*

*For further information on this study contact the researchers named above or the Curtin University Human Research Ethics Committee. c/- Office of Research and Development, Curtin University, GPO Box U1987, Perth 6845 or by telephoning 9266 9223 or by emailing [hrec@curtin.edu.au](mailto:hrec@curtin.edu.au).*

## Standard conditions of ethics approval

These standard conditions apply to all research approved via the Curtin University's process for low risk studies. It is the responsibility of each researcher named on the application to ensure these conditions are met.

1. **Compliance.** Conduct your research in accordance with the application as it has been approved and keep appropriate records.
2. **Adverse events.** Consider what might constitute an adverse event and what actions may be needed if an adverse event occurs. Follow the procedures for reporting and addressing adverse events (<http://research.curtin.edu.au/guides/adverse.cfm>). Where appropriate, provide an [adverse events protocol](#). The following are examples of adverse events:
  - a. Complaints
  - b. Harm to participants. This includes physical, emotional, psychological, economic, legal, social and cultural harm (NS Section 2)
  - c. Loss of data or breaches of data security
  - d. Legal challenges to the research
3. **Standard forms.** Use the standard forms for the following
  - a. **Monitoring.** Assist the Committee to monitor the conduct of the approved research by completing promptly and returning all project review forms that are sent to you.
  - b. **Annual report.** Submit an annual report on or before the anniversary of the approval.
  - c. **Extensions.** If you are likely to need more time to conduct your research than is already approved, complete an application for extension four weeks before the current approval expires.
  - d. **Changes to protocol.** Any changes to the protocol are to be approved by the Committee before being implemented.
  - e. **Changes to researcher details.** Advise the Committee of any changes in the details of researchers involved in the approved study.
  - f. **Discontinuation.** You must inform the Committee, giving reasons, if the research is not conducted or is discontinued before the expected completion date.
  - g. **Closure.** Submit a final report when the research is completed. Include details of when data are to be destroyed, and how, or if any future use is planned for the data
4. **Data management plan.** Have a [Data Management Plan](#) consistent with the University's recordkeeping policy. This will include such things as how the data are to be stored, for how long, and who has authorised access.
5. **Publication.** Where practicable, ensure the results of the research are made available to participants in a way that is timely and clear (NS 1.5). Unless prohibited from doing so by contractual obligations, ensure the results of the research are published in a manner that will allow public scrutiny (NS 1.3, d). Inform the Committee of any constraints on publication.
6. **Police checks and other clearances.** All necessary clearances, such as Working with Children Checks, first aid certificates and vaccination certificates, must be obtained before entering a site to conduct research.
7. **Participant information.** All information for participants must be approved by the HREC before being given to the participants or made available to the public.
  - a. **University logo.** All participant information and consent forms must contain the Curtin University logo and University contact details for the researchers. Private contact details should not be used.
  - b. **Standard statement.** All participant information forms must contain the HREC standard statement.
  - c. **Plain language.** All participant information must be in plain language that will be easily understood by the participants.

Please direct all communication through the Research Ethics Office

The Form B is to be completed and returned to the Secretary, Human Research Ethics Committee, c/- Office of Research & Development.

If any of the points below apply prior to the expiry date, this form should be submitted to the Committee at that time. An application for renewal may be made with a **Form B three years** running, after which a 'new' application form, providing comprehensive details, must be submitted.

<b>Approval Number:</b>	<b>E&amp;F-12-12</b>	<b>Expiry Date</b> 29/10/2012
<b>PROJECT TITLE:</b>	EXPLORING THE IMPACT OF REVENUE AUTHORITY INFORMATION ASSISTANCE ON TAX COMPLIANCE IN MALAYSIA	

<b>1A</b>	Has this project been completed?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
<b>1B</b>	OR Do you wish to apply for a renewal of the project?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

If YES please state the expected completion date.

If NO please state why, eg abandoned/withdrawn/no funding etc.

<b>2</b>	Has this project been modified or changed in any manner that varies from the approved proposal?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
----------	---	------------------------------	-----------------------------

If yes, please provide details \_\_\_\_\_  
(Attach additional comments on a separate sheet of paper if necessary)

<b>3</b>	Have any ethically related issues emerged in regard to this project since you received Ethics' Committee approval? (e.g. breach of confidentiality, harm caused, inadequate consent or disputes on these).	YES <input type="checkbox"/>	NO <input type="checkbox"/>
----------	--	------------------------------	-----------------------------

If yes, please provide details \_\_\_\_\_  
(Attach additional comments on a separate sheet of paper if necessary)

<b>4</b>	Have any ethically related issues in regard to this project been brought to your attention by others? (i.e. study respondents, organisations that have given consent, colleagues, the general community etc).	YES <input type="checkbox"/>	NO <input type="checkbox"/>
----------	---	------------------------------	-----------------------------

If yes, please provide details \_\_\_\_\_  
(Attach additional comments on a separate sheet of paper if necessary)

<b>Investigator:</b>	Susan Hydra Sikayu	<b>Signature:</b>	
<b>Co-Investigator/s Supervisor:</b>	Jeff Pope	<b>Signature:</b>	
<b>School/Department:</b>	Economics & Finance		
<b>Head of Enrolling Area:</b>		<b>Signature:</b>	
<b>Date:</b>			

Office Use Only

APPROVED: \_\_\_\_\_

Chair HREC/Executive Officer

DATE: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

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Ms Susan Hydra Sikayu

11 Mayo Court

Parkwood, WA 6147

19-08-2014

**Re: Application for Approval of Research with Low Risk**

Dear Susan,

This is to confirm that your “Application for Approval of Research with Low Risk,” for project titled, “Exploring the Impact of Revenue Authority Information Assistance on Tax Compliance in Malaysia,” have been approved based on the information provided to the Curtin Law School. This approval will be valid until 19-08-2019. Please ensure that your research data be stored for 5 years.

If you have any queries, please do not hesitate to contact me.

Kind regards,



---

Dr Deepa Sharma

**Research Officer | Research Ethics Coordinator**

**Curtin Law School**

**Curtin University**

**Tel | +61 8 9266 4757**

**Fax | +61 8 9266 3222**

**Email | [d.sharmaacharya@curtin.edu.au](mailto:d.sharmaacharya@curtin.edu.au)**

## APPENDIX E



Date :

Dear Sir/ Madam

### **SURVEY ON A STUDY OF THE TAX AUTHORITY INFORMATION ASSISTANCE IN MALAYSIA**

I have recently sent you a survey, requesting your views on the tax authority information assistance in Malaysia. So far, I have not received a returned survey from you. If you have recently replied, please ignore this letter and thank you for your kind contribution in providing valuable information.

If you have yet to complete the survey, please re-consider (questionnaire attached) and return it the soonest, using the reply-paid envelop. Your response is valuable to help ensure an improve services is provided by the government. Should you have any queries, please do not hesitate to contact me at [susanhydrasikayu@sarawak.uitm.edu.my](mailto:susanhydrasikayu@sarawak.uitm.edu.my) or call the number 016-8945110. I look forward to your contribution.

Thank you for your kind cooperation.

Kind Regards,

*Susan Sikayu*

SUSAN HYDRA SIKAYU  
Ph.D Candidate  
School of Economics and Finance  
GPO Box U 1987  
Perth, Western Australia, 6845

## APPENDIX F

### INTERVIEW QUESTIONS

1. Do you find it is easy to understand and complete your tax return?
2. The IRBM provides both direct (example: face-to-face and call centres) and indirect (example: brochures, tax manuals, web-based information, and other written references) forms of information assistance in helping taxpayers fulfil their tax obligation.
  - (a) What type of assistance have you used?
  - (b) Do you think the availability of the information assistance helps you to better comply with your filing and reporting obligation? Please elaborate.
  - (c) Do you find it easy to gain access of the information assistance? How has this impacted your decision to use the information for tax reporting?
3.
  - (a) Do you think you have the possibility of being tax audited by the IRBM?
  - (b) Why is audit probability relevant (or irrelevant) in your decision to rely on information assistance for tax reporting?
4. Do you consider monetary risk (example: risk of overpaid tax and penalty cost) as an important factor in your decision to rely on information assistance? Please explain.
5.
  - (a) What would you consider as an exploitation (misuse) of tax information (example: information on tax reliefs or deductions) for tax reporting?
  - (b) Do you think the exploitation of tax information is rampant among individual taxpayers? Please explain.
  - (c) An increased knowledge in taxation may lead to tax non-compliance (example: excessive claims of tax reliefs or deductions to reduce tax burden). What is your view on this?
  - (d) Do you think the IRBM has the capacity to detect misstatement in the tax return form (example: underreported income or over-claimed deductions)? Please elaborate?
6.
  - (a) In general, do you think the IRBM is dependable in terms of helping the taxpayers? Please explain.
  - (b) Do you perceive the IRBM staff as being 'kind and respectful' when dealing with taxpayers? (Please relate to your own experience or experiences of others).
  - (c) In your opinion, will it make a difference in terms of your willingness to comply with your filing and reporting obligations if you perceive good service (example: helpful, respectful and kind treatment) from the IRBM?

## APPENDIX G

### INTERVIEW PROTOCOL

Project: A Study of the Tax Authority Information Assistance in Malaysia

Time of Interview:

Date:

Interviewee:

- a) Gender:
- b) Work/ Business Location:
- c) Taxpayer's category:
- d) Educational background:
- e) Position:

Interviewees will be briefed about:

- a) The purpose of the project
- b) What will be done with the data to protect the confidentiality of the interviewee
- c) How long the interview will take?

Questions:

- 1) Do you find it easy to understand and complete your tax return?
- 2) The IRBM provides both direct (example: face-to-face and call centres) and indirect (example: brochures, tax manuals, web-based information, and other written references) forms of information assistances in helping taxpayers fulfil their tax obligation.
  - (a) What type of assistance have you used?
  - (b) Do you think the availability of the information assistance helps you to better comply with your filing and reporting obligation? Please elaborate.
  - (c) Do you find it easy to gain access of the information assistance? How has this impacted your decision to use the information for tax reporting?
- 3)
  - (a) Do you think you have the possibility of being tax audited by the IRBM?
  - (b) Why is audit probability relevant (or irrelevant) in your decision to rely on information assistance for tax reporting?

- 4) Do you consider the monetary risk (example: risk of overpaid tax or penalty cost) as an important factor in your decision to rely on information assistance? Please explain.
  
- 5)
  - (a) What would you consider as an exploitation (misuse) of tax information (Example: Information on tax reliefs or deductions) for tax reporting?
  - (b) Do you think the exploitation of tax information is rampant among the taxpayers? Please explain.
  - (c) An increased knowledge in taxation may lead to tax non-compliance (Example: excessive claims of tax reliefs or deductions to reduce tax burden). What is your view on this?
  - (d) Do you think the IRBM has the capacity to detect misstatements in the tax return form (Example: underreported income or over-claimed deductions)? Please elaborate.
  
- 6)
  - (a) In general, do you think the IRBM is dependable in terms of helping the taxpayers? Please explain.
  - (b) Do you perceive the IRBM staff as being 'kind and respectful' when dealing with taxpayers? (Please relate to your own experience or experience of others).
  - (c) In your opinion, will it make a difference in terms of your willingness to comply with your filing and reporting obligations if you receive a good service (example: helpful, respectful and kind) from the IRBM?

Thank the individuals for their cooperation and participation in the interview. Assure them of the confidentiality of the responses. Notify the participants that interview reports will be made available for validation purposes.

*Source: Adapted from Asmussen and Creswell, 1995 (in Creswell 2012, p.226)*

## APPENDIX H

**Mean and Standard Deviation of the Early and Late Responses**

	<b>Response</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>p-value* (two-tailed)</b>
SVT1	Early Response	30	3.9667	1.0334	.895
	Late Response	30	3.9333	0.9072	
SVT2	Early Response	30	3.9333	0.9803	.335
	Late Response	30	3.6333	1.3767	
SVT3	Early Response	30	4.1000	0.9948	.248
	Late Response	30	3.8000	0.9966	
SVT4	Early Response	30	4.0000	0.9440	.251
	Late Response	30	4.2888	0.9977	
SVT5	Early Response	30	3.9000	0.9970	.337
	Late Response	30	3.6670	0.8562	
SVT6	Early Response	30	3.9600	1.0332	.891
	Late Response	30	3.9331	0.9277	
SVT7	Early Response	30	3.9328	0.9801	.332
	Late Response	30	3.6329	1.3764	
PRT1	Early Response	30	3.4667	0.9371	.895
	Late Response	30	3.5000	1.0086	
PRT2	Early Response	30	3.6000	1.0372	.500
	Late Response	30	3.7667	0.8584	
PRT3	Early Response	30	3.6667	0.7581	.287
	Late Response	30	3.4667	0.6815	
PRT4	Early Response	30	3.5998	1.0369	.499
	Late Response	30	3.7665	0.8581	
PRT5	Early Response	30	3.6662	0.7575	.282
	Late Response	30	3.4661	0.6809	
RES1	Early Response	30	4.0000	0.7428	.113
	Late Response	30	4.3000	0.7022	
RES2	Early Response	30	3.8333	0.7466	.549
	Late Response	30	3.7000	0.9523	
RES3	Early Response	30	3.8667	0.8193	.439
	Late Response	30	3.7000	0.8367	
RES4	Early Response	30	3.8997	0.7115	.197
	Late Response	30	3.5994	1.0367	
RES5	Early Response	30	3.8661	0.6809	.848
	Late Response	30	3.8333	0.6989	
RES6	Early Response	30	3.1997	0.7606	.485
	Late Response	30	3.3662	1.0651	
RES7	Early Response	30	3.3661	0.7178	.732
	Late Response	30	3.4326	0.8167	
SEF1	Early Response	30	3.9000	0.6074	.350
	Late Response	30	3.7000	0.9879	
SEF2	Early Response	30	3.9000	0.7120	.197
	Late Response	30	3.6000	1.0372	
SEF3	Early Response	30	3.8667	0.6815	.852
	Late Response	30	3.8333	0.6989	
SEF4	Early Response	30	3.2000	0.7611	.489
	Late Response	30	3.3667	1.0662	
SEF5	Early Response	30	3.3667	0.7184	.738
	Late Response	30	3.4333	0.8172	
SEF6	Early Response	30	3.3000	0.7944	.427
	Late Response	30	3.4667	0.8193	
TRU1	Early Response	30	3.2667	0.8683	.720
	Late Response	30	3.6671	1.2452	
TRU2	Early Response	30	3.4333	0.9353	.902
	Late Response	30	3.4000	1.1326	

TRU3	Early Response	30	3.2667	0.9072	.783
	Late Response	30	3.3333	0.9589	
TRU4	Early Response	30	3.3000	0.9523	.776
	Late Response	30	3.3667	0.8503	
TRU5	Early Response	30	3.2667	0.8683	.289
	Late Response	30	3.5000	0.8200	
TRU6	Early Response	30	3.0667	0.9444	.511
	Late Response	30	3.2333	1.0063	
TRU7	Early Response	30	3.8664	0.8189	.435
	Late Response	30	3.6996	0.8367	
USE1	Early Response	30	3.8621	0.8752	.595
	Late Response	30	3.9655	0.5659	
USE2	Early Response	30	3.7143	0.8968	1.000
	Late Response	30	3.7143	0.7127	
USE3	Early Response	30	3.7857	0.7868	.157
	Late Response	30	4.0690	0.7036	
USE4	Early Response	30	3.9333	0.7397	.393
	Late Response	30	4.1000	0.7589	
USE5	Early Response	30	3.7667	0.8584	.116
	Late Response	30	4.1000	0.7589	
USE6	Early Response	30	4.0000	0.6948	.570
	Late Response	30	4.1000	0.6618	
USE7	Early Response	30	3.9327	0.7396	.389
	Late Response	30	4.0992	0.7588	
ADM1	Early Response	30	3.8668	0.6814	.849
	Late Response	30	3.8331	0.6987	
ADM2	Early Response	30	3.7662	0.8579	.112
	Late Response	30	4.0994	0.7584	
REP1	Early Response	30	1.8667	0.7761	.127
	Late Response	30	2.2000	0.8867	
REP2	Early Response	30	3.1667	0.9595	.680
	Late Response	30	3.0000	0.9097	
REP3	Early Response	30	3.1333	0.9371	.154
	Late Response	30	2.8000	0.8469	
REP4	Early Response	30	3.7000	0.8769	.048
	Late Response	30	3.2000	1.0306	

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\* significant at 0.05

## APPENDIX I

**Standardised Scores for Variables under the Study (Prior to Winsorizing)**

	N	Min	Max	Mean	Std. Deviation
Zscore(TPENALTY)	417	-2.64227	1.27603	.0000000	1.0000000
Zscore(TAUDIT)	417	-2.82663	1.38052	.0000000	1.0000000
Zscore(PAUDIT)	417	-2.50648	2.30458	.0000000	1.0000000
Zscore(PDETECT)	417	-3.11313	1.89591	.0000000	1.0000000
Zscore(RES_EFFI)	417	-2.51340	1.74193	.0000000	1.0000000
Zscore(SELF_EFFI)	417	-2.53062	1.71878	.0000000	1.0000000
Zscore(OAPTITUDE)	417	-3.41422	1.96680	.0000000	1.0000000
Zscore(ATTITUDE)	417	-3.06212	1.46056	.0000000	1.0000000
Zscore(USAGE)	389	-2.46015	1.68270	.0000000	1.0000000
Zscore(ADMINCOM)	417	-2.42802	.86461	.0000000	1.0000000
Zscore(REPORTCOM)	417	-2.45444	2.32455	.0000000	1.0000000
Zscore(PTRUST)	417	-2.95329	2.26762	.0000000	1.0000000
Valid N (listwise)	386				

**Standardised Scores for Variables under the Study (After Winsorizing)**

	N	Min	Max	Mean	Std. Deviation
Zscore(TPENALTY)	417	-2.64227	1.27603	.0000000	1.0000000
Zscore(TAUDIT)	417	-2.82663	1.38052	.0000000	1.0000000
Zscore(PAUDIT)	417	-2.50648	2.30458	.0000000	1.0000000
Zscore(PDETECT)	417	-3.11313	1.89591	.0000000	1.0000000
Zscore(RES_EFFI)	417	-2.51340	1.74193	.0000000	1.0000000
Zscore(SELF_EFFI)	417	-2.53062	1.71878	.0000000	1.0000000
Zscore(OAPTITUDE)	417	-2.55475	1.98820	.0000000	1.0000000
Zscore(ATTITUDE)	417	-3.06212	1.46056	.0000000	1.0000000
Zscore(USAGE)	389	-2.46015	1.68270	.0000000	1.0000000
Zscore(ADMINCOM)	417	-2.42802	.86461	.0000000	1.0000000
Zscore(REPORTCOM)	417	-2.45444	2.32455	.0000000	1.0000000
Zscore(PTRUST)	417	-2.95329	2.26762	.0000000	1.0000000
Valid N (listwise)	386				

## APPENDIX J

### Independent Sample t-test

I) GENDER (DV=USAGE; IV= GENDER G1=1; G2=2)

**Group Statistics**

	Gender	N	Mean	Std. Deviation	Std. Error Mean
USAGE	Male	212	3.6950	.92660	.06364
	Female	176	3.3939	.98438	.07420

**Independent Samples Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
USAGE	.840	.360	3.097	386	.002	.30103	.09721	.10991	.49215
Equal variances not assumed			3.079	363.859	.002	.30103	.09775	.10880	.49326

II) LOCATION (DV = USAGE; IV = LOCATION G1=1; G2=2)

**Group Statistics**

	Location	N	Mean	Std. Deviation	Std. Error Mean
USAGE	Peninsular (West) Malaysia	247	3.6302	.92639	.05894
	East Malaysia	141	3.4326	1.01711	.08566

**Independent Samples Test**

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
USAGE	Equal variances assumed	2.289	.131	1.950	386	.052	.19761	.10136	-.00168	.39689
	Equal variances not assumed			1.900	269.586	.058	.19761	.10398	-.00711	.40232

III) AUDIT EXPERIENCE (DV=USAGE; IV = AUDIT G1=1; G2=2)

**Group Statistics**

	Audit	N	Mean	Std. Deviation	Std. Error Mean
USAGE	Yes	104	3.6122	1.04082	.10206
	No	284	3.5387	.93511	.05549

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
USAGE	Equal variances assumed	3.228	.073	.664	386	.507	.07345	.11054	-.14389	.29078
	Equal variances not assumed			.632	167.562	.528	.07345	.11617	-.15590	.30279

## APPENDIX K

### One-Way ANOVA

1) **OPINIONS ON RETURN FORM COMPLETION (DV = USAGE; IV = RETURNCOM)**

#### Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					Easier	242		
About the Same	94	3.7234	.91534	.09441	3.5359	3.9109	1.67	5.00
Harder	36	3.9074	.96152	.16025	3.5821	4.2327	1.67	5.00
Total	372	3.5520	.96447	.05001	3.4536	3.6503	1.33	5.00

#### Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.554	2	369	.575

#### ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.764	2	5.382	5.940	.003
Within Groups	334.342	369	.906		
Total	345.106	371			

**Multiple Comparisons**  
**Post-Hoc Test using Tukey HSD**

(I) ReturnCom	(J) ReturnCom	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Easier	About the Same	-.29090*	.11569	.033	-.5631	-.0187
	Harder	-.47490*	.17004	.015	-.8750	-.0748
About the Same	Easier	.29090*	.11569	.033	.0187	.5631
	Harder	-.18400	.18657	.586	-.6230	.2550
Harder	Easier	.47490*	.17004	.015	.0748	.8750
	About the Same	.18400	.18657	.586	-.2550	.6230

\*. The mean difference is significant at the 0.05 level.

**Tukey HSD<sup>a,b</sup>**

ReturnCom	N	Subset for alpha = 0.05	
		1	2
Easier	242	3.4325	
About the Same	94	3.7234	3.7234
Harder	36		3.9074
Sig.		.166	.485

## II) FILING EXPERIENCE

### Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Once	22	3.6667	.80999	.17269	3.3075	4.0258	2.67	5.00
2 - 5 times	118	3.3983	.83519	.07689	3.2460	3.5506	1.67	5.00
6 - 10 times	120	3.6583	.89449	.08166	3.4966	3.8200	2.00	5.00
More than 10 times	114	3.6316	1.14733	.10746	3.4187	3.8445	1.33	5.00
Total	374	3.5686	.96090	.04969	3.4709	3.6663	1.33	5.00

### Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
9.458	3	370	.000

### ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.052	3	1.684	1.836	.140
Within Groups	339.353	370	.917		
Total	344.405	373			

**III) AGE**

**Descriptives**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					Below 30	32		
30 - 39 years	162	3.5267	.87266	.06856	3.3914	3.6621	1.67	5.00
40 - 49 years	117	3.6182	1.02204	.09449	3.4311	3.8054	1.33	5.00
50 and above	77	3.6277	1.08009	.12309	3.3826	3.8729	1.67	5.00
Total	388	3.5584	.96375	.04893	3.4622	3.6546	1.33	5.00

**Test of Homogeneity of Variances**

Levene Statistic	df1	df2	Sig.
3.317	3	384	.020

**Robust Tests of Equality of Means**

	Statistic <sup>a</sup>	df1	df2	Sig.
Welch	.968	3	118.392	.410
Brown-Forsythe	.908	3	234.457	.438

a. Asymptotically F distributed.

#### IV) QUALIFICATION

##### Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	71	3.6667	.75172	.08921	3.4887	3.8446	2.00	5.00
2.00	181	3.4751	.95006	.07062	3.3358	3.6145	1.67	5.00
3.00	114	3.5263	1.01696	.09525	3.3376	3.7150	1.33	5.00
4.00	22	4.0606	1.24992	.26648	3.5064	4.6148	1.67	5.00
Total	388	3.5584	.96375	.04893	3.4622	3.6546	1.33	5.00

##### Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
5.832	3	384	.001

##### ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.753	3	2.584	2.822	.039
Within Groups	351.701	384	.916		
Total	359.454	387			

##### Robust Tests of Equality of Means

	Statistic <sup>a</sup>	df1	df2	Sig.
Welch	2.142	3	84.925	.100
Brown-Forsythe	2.463	3	88.069	.068

a. Asymptotically F distributed.

**Multiple Comparisons**  
**Post-Hoc Test using Tukey HSD**

(I) EDU1	(J) EDU1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00	2.00	.19153	.13401	.482	-.1543	.5373
	3.00	.14035	.14469	.767	-.2330	.5137
	4.00	-.39394	.23352	.332	-.9965	.2086
2.00	1.00	-.19153	.13401	.482	-.5373	.1543
	3.00	-.05118	.11443	.970	-.3464	.2441
	4.00	-.58547*	.21608	.035	-1.1430	-.0279
3.00	1.00	-.14035	.14469	.767	-.5137	.2330
	2.00	.05118	.11443	.970	-.2441	.3464
	4.00	-.53429	.22286	.079	-1.1093	.0408
4.00	1.00	.39394	.23352	.332	-.2086	.9965
	2.00	.58547*	.21608	.035	.0279	1.1430
	3.00	.53429	.22286	.079	-.0408	1.1093

\*. The mean difference is significant at the 0.05 level.

V) NUMBER OF DEPENDENTS

**Descriptives**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					1.00	57		
2.00	68	3.6029	.92192	.11180	3.3798	3.8261	1.67	5.00
3.00	111	3.6366	1.00659	.09554	3.4473	3.8260	1.33	5.00
4.00	86	3.6667	.95930	.10344	3.4610	3.8723	1.67	5.00
Total	322	3.6542	.94529	.05268	3.5506	3.7579	1.33	5.00

**Test of Homogeneity of Variances**

Levene Statistic	df1	df2	Sig.
1.277	3	318	.282

## VI) OCCUPATIONAL SECTORS

### Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Private sector	120	3.5611	.88770	.08104	3.4007	3.7216	2.00	5.00
Public sector	194	3.2869	.99314	.07130	3.1463	3.4276	1.33	5.00
Self-employed	74	4.2658	.57333	.06665	4.1329	4.3986	2.67	5.00
Total	388	3.5584	.96375	.04893	3.4622	3.6546	1.33	5.00

### Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
17.360	2	385	.000

### Robust Tests of Equality of Means

	Statistic <sup>a</sup>	df1	df2	Sig.
Welch	53.577	2	225.276	.000
Brown-Forsythe	39.375	2	360.036	.000

a. Asymptotically F distributed.

**Multiple Comparisons**  
**Post-Hoc Test using Tukey HSD**

(I) Occupational Sector	(J) Occupational Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Private sector	Public sector	.27417*	.10390	.023	.0297	.5186
	Self-employed	-.70465*	.13223	.000	-1.0158	-.3935
Public sector	Private sector	-.27417*	.10390	.023	-.5186	-.0297
	Self-employed	-.97882*	.12223	.000	-1.2664	-.6912
Self-employed	Private sector	.70465*	.13223	.000	.3935	1.0158
	Public sector	.97882*	.12223	.000	.6912	1.2664

\*. The mean difference is significant at the 0.05 level.

VII) ANNUAL INCOME

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
MYR40,000 and below	65	3.5385	.85532	.10609	3.3265	3.7504	1.67	5.00
MYR40,001 - MYR60,000	106	3.4874	.94971	.09224	3.3045	3.6703	1.67	5.00
MYR60,001 - MYR80,000	83	3.5984	.97775	.10732	3.3849	3.8119	2.00	5.00
MYR80,001 - MYR100,000	84	3.6944	1.02604	.11195	3.4718	3.9171	1.67	5.00
MYR100,001 and above	50	3.4400	1.00213	.14172	3.1552	3.7248	1.33	5.00
Total	388	3.5584	.96375	.04893	3.4622	3.6546	1.33	5.00

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1.345	4	383	.252

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.948	4	.737	.792	.531
Within Groups	356.505	383	.931		
Total	359.454	387			

**APPENDIX L**  
**Pearson Correlation Matrix for the Variables under Study**  
**(Threat Appraisal, Coping Appraisal, Perceived Trustworthiness and Usage)**

		TPENALTY	TAUDIT	PAUDIT	PDETECT	RES_EFFI	SELF_EFFI	OAPTITUDE	PTRUST	USAGE	ATTITUDE
TPENALTY	Pearson Correlation	1	.695**	.216**	.198**	.144**	-.049	.000	-.027	.085	.044
	Sig. (2-tailed)		.000	.000	.000	.004	.321	.995	.587	.094	.373
	N	406	406	406	406	406	406	406	406	388	406
TAUDIT	Pearson Correlation	.695**	1	.260**	.223**	.159**	-.053	-.032	-.019	.039	.052
	Sig. (2-tailed)	.000		.000	.000	.001	.287	.517	.705	.444	.300
	N	406	406	406	406	406	406	406	406	388	406
PAUDIT	Pearson Correlation	.216**	.260**	1	.399**	-.031	.119*	.058	.046	.151**	-.053
	Sig. (2-tailed)	.000	.000		.000	.528	.016	.241	.355	.003	.287
	N	406	406	406	406	406	406	406	406	388	406
PDETECT	Pearson Correlation	.198**	.223**	.399**	1	.242**	.129**	.128*	.294**	.071	.190**
	Sig. (2-tailed)	.000	.000	.000		.000	.009	.010	.000	.160	.000
	N	406	406	406	406	406	406	406	406	388	406
RES_EFFI	Pearson Correlation	.144**	.159**	-.031	.242**	1	.335**	.003	.469**	.151**	.469**
	Sig. (2-tailed)	.004	.001	.528	.000		.000	.958	.000	.003	.000
	N	406	406	406	406	406	406	406	406	388	406
SELF_EFFI	Pearson Correlation	-.049	-.053	.119*	.129**	.335**	1	.191**	.386**	.048	.295**
	Sig. (2-tailed)	.321	.287	.016	.009	.000		.000	.000	.346	.000
	N	406	406	406	406	406	406	406	406	388	406
OAPTITUDE	Pearson Correlation	.000	-.032	.058	.128*	.003	.191**	1	.198**	.144**	.050
	Sig. (2-tailed)	.995	.517	.241	.010	.958	.000		.000	.005	.313
	N	406	406	406	406	406	406	406	406	388	406
PTRUST	Pearson Correlation	-.027	-.019	.046	.294**	.469**	.386**	.198**	1	.188**	.341**
	Sig. (2-tailed)	.587	.705	.355	.000	.000	.000	.000		.000	.000
	N	406	406	406	406	406	406	406	406	388	406
USAGE	Pearson Correlation	.085	.039	.151**	.071	.151**	.048	.144**	.188**	1	.375**
	Sig. (2-tailed)	.094	.444	.003	.160	.003	.346	.005	.000		.000
	N	388	388	388	388	388	388	388	388	388	388
ATTITUDE	Pearson Correlation	.044	.052	-.053	.190**	.469**	.295**	.050	.341**	.375**	1
	Sig. (2-tailed)	.373	.300	.287	.000	.000	.000	.313	.000	.000	
	N	406	406	406	406	406	406	406	406	388	406

\*\*\*. Correlation is significant at the 0.001 level (2-tailed).

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

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

## APPENDIX M

### MULTIPLE-REGRESSION (Regression Coefficient for Threat Appraisals, Coping Appraisals and Perceived Trustworthiness on USAGE)

#### PRIOR CONTROLLING FOR VARIABLES

##### Prior backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.499 <sup>a</sup>	.249	.237	.84197

a. Predictors: (Constant), ATTITUDE, PAUDIT, OAPTITUDE, SELF\_EFFI, PTRUST, RES\_EFFI

b. Dependent Variable: USAGE

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.360	6	14.893	21.009	.000 <sup>b</sup>
	Residual	270.093	381	.709		
	Total	359.454	387			

a. Dependent Variable: USAGE

b. Predictors: (Constant), ATTITUDE, PAUDIT, OAPTITUDE, SELF\_EFFI, PTRUST, RES\_EFFI

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.493	.433		3.447	.001		
	PAUDIT	.232	.053	.196	4.361	.000	.975	1.025
	RES_EFFI	.071	.096	.040	.736	.462	.655	1.526
	SELF_EFFI	.302	.070	.218	4.318	.000	.775	1.290
	OAPTITUDE	.220	.060	.168	3.658	.000	.932	1.073
	PTRUST	.255	.079	.171	3.217	.001	.697	1.435
	ATTITUDE	.645	.079	.422	8.175	.000	.739	1.353

a. Dependent Variable: USAGE

**After backward elimination**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.498 <sup>a</sup>	.248	.238	.84146

a. Predictors: (Constant), ATTITUDE, PAUDIT, OAPTITUDE, SELF\_EFFI, PTRUST

b. Dependent Variable: USAGE

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.976	5	17.795	25.133	.000 <sup>b</sup>
	Residual	270.477	382	.708		
	Total	359.454	387			

a. Dependent Variable: USAGE

b. Predictors: (Constant), ATTITUDE, PAUDIT, OAPTITUDE, SELF\_EFFI, PTRUST

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.359	.393		3.460	.001		
	PAUDIT	.235	.053	.199	4.439	.000	.982	1.019
	SELF_EFFI	.310	.069	.223	4.466	.000	.790	1.266
	OAPTITUDE	.215	.060	.165	3.602	.000	.943	1.061
	PTRUST	.236	.075	.158	3.154	.002	.784	1.276
	ATTITUDE	.625	.074	.409	8.430	.000	.835	1.197

a. Dependent Variable: USAGE

## AFTER INCLUDING CONTROL VARIABLES

### Prior backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509 <sup>a</sup>	.259	.229	.85664

a. Predictors: (Constant), COMPLEX3, ATTITUDE, GENDERC, QUALICB, INCGRP4, PAUDIT, SELF\_EFFI, AGEGRP3, OCCUPBIN, PTRUST, OAPTITUDE

b. Dependent Variable: USAGE

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	68.290	11	6.208	8.460	.000 <sup>b</sup>
	Residual	195.200	266	.734		
	Total	263.490	277			

a. Dependent Variable: USAGE

b. Predictors: (Constant), COMPLEX3, ATTITUDE, GENDERC, QUALICB, INCGRP4, PAUDIT, SELF\_EFFI, AGEGRP3, OCCUPBIN, PTRUST, OAPTITUDE

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.893	.589		3.216	.001		
	PAUDIT	.260	.064	.226	4.050	.000	.896	1.116
	OAPTITUDE	.153	.101	.104	1.517	.130	.593	1.686
	SELF_EFFI	.191	.078	.147	2.452	.015	.770	1.298
	PTRUST	.262	.096	.179	2.726	.007	.645	1.551
	ATTITUDE	.395	.093	.254	4.259	.000	.781	1.280
	GENDERC	.209	.107	.107	1.948	.053	.919	1.088
	OCCUPBIN	-.706	.198	-.231	-3.572	.000	.664	1.505
	AGEGRP3	-.003	.142	-.001	-.023	.981	.750	1.333
	INCGRP4	.050	.151	.019	.330	.742	.873	1.146
	QUALICB	-.012	.150	-.005	-.079	.937	.804	1.244
	COMPLEX3	-.049	.171	-.017	-.286	.775	.796	1.256

a. Dependent Variable: USAGE

## After backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.531 <sup>a</sup>	.282	.274	.82103

a. Predictors: (Constant), OCCUPBIN, PAUDIT, ATTITUDE, SELF-EFFI

b. Dependent Variable: USAGE

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	101.277	4	25.319	37.561	.000 <sup>b</sup>
	Residual	258.177	383	.674		
	Total	359.454	387			

a. Dependent Variable: USAGE

b. Predictors: (Constant), OCCUPBIN, PAUDIT, ATTITUDE, SELF\_EFFI

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.875	.373		5.023	.000		
	PAUDIT	.212	.051	.179	4.123	.000	.995	1.005
	SELF_EFFI	.166	.058	.127	2.885	.004	.963	1.039
	ATTITUDE	.538	.067	.353	8.033	.000	.972	1.028
	OCCUPBIN	-.715	.109	-.292	-6.582	.000	.952	1.050

a. Dependent Variable: USAGE

# APPENDIX N

## INDIRECT EFFECT OF RES\_EFFI on USAGE MEDIATED BY ATTITUDE (PRIOR CONTROLLING FOR CONTROL VARIABLES)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Release 2.10 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.      www.afhayes.com  
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

\*\*\*\*\*

Model = 4  
Y = USAGE  
X = RES\_EFFI  
M = ATTITUDE

Sample size  
388

\*\*\*\*\*

Outcome: ATTITUDE

Model Summary

R	R-sq	F	df1	df2	p
.4689	.2199	108.7938	1.0000	386.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.8934	.2073	9.1341	.0000	1.4859	2.3010
RES_EFFI	.5402	.0518	10.4304	.0000	.4383	.6420

\*\*\*\*\*

Outcome: USAGE

Model Summary

R	R-sq	F	df1	df2	p
.3758	.1413	31.6638	2.0000	385.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.3818	.3665	3.7699	.0002	.6611	2.1025
ATTITUDE	.5951	.0816	7.2911	.0000	.4346	.7555
RES_EFFI	-.0566	.0940	-.6025	.5472	-.2415	.1282

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*

Outcome: USAGE

Model Summary

R	R-sq	F	df1	df2	p
.1506	.0227	8.9574	1.0000	386.0000	.0029

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.5085	.3541	7.0837	.0000	1.8123	3.2048
RES_EFFI	.2648	.0885	2.9929	.0029	.0908	.4387

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS \*\*\*\*\*

Total effect of X on Y						
	Effect	SE	t	p	LLCI	ULCI
	.2648	.0885	2.9929	.0029	.0908	.4387

Direct effect of X on Y						
	Effect	SE	t	p	LLCI	ULCI
	-.0566	.0940	-.6025	.5472	-.2415	.1282

Indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
ATTITUDE	.3214	.0519	.2256	.4300

Partially standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
ATTITUDE	.3335	.0530	.2350	.4416

Completely standardized indirect effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
ATTITUDE	.1828	.0287	.1298	.2416

Ratio of indirect to total effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
ATTITUDE	1.2139	17.0252	.6592	3.7514

Ratio of indirect to direct effect of X on Y				
	Effect	Boot SE	BootLLCI	BootULCI
ATTITUDE	-5.6749	230.5486	-7436.3834	-1.5488

R-squared mediation effect size (R-sq_med)				
	Effect	Boot SE	BootLLCI	BootULCI
ATTITUDE	.0219	.0190	-.0127	.0620

Preacher and Kelley (2011) Kappa-squared				
	Effect	Boot SE	BootLLCI	BootULCI
ATTITUDE	.1679	.0262	.1181	.2195

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*\*\*

Number of bootstrap samples for bias corrected bootstrap confidence intervals: 10000

Level of confidence for all confidence intervals in output: 95.00

NOTE: Some cases were deleted due to missing data. The number of such cases was: 18

----- END MATRIX -----

**INDIRECT EFFECT OF RES\_EFFI on USAGE MEDIATED BY  
ATTITUDE (AFTER CONTROLLING FOR CONTROL VARIABLES)**

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Release 2.10 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.                      www.afhayes.com  
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

\*\*\*\*\*

Model = 4  
Y = USAGE  
X = RES\_EFFI  
M = ATTITUDE

Statistical Controls:

Columns 1 - 14  
CONTROL= TPENALTY PAUDIT PDETECT PTRUST SUBNORM INCGRP1 INCGRP2  
INCGRP3 INCGRP4 GENDERC AGEGRP1 AGEGRP2 AGEGRP3  
Columns 15 - 20  
CONTROL= FILING\_1 FILING\_2 OCCUPBIN EDUCB COMPLEX1 COMPLEX2

Sample size  
370

\*\*\*\*\*

Outcome: ATTITUDE

Model Summary

R	R-sq	F	df1	df2	p
.5640	.3181	7.7320	21.0000	348.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.8029	.3388	5.3208	.0000	1.1365	2.4693
RES_EFFI	.3743	.0616	6.0726	.0000	.2531	.4956
TPENALTY	.0208	.0365	.5704	.5688	-.0510	.0927
PAUDIT	-.0976	.0395	-2.4714	.0139	-.1753	-.0199
PDETECT	.0744	.0423	1.7595	.0794	-.0088	.1576
PTRUST	.1167	.0569	2.0506	.0411	.0048	.2286
SUBNORM	.1136	.0450	2.5265	.0120	.0252	.2020
INCGRP1	-.1000	.0947	-1.0560	.2917	-.2862	.0862
INCGRP2	-.0018	.0877	-.0207	.9835	-.1744	.1708
INCGRP3	-.0719	.0901	-.7987	.4250	-.2491	.1052
INCGRP4	.0262	.1088	.2413	.8095	-.1877	.2402
GENDERC	.0534	.0597	.8943	.3718	-.0640	.1709
AGEGRP1	-.0358	.1267	-.2825	.7777	-.2850	.2134
AGEGRP2	.0127	.0784	.1620	.8714	-.1415	.1669
AGEGRP3	-.0570	.0899	-.6333	.5269	-.2339	.1199
FILINGNO	.0161	.1342	.1199	.9046	-.2479	.2801
FILING_1	-.1563	.0806	-1.9391	.0533	-.3148	.0022
FILING_2	.1064	.0804	1.3235	.1865	-.0517	.2644
OCCUPBIN	-.1299	.0895	-1.4517	.1475	-.3060	.0461
QUALICB	-.0500	.0832	-.6007	.5484	-.2137	.1137
COMPLEX1	-.1750	.0776	-2.2564	.0247	-.3276	-.0225
COMPLEX2	.1737	.1129	1.5375	.1251	-.0485	.3958

\*\*\*\*\*

Outcome: USAGE

Model Summary

R	R-sq	F	df1	df2	p
.5615	.3152	7.2615	22.0000	347.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.9421	.5407	1.7424	.0823	-.1214	2.0056
ATTITUDE	.4643	.0823	5.6439	.0000	.3025	.6261
RES_EFFI	.0208	.0995	.2090	.8345	-.2165	.1749
TPENALTY	.0395	.0561	.7035	.4822	-.0709	.1498
PAUDIT	.2146	.0611	3.5109	.0005	.0944	.3349
PDETECT	-.0870	.0652	-1.3346	.1829	-.2152	.0412
PTRUST	-.0033	.0879	-.0370	.9705	-.1761	.1696
SUBNORM	.2068	.0696	2.9696	.0032	.0698	.3437
INCGRP1	.1869	.1455	1.2843	.1999	-.0993	.4731
INCGRP2	.2167	.1347	1.6095	.1084	-.0481	.4816
INCGRP3	.0184	.1383	.1334	.8940	-.2536	.2905
INCGRP4	.1749	.1670	1.0477	.2955	-.1534	.5033
GENDERC	.1991	.0918	2.1701	.0307	.0187	.3796
AGEGRP1	-.1531	.1945	-.7873	.4317	-.5357	.2294
AGEGRP2	-.0617	.1203	-.5133	.6081	-.2983	.1748
AGEGRP3	.0776	.1381	.5620	.5745	-.1940	.3492
FILINGNO	.3453	.2060	1.6766	.0945	-.0598	.7505
FILING_1	-.2069	.1244	-1.6637	.0971	-.4515	.0377
FILING_2	-.1141	.1236	-.9231	.3566	-.3573	.1291
OCCUPBIN	-.7746	.1378	-5.6224	.0000	-1.0455	-.5036
QUALICB	.0144	.1278	.1130	.9101	-.2369	.2658
COMPLEX1	.0038	.1199	.0316	.9748	-.2321	.2397
COMPLEX2	-.1158	.1739	-.6657	.5061	-.4579	.2263

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*

Outcome: USAGE

Model Summary

R	R-sq	F	df1	df2	p
.5024	.2524	5.5945	21.0000	348.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.7792	.5425	3.2793	.0011	.7121	2.8463
RES_EFFI	.1530	.0987	1.5501	.1220	-.0411	.3471
TPENALTY	.0491	.0585	.8399	.4015	-.0659	.1642
PAUDIT	.1693	.0632	2.6777	.0078	.0449	.2937
PDETECT	-.0525	.0677	-.7746	.4391	-.1856	.0807
PTRUST	.0509	.0911	.5589	.5766	-.1283	.2302
SUBNORM	.2595	.0720	3.6047	.0004	.1179	.4011
INCGRP1	.1405	.1516	.9267	.3547	-.1577	.4386
INCGRP2	.2159	.1405	1.5365	.1253	-.0605	.4922
INCGRP3	-.0150	.1442	-.1037	.9175	-.2986	.2687
INCGRP4	.1871	.1742	1.0742	.2835	-.1555	.5297
GENDERC	.2239	.0956	2.3416	.0198	.0358	.4120
AGEGRP1	-.1697	.2029	-.8366	.4034	-.5688	.2293
AGEGRP2	-.0559	.1255	-.4450	.6566	-.3027	.1910
AGEGRP3	.0512	.1440	.3553	.7226	-.2321	.3344
FILINGNO	.3528	.2149	1.6417	.1016	-.0699	.7755
FILING_1	-.2795	.1291	-2.1654	.0310	-.5333	-.0256
FILING_2	-.0647	.1287	-.5031	.6152	-.3178	.1883
OCCUPBIN	-.8349	.1433	-5.8258	.0000	-1.1168	-.5530
QUALICB	-.0088	.1333	-.0658	.9476	-.2709	.2534
COMPLEX1	-.0775	.1242	-.6238	.5332	-.3218	.1668
COMPLEX2	-.0351	.1809	-.1943	.8460	-.3909	.3206

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS \*\*\*\*\*

Total effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
.1530	.0987	1.5501	.1220	-.0411	.3471	

Direct effect of X on Y						
Effect	SE	t	p	LLCI	ULCI	
.0208	.0995	.2090	.8345	-.2165	.1749	

Indirect effect of X on Y						
	Effect	Boot SE	BootLLCI	BootULCI		
ATTITUDE	.1738	.0427	.1028	.2731		

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*\*\*

Number of bootstrap samples for bias corrected bootstrap confidence intervals:  
10000

Level of confidence for all confidence intervals in output: 95.00

NOTE: Some cases were deleted due to missing data. The number of such cases  
was: 36

NOTE: Effect size measures for indirect effects not available for models with  
covariates

----- END MATRIX -----

## APPENDIX O

### Pearson Correlations Matrix for Variables under Study (Predictors and ADMINCOM & REPORTCOM)

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	ADMINCOM	Corr	1	.149 <sup>**</sup>	.255 <sup>***</sup>	.193 <sup>**</sup>	.106 <sup>*</sup>	.288 <sup>***</sup>	.320 <sup>***</sup>	.280 <sup>***</sup>	.381 <sup>***</sup>	-.046	-.025	-.063	.084	.020	-.026
		Sig.		.003	.000	.000	.033	.000	.000	.000	.000	.000	.356	.614	.209	.092	.688
2	REPORTCOM	Corr	.149 <sup>**</sup>	1	-.117 <sup>*</sup>	-.007	-.074	.189 <sup>***</sup>	.142 <sup>**</sup>	.142 <sup>**</sup>	.271 <sup>***</sup>	-.245 <sup>***</sup>	.275 <sup>***</sup>	.020	.065	-.152 <sup>**</sup>	-.213 <sup>***</sup>
		Sig.	.003		.021	.895	.135	.000	.004	.004	.000	.000	.000	.000	.694	.188	.002
3	USAGE	Corr	.255 <sup>***</sup>	-.117 <sup>*</sup>	1	.085	.151 <sup>**</sup>	.071	.151 <sup>**</sup>	.188 <sup>***</sup>	.215 <sup>***</sup>	.164 <sup>**</sup>	-.357 <sup>***</sup>	-.036	.063	.053	.164 <sup>**</sup>
		Sig.	.000	.021		.094	.003	.160	.003	.000	.000	.001	.000	.482	.212	.296	.006
4	TPENALTY	Corr	.193 <sup>***</sup>	-.007	.085	1	.216 <sup>***</sup>	.198 <sup>***</sup>	.144 <sup>**</sup>	-.027	.107 <sup>*</sup>	-.040	-.041	-.013	-.119 <sup>*</sup>	.072	.088
		Sig.	.000	.895	.094		.000	.000	.004	.587	.031	.418	.410	.789	.017	.146	.133
5	PAUDIT	Corr	.106 <sup>*</sup>	-.074	.151 <sup>**</sup>	.216 <sup>***</sup>	1	.399 <sup>***</sup>	-.031	.046	.125 <sup>*</sup>	-.021	.019	-.036	-.001	.034	.134 <sup>*</sup>
		Sig.	.033	.135	.003	.000		.000	.528	.355	.012	.678	.706	.474	.984	.492	.021
6	PDETECT	Corr	.288 <sup>***</sup>	.189 <sup>***</sup>	.071	.198 <sup>**</sup>	.399 <sup>***</sup>	1	.242 <sup>***</sup>	.294 <sup>***</sup>	.372 <sup>***</sup>	-.005	.214 <sup>***</sup>	-.131 <sup>**</sup>	.062	-.094	-.081
		Sig.	.000	.000	.160	.000	.000		.000	.000	.000	.928	.000	.008	.211	.059	.168
7	RES_EFFI	Corr	.320 <sup>***</sup>	.142 <sup>**</sup>	.151 <sup>**</sup>	.144 <sup>**</sup>	-.031	.242 <sup>***</sup>	1	.469 <sup>***</sup>	.315 <sup>***</sup>	-.058	-.022	-.186 <sup>***</sup>	.058	-.015	.026
		Sig.	.000	.004	.003	.004	.528	.000		.000	.000	.240	.662	.000	.245	.763	.662
8	PTRUST	Corr	.280 <sup>***</sup>	.142 <sup>**</sup>	.188 <sup>**</sup>	-.027	.046	.294 <sup>***</sup>	.469 <sup>***</sup>	1	.400 <sup>***</sup>	.038	-.031	-.138 <sup>**</sup>	.075	-.040	.106
		Sig.	.000	.004	.000	.587	.355	.000	.000		.000	.443	.536	.005	.133	.426	.070
9	SREF	Corr	.381 <sup>***</sup>	.271 <sup>***</sup>	.215 <sup>***</sup>	.107 <sup>*</sup>	.125 <sup>*</sup>	.372 <sup>***</sup>	.315 <sup>***</sup>	.400 <sup>***</sup>	1	-.095	.078	-.051	.125 <sup>*</sup>	-.054	.028
		Sig.	.000	.000	.000	.031	.012	.000	.000	.000		.057	.120	.305	.012	.284	.635

10	GENDERC	Corr	-.046	-.245***	.164**	-.040	-.021	-.005	-.058	.038	-.095	1	-.246***	.015	-.049	-.050	.097
		Sig.	.356	.000	.001	.418	.678	.928	.240	.443	.057	.000	.758	.324	.316	.097	
11	OCCUPBIN	Corr	-.025	.275***	-.357***	-.041	.019	.214***	-.022	-.031	.078	-.246***	1	-.063	.010	-.101*	-.269***
		Sig.	.614	.000	.000	.410	.706	.000	.662	.536	.120	.000	.207	.841	.043	.000	
12	AGEGRP3	Corr	-.063	.020	-.036	-.013	-.036	-.131**	-.186***	-.138**	-.051	.015	-.063	1	.101*	-.230***	-.097
		Sig.	.209	.694	.482	.789	.474	.008	.000	.005	.305	.758	.207	.042	.000	.095	
13	INCGRP4	Corr	.084	.065	.063	-.119*	-.001	.062	.058	.075	.125*	-.049	.010	.101*	1	.071	.165**
		Sig.	.092	.188	.212	.017	.984	.211	.245	.133	.012	.324	.841	.042	.156	.005	
14	QUALICB	Corr	.020	-.152**	.053	.072	.034	-.094	-.015	-.040	-.054	-.050	-.101*	-.230***	.071	1	.099
		Sig.	.688	.002	.296	.146	.492	.059	.763	.426	.284	.316	.043	.000	.156	.091	
15	COMPLEX3	Corr	-.026	-.213***	.164**	.088	.134*	-.081	.026	.106	.028	.097	-.269***	-.097	.165**	.099	1
		Sig.	.660	.000	.006	.133	.021	.168	.662	.070	.635	.097	.000	.095	.005	.091	

\*\*\* Correlation is significant at the 0.001 level (2-tailed).

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

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

# APPENDIX P1

## MULTIPLE REGRESSIONS (Regression Coefficients for ADMINCOM)

### PRIOR CONTROLLING FOR CONTROL VARIABLES

#### Prior backward elimination

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.447 <sup>a</sup>	.200	.188	.53589

a. Predictors: (Constant), PTRUST, PAUDIT, TPENALTY, USAGE, PDETECT, RES\_EFFI

b. Dependent Variable: ADMINCOM

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.376	6	4.563	15.888	.000 <sup>b</sup>
	Residual	109.415	381	.287		
	Total	136.791	387			

a. Dependent Variable: ADMINCOM

b. Predictors: (Constant), PTRUST, PAUDIT, TPENALTY, USAGE, PDETECT, RES\_EFFI

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.249	.258		8.706	.000		
	USAGE	.117	.029	.190	3.988	.000	.930	1.076
	TPENALTY	.085	.035	.117	2.445	.015	.911	1.098
	PAUDIT	-.021	.038	-.028	-.550	.583	.792	1.262
	PDETECT	.132	.038	.184	3.485	.001	.755	1.324
	RES_EFFI	.186	.058	.172	3.206	.001	.732	1.366
	PTRUST	.101	.050	.110	2.037	.042	.717	1.395

a. Dependent Variable: ADMINCOM

**After backward elimination**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.447 <sup>a</sup>	.199	.189	.53540

a. Predictors: (Constant), PTRUST, TPENALTY, USAGE, PDETECT, RES\_EFFI

b. Dependent Variable: ADMINCOM

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.290	5	5.458	19.040	.000 <sup>b</sup>
	Residual	109.502	382	.287		
	Total	136.791	387			

a. Dependent Variable: ADMINCOM

b. Predictors: (Constant), PTRUST, TPENALTY, USAGE, PDETECT, RES\_EFFI

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.207	.247		8.945	.000		
	USAGE	.114	.029	.185	3.954	.000	.953	1.049
	TPENALTY	.082	.034	.113	2.392	.017	.932	1.073
	PDETECT	.124	.035	.173	3.546	.000	.884	1.132
	RES_EFFI	.192	.057	.177	3.353	.001	.754	1.326
	PTRUST	.102	.050	.111	2.056	.040	.717	1.394

a. Dependent Variable: ADMINCOM

## AFTER CONTROLLING FOR CONTROL VARIABLES

### Prior backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.483 <sup>a</sup>	.233	.198	.55693

a. Predictors: (Constant), COMPLEX3, RES\_EFFI, QUALICB, PAUDIT, INCGRP4, GENDERC, USAGE, TPENALTY, AGEGRP3, OCCUPBIN, PDETECT, PTRUST

b. Dependent Variable: ADMINCOM

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.945	12	2.079	6.702	.000 <sup>b</sup>
	Residual	82.196	265	.310		
	Total	107.140	277			

a. Dependent Variable: ADMINCOM

b. Predictors: (Constant), COMPLEX3, RES\_EFFI, QUALICB, PAUDIT, INCGRP4, GENDERC, USAGE, TPENALTY, AGEGRP3, OCCUPBIN, PDETECT, PTRUST

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.272	.379		5.987	.000		
	USAGE	.082	.038	.129	2.156	.032	.808	1.237
	TPENALTY	.066	.044	.090	1.494	.136	.803	1.246
	PAUDIT	-.032	.045	-.044	-.721	.472	.769	1.300
	PDETECT	.167	.049	.225	3.402	.001	.665	1.505
	RES_EFFI	.240	.071	.227	3.385	.001	.644	1.552
	PTRUST	.096	.065	.103	1.460	.145	.587	1.703
	GENDERC	.077	.069	.062	1.109	.269	.930	1.075
	OCCUPBIN	-.119	.123	-.061	-.968	.334	.726	1.377
	AGEGRP3	-.076	.091	-.051	-.840	.401	.776	1.288
	INCGRP4	-.013	.099	-.008	-.129	.897	.850	1.177
	QUALICB	.083	.099	.051	.840	.402	.788	1.269
	COMPLEX3	-.153	.111	-.083	-1.376	.170	.801	1.248

a. Dependent Variable: ADMINCOM

**After backward elimination**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426 <sup>a</sup>	.182	.175	.53995

a. Predictors: (Constant), RES\_EFFI, USAGE, PDETECT

b. Dependent Variable: ADMINCOM

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.837	3	8.279	28.397	.000 <sup>b</sup>
	Residual	111.954	384	.292		
	Total	136.791	387			

a. Dependent Variable: ADMINCOM

b. Predictors: (Constant), RES\_EFFI, USAGE, PDETECT

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.514	.224		11.230	.000		
	USAGE	.126	.029	.205	4.384	.000	.976	1.025
	PDETECT	.150	.034	.210	4.429	.000	.952	1.051
	RES_EFFI	.252	.052	.233	4.870	.000	.935	1.070

a. Dependent Variable: ADMINCOM

## APPENDIX P2

### Regression Coefficients for REPORTCOM

#### PRIOR CONTROLLING FOR CONTROL VARIABLES

##### Prior backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.305 <sup>a</sup>	.093	.079	.83578

a. Predictors: (Constant), PTRUST, PAUDIT, TPENALTY, USAGE, PDETECT, RES\_EFFI

b. Dependent Variable: REPORTCOM

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.352	6	4.559	6.526	.000 <sup>b</sup>
	Residual	266.142	381	.699		
	Total	293.494	387			

a. Dependent Variable: REPORTCOM

b. Predictors: (Constant), PTRUST, PAUDIT, TPENALTY, USAGE, PDETECT, RES\_EFFI

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.305	.403		5.721	.000		
	USAGE	-.121	.046	-.133	-2.638	.009	.930	1.076
	TPENALTY	.010	.054	.010	.189	.850	.911	1.098
	PAUDIT	-.161	.059	-.151	-2.754	.006	.792	1.262
	PDETECT	.248	.059	.236	4.212	.000	.755	1.324
	RES_EFFI	.089	.091	.056	.982	.327	.732	1.366
	PTRUST	.095	.078	.070	1.222	.222	.717	1.395

a. Dependent Variable: REPORTCOM

## After backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.301 <sup>a</sup>	.091	.081	.83480

a. Predictors: (Constant), PTRUST, PAUDIT, USAGE, PDETECT

b. Dependent Variable: REPORTCOM

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.585	4	6.646	9.537	.000 <sup>b</sup>
	Residual	266.909	383	.697		
	Total	293.494	387			

a. Dependent Variable: REPORTCOM

b. Predictors: (Constant), PTRUST, PAUDIT, USAGE, PDETECT

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.565	.303		8.468	.000		
	USAGE	-.116	.045	-.128	-2.549	.011	.941	1.062
	PAUDIT	-.169	.057	-.158	-2.947	.003	.829	1.207
	PDETECT	.259	.058	.246	4.465	.000	.781	1.281
	PTRUST	.124	.070	.092	1.776	.077	.878	1.138

a. Dependent Variable: REPORTCOM

## AFTER CONTROLLING FOR CONTROL VARIABLES

### Prior backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.526 <sup>a</sup>	.277	.241	.79133

a. Predictors: (Constant), COMPLEX3, SREF, TPENALTY, AGEGRP3, GENDERC, PAUDIT, INCGRP4, USAGE, QUALICB, RES\_EFFI, OCCUPBIN, PDETECT, PTRUST

b. Dependent Variable: REPORTCOM

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.346	13	4.873	7.781	.000 <sup>b</sup>
	Residual	165.319	264	.626		
	Total	228.665	277			

a. Dependent Variable: REPORTCOM

b. Predictors: (Constant), COMPLEX3, SREF, TPENALTY, AGEGRP3, GENDERC, PAUDIT, INCGRP4, USAGE, QUALICB, RES\_EFFI, OCCUPBIN, PDETECT, PTRUST

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
		1	(Constant)	1.381			.542	
	USAGE	-.105	.055	-.112	-1.899	.059	.785	1.274
	TPENALTY	.108	.063	.100	1.705	.089	.792	1.263
	PAUDIT	-.118	.064	-.110	-1.845	.066	.769	1.301
	PDETECT	.088	.072	.081	1.223	.222	.620	1.613
	RES_EFFI	.057	.103	.037	.555	.579	.616	1.624
	PTRUST	.053	.094	.039	.561	.575	.569	1.757
	SREF	.291	.076	.241	3.807	.000	.685	1.460
	GENDERC	-.329	.099	-.181	-3.315	.001	.920	1.086
	OCCUPBIN	.227	.175	.080	1.301	.195	.725	1.378
	AGEGRP3	-.059	.129	-.027	-.459	.646	.773	1.294
	INCGRP4	.312	.141	.126	2.213	.028	.849	1.177
	QUALICB	-.372	.140	-.156	-2.653	.008	.788	1.269
	COMPLEX3	-.416	.158	-.154	-2.631	.009	.800	1.249

a. Dependent Variable: REPORTCOM

## After backward elimination

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509 <sup>a</sup>	.259	.237	.79377

a. Predictors: (Constant), COMPLEX3, SREF, QUALICB, GENDERC, INCGRP4, PAUDIT, USAGE, PDETECT

b. Dependent Variable: REPORTCOM

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.176	8	7.397	11.740	.000 <sup>b</sup>
	Residual	169.489	269	.630		
	Total	228.665	277			

a. Dependent Variable: REPORTCOM

b. Predictors: (Constant), COMPLEX3, SREF, QUALICB, GENDERC, INCGRP4, PAUDIT, USAGE, PDETECT

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.172	.333		6.531	.000		
	USAGE	-.110	.052	-.118	-2.130	.034	.893	1.120
	PAUDIT	-.119	.063	-.111	-1.901	.058	.805	1.243
	PDETECT	.148	.068	.136	2.174	.031	.703	1.422
	SREF	.309	.071	.255	4.356	.000	.801	1.249
	GENDERC	-.351	.098	-.193	-3.581	.000	.949	1.054
	INCGRP4	.283	.134	.114	2.112	.036	.944	1.059
	QUALICB	-.382	.129	-.161	-2.953	.003	.931	1.074
	COMPLEX3	-.404	.150	-.150	-2.694	.007	.893	1.120

a. Dependent Variable: REPORTCOM

# APPENDIX Q1

## THE MODERATING EFFECT OF PTRUST ON ADMINCOM (PRIOR CONTROL VARIABLE)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Release 2.10 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.                      www.afhayes.com  
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

\*\*\*\*\*

Model = 1  
Y = ADMINCOM  
X = USAGE  
M = PTRUST

Sample size  
388

\*\*\*\*\*

Outcome: ADMINCOM

Model Summary

R	R-sq	F	df1	df2	p
.3451	.1191	20.1498	3.0000	384.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.4820	.0287	156.3447	.0000	4.4256	4.5383
PTRUST	.2140	.0509	4.2052	.0000	.1140	.3141
USAGE	.1330	.0292	4.5523	.0000	.0756	.1905
int_1	-.0442	.0452	-.9778	.3288	-.1331	.0447

Interactions:

int\_1      USAGE              X              PTRUST

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Conditional effect of X on Y at values of the moderator(s):

PTRUST	Effect	se	t	p	LLCI	ULCI
-.6469	.1616	.0497	3.2527	.0012	.0639	.2593
.0000	.1330	.0292	4.5523	.0000	.0756	.1905
.6469	.1044	.0308	3.3889	.0008	.0438	.1650

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

\*\*\*\*\* JOHNSON-NEYMAN TECHNIQUE \*\*\*\*\*

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
1.0628	94.3299	5.6701

Conditional effect of X on Y at values of the moderator (M)

PTRUST	Effect	se	t	p	LLCI	ULCI
-1.8907	.2166	.1019	2.1259	.0341	.0163	.4170
-1.7207	.2091	.0945	2.2130	.0275	.0233	.3949
-1.5507	.2016	.0871	2.3137	.0212	.0303	.3729
-1.3807	.1941	.0798	2.4310	.0155	.0371	.3511
-1.2107	.1866	.0726	2.5692	.0106	.0438	.3294
-1.0407	.1791	.0655	2.7333	.0066	.0503	.3079
-.8707	.1715	.0585	2.9302	.0036	.0564	.2866
-.7007	.1640	.0518	3.1676	.0017	.0622	.2658
-.5307	.1565	.0453	3.4537	.0006	.0674	.2456
-.3607	.1490	.0393	3.7918	.0002	.0717	.2262
-.1907	.1415	.0339	4.1673	.0000	.0747	.2082
-.0207	.1340	.0297	4.5174	.0000	.0757	.1923
.1493	.1264	.0269	4.6982	.0000	.0735	.1794
.3193	.1189	.0262	4.5357	.0000	.0674	.1705
.4893	.1114	.0277	4.0180	.0001	.0569	.1659
.6593	.1039	.0311	3.3386	.0009	.0427	.1651
.8293	.0964	.0359	2.6874	.0075	.0259	.1669
.9993	.0889	.0415	2.1413	.0329	.0073	.1704
1.0628	.0860	.0438	1.9662	.0500	.0000	.1721
1.1693	.0813	.0477	1.7049	.0890	-.0125	.1751
1.3393	.0738	.0543	1.3596	.1748	-.0329	.1806
1.5093	.0663	.0611	1.0844	.2789	-.0539	.1865

\*\*\*\*\*

Data for visualizing conditional effect of X of Y:

USAGE	PTRUST	yhat
-.9638	-.6469	4.1877
.0000	-.6469	4.3435
.9638	-.6469	4.4993
-.9638	.0000	4.3537
.0000	.0000	4.4820
.9638	.0000	4.6102
-.9638	.6469	4.5198
.0000	.6469	4.6204
.9638	.6469	4.7211

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*\*\*

Level of confidence for all confidence intervals in output:95.00

NOTE: The following variables were mean centered prior to analysis:  
USAGE PTRUST

NOTE: Some cases were deleted due to missing data. The number of such cases was: 18

NOTE: All standard errors for continuous outcome models are based on the HC3 estimator

----- END MATRIX -----

## MODERATING EFFECT OF PTRUST ON ADMINCOM (AFTER CONTROL VARIABLE)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Release 2.10 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.      www.afhayes.com  
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

\*\*\*\*\*

Model = 1  
Y = ADMINCOM  
X = USAGE  
M = PTRUST

Statistical Controls:  
CONTROL= GENDERC OCCUPBIN AGEGRP3 INCGRP4 EDUCB

Sample size  
388

\*\*\*\*\*

Outcome: ADMINCOM

Model Summary

	R	R-sq	F	df1	df2	p
	.3616	.1308	8.6800	8.0000	379.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.4584	.1402	31.8047	.0000	4.1827	4.7340
PTRUST	.2086	.0501	4.1646	.0000	.1101	.3071
USAGE	.1505	.0309	4.8727	.0000	.0898	.2113
int_1	-.0449	.0464	-.9679	.3337	-.1362	.0464
GENDERC	-.0987	.0647	-1.5251	.1281	-.2260	.0286
OCCUPBIN	.0685	.0736	.9304	.3528	-.0762	.2132
AGEGRP3	-.0308	.0703	-.4384	.6614	-.1690	.1074
INCGRP4	.0548	.0925	.5921	.5542	-.1271	.2367
QUALICB	-.0045	.0807	-.0552	.9560	-.1631	.1542

Interactions:

int\_1    USAGE            X            PTRUST

\*\*\*\*\*

Conditional effect of X on Y at values of the moderator(s):

	Effect	se	t	p	LLCI	ULCI
PTRUST	-.6469	.1796	-3.4482	.0006	-.0772	.2820
	.0000	.1505	4.8727	.0000	.0898	.2113
	.6469	.1215	3.8418	.0001	.0593	.1836

Values for quantitative moderators are the mean and plus/minus one SD from mean.  
Values for dichotomous moderators are the two values of the moderator.

\*\*\*\*\* JOHNSON-NEYMAN TECHNIQUE \*\*\*\*\*

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
1.1910	94.8454	5.1546

Conditional effect of X on Y at values of the moderator (M)

PTRUST	Effect	se	t	p	LLCI	ULCI
-1.8907	.2355	.1057	2.2288	.0264	.0277	.4432
-1.7207	.2279	.0981	2.3237	.0207	.0351	.4207
-1.5507	.2202	.0905	2.4332	.0154	.0423	.3982
-1.3807	.2126	.0830	2.5606	.0108	.0493	.3758
-1.2107	.2049	.0756	2.7104	.0070	.0563	.3536
-1.0407	.1973	.0683	2.8880	.0041	.0630	.3316
-.8707	.1897	.0612	3.1006	.0021	.0694	.3099
-.7007	.1820	.0542	3.3566	.0009	.0754	.2886
-.5307	.1744	.0476	3.6647	.0003	.0808	.2679
-.3607	.1667	.0414	4.0293	.0001	.0854	.2481
-.1907	.1591	.0359	4.4378	.0000	.0886	.2296
-.0207	.1515	.0313	4.8316	.0000	.0898	.2131
.1493	.1438	.0284	5.0701	.0000	.0880	.1996
.3193	.1362	.0274	4.9686	.0000	.0823	.1901
.4893	.1286	.0287	4.4824	.0000	.0722	.1849
.6593	.1209	.0319	3.7892	.0002	.0582	.1837
.8293	.1133	.0366	3.0961	.0021	.0413	.1852
.9993	.1056	.0422	2.5013	.0128	.0226	.1887
1.1693	.0980	.0485	2.0202	.0441	.0026	.1934
1.1910	.0970	.0493	1.9662	.0500	.0000	.1940
1.3393	.0904	.0552	1.6369	.1025	-.0182	.1989
1.5093	.0827	.0622	1.3304	.1842	-.0395	.2050

\*\*\*\*\*

Data for visualizing conditional effect of X of Y:

USAGE	PTRUST	yhat
-.9638	-.6469	4.1740
.0000	-.6469	4.3471
.9638	-.6469	4.5202
-.9638	.0000	4.3370
.0000	.0000	4.4820
.9638	.0000	4.6271
-.9638	.6469	4.4999
.0000	.6469	4.6170
.9638	.6469	4.7340

Estimates in this table are based on setting covariates to their sample means

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*\*\*

Level of confidence for all confidence intervals in output: 95.00

NOTE: The following variables were mean centered prior to analysis:

USAGE PTRUST

NOTE: Some cases were deleted due to missing data. The number of such cases was:18

NOTE: All standard errors for continuous outcome models are based on the HC3 estimator

----- END MATRIX -----

## APPENDIX Q2

### MODERATING EFFECT OF PTRUST ON REPORTCOM (PRIOR CONTROL VARIABLE)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Release 2.10 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.                      www.afhayes.com  
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

\*\*\*\*\*

Model = 1  
Y = REPORTCO  
X = USAGE  
M = PTRUST

Sample size  
388

\*\*\*\*\*

Outcome: REPORTCO

Model Summary

R	R-sq	F	df1	df2	p
.2460	.0605	6.2285	3.0000	384.0000	.0004

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.9218	.0440	66.3389	.0000	2.8352	3.0084
PTRUST	.2148	.0812	2.6447	.0085	.0551	.3745
USAGE	-.1450	.0515	-2.8175	.0051	-.2463	-.0438
int_1	.1989	.0829	2.3984	.0169	.0358	.3619

Interactions:

int_1	USAGE	X	PTRUST

\*\*\*\*\*

Conditional effect of X on Y at values of the moderator(s):

PTRUST	Effect	se	t	p	LLCI	ULCI
-.6469	-.2737	.0773	-3.5412	.0004	-.4256	-.1217
.0000	-.1450	.0515	-2.8175	.0051	-.2463	-.0438
.6469	-.0164	.0713	-.2300	.8182	-.1565	.1238

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

\*\*\*\*\* JOHNSON-NEYMAN TECHNIQUE \*\*\*\*\*

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
.2062	61.5979	38.4021

Conditional effect of X on Y at values of the moderator (M)

PTRUST	Effect	se	t	p	LLCI	ULCI
-1.8907	-.5211	.1689	-3.0846	.0022	-.8532	-.1889
-1.7207	-.4873	.1556	-3.1324	.0019	-.7931	-.1814
-1.5507	-.4534	.1423	-3.1861	.0016	-.7333	-.1736
-1.3807	-.4196	.1293	-3.2462	.0013	-.6738	-.1655
-1.2107	-.3858	.1165	-3.3128	.0010	-.6148	-.1568
-1.0407	-.3520	.1040	-3.3849	.0008	-.5565	-.1475
-.8707	-.3182	.0920	-3.4589	.0006	-.4991	-.1373
-.7007	-.2844	.0807	-3.5250	.0005	-.4430	-.1258
-.5307	-.2506	.0704	-3.5607	.0004	-.3890	-.1122
-.3607	-.2168	.0616	-3.5197	.0005	-.3379	-.0957
-.1907	-.1830	.0551	-3.3231	.0010	-.2912	-.0747
-.0207	-.1492	.0516	-2.8882	.0041	-.2507	-.0476
.1493	-.1154	.0520	-2.2199	.0270	-.2175	-.0132
.2062	-.1040	.0529	-1.9662	.0500	-.2081	.0000
.3193	-.0815	.0560	-1.4573	.1458	-.1916	.0285
.4893	-.0477	.0629	-.7587	.4485	-.1714	.0760
.6593	-.0139	.0720	-.1934	.8468	-.1555	.1276
.8293	.0199	.0825	.2410	.8097	-.1423	.1821
.9993	.0537	.0940	.5715	.5680	-.1310	.2384
1.1693	.0875	.1060	.8252	.4098	-.1210	.2960
1.3393	.1213	.1186	1.0231	.3069	-.1118	.3545
1.5093	.1551	.1314	1.1803	.2386	-.1033	.4135

\*\*\*\*\*

Data for visualizing conditional effect of X of Y:

USAGE	PTRUST	yhat
-.9638	-.6469	3.0466
.0000	-.6469	2.7829
.9638	-.6469	2.5191
-.9638	.0000	3.0616
.0000	.0000	2.9218
.9638	.0000	2.7820
-.9638	.6469	3.0766
.0000	.6469	3.0608
.9638	.6469	3.0450

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*\*\*

Level of confidence for all confidence intervals in output: 95.00

NOTE: The following variables were mean centered prior to analysis:

USAGE PTRUST

NOTE: Some cases were deleted due to missing data. The number of such cases was: 18

NOTE: All standard errors for continuous outcome models are based on the HC3 estimator

----- END MATRIX -----

# MODERATING EFFECT OF PTRUST ON REPORTCOM (AFTER CONTROL VARIABLE)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Release 2.10 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)  
Documentation available in Hayes (2013). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model = 1  
Y = REPORTCO  
X = USAGE  
M = PTRUST

Statistical Controls:

CONTROL= GENDERC AGEGRP3 OCCUPBIN EDUCB INCGRP4

Sample size  
388

\*\*\*\*\*

Outcome: REPORTCO

Model Summary

R	R-sq	F	df1	df2	p
.4075	.1660	8.6495	8.0000	379.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.6349	.1975	13.3384	.0000	2.2465	3.0234
PTRUST	.1965	.0688	2.8567	.0045	.0612	.3317
USAGE	-.0479	.0528	-.9075	.3647	-.1518	.0559
int_1	.1899	.0688	2.7614	.0060	.0547	.3250
GENDERC	-.3259	.0846	-3.8499	.0001	-.4923	-.1594
AGEGRP3	.0174	.1296	.1344	.8932	-.2374	.2722
OCCUPBIN	.4392	.1159	3.7903	.0002	.2114	.6671
QUALICB	-.2895	.1185	-2.4425	.0150	-.5225	-.0564
INCGRP4	.1716	.1327	1.2930	.1968	-.0894	.4325

Interactions:

int\_1      USAGE      X      PTRUST

\*\*\*\*\*

Conditional effect of X on Y at values of the moderator(s):

PTRUST	Effect	se	t	p	LLCI	ULCI
-.6469	-.1707	.0708	-2.4114	.0164	-.3100	-.0315
.0000	-.0479	.0528	-.9075	.3647	-.1518	.0559
.6469	.0749	.0673	1.1133	.2663	-.0574	.2071

Values for quantitative moderators are the mean and plus/minus one SD from mean.

Values for dichotomous moderators are the two values of the moderator.

\*\*\*\*\* JOHNSON-NEYMAN TECHNIQUE \*\*\*\*\*

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
-.3655	30.6701	69.3299
1.3072	94.8454	5.1546

Conditional effect of X on Y at values of the moderator (M)

PTRUST	Effect	se	t	p	LLCI	ULCI
-1.8907	-.4069	.1429	-2.8484	.0046	-.6878	-.1260
-1.7207	-.3746	.1321	-2.8368	.0048	-.6343	-.1150
-1.5507	-.3423	.1214	-2.8192	.0051	-.5811	-.1036
-1.3807	-.3101	.1110	-2.7929	.0055	-.5284	-.0918
-1.2107	-.2778	.1009	-2.7534	.0062	-.4762	-.0794
-1.0407	-.2455	.0911	-2.6941	.0074	-.4247	-.0663
-.8707	-.2132	.0819	-2.6043	.0096	-.3742	-.0522
-.7007	-.1810	.0733	-2.4679	.0140	-.3252	-.0368
-.5307	-.1487	.0658	-2.2615	.0243	-.2780	-.0194
-.3655	-.1173	.0597	-1.9662	.0500	-.2347	.0000
-.3607	-.1164	.0595	-1.9561	.0512	-.2334	.0006
-.1907	-.0841	.0551	-1.5275	.1275	-.1925	.0242
-.0207	-.0519	.0529	-.9802	.3276	-.1559	.0522
.1493	-.0196	.0533	-.3677	.7133	-.1244	.0852
.3193	.0127	.0561	.2259	.8214	-.0977	.1231
.4893	.0450	.0611	.7355	.4625	-.0752	.1651
.6593	.0772	.0678	1.1394	.2553	-.0560	.2105
.8293	.1095	.0757	1.4471	.1487	-.0393	.2583
.9993	.1418	.0844	1.6790	.0940	-.0243	.3078
1.1693	.1741	.0939	1.8545	.0644	-.0105	.3586
1.3072	.2002	.1018	1.9662	.0500	.0000	.4005
1.3393	.2063	.1037	1.9891	.0474	.0024	.4103
1.5093	.2386	.1140	2.0939	.0369	.0145	.4627

\*\*\*\*\*

Data for visualizing conditional effect of X of Y:

USAGE	PTRUST	yhat
-.9638	-.6469	2.9603
.0000	-.6469	2.7958
.9638	-.6469	2.6312
-.9638	.0000	2.9691
.0000	.0000	2.9229
.9638	.0000	2.8767
-.9638	.6469	2.9778
.0000	.6469	3.0499
.9638	.6469	3.1221

Estimates in this table are based on setting covariates to their sample means

\*\*\*\*\* ANALYSIS NOTES AND WARNINGS \*\*\*\*\*

Level of confidence for all confidence intervals in output: 95.00

NOTE: The following variables were mean centered prior to analysis:

USAGE PTRUST

NOTE: Some cases were deleted due to missing data. The number of such cases was: 18

NOTE: All standard errors for continuous outcome models are based on the HC3 estimator

----- END MATRIX -----