

## SELF ASSESMENT SYSTEM AND TAXPAYER INTERNAL STATES

**Noraza Mat Udin**

School of Accountancy  
College of Business  
Universiti Utara Malaysia, Kedah, Malaysia  
[nora896@uum.edu.my](mailto:nora896@uum.edu.my)

**Nor Shaipah Abdul Wahab**

Southampton Management School  
University of Southampton, Southampton, United Kingdom  
[nsaw1v07@soton.ac.uk](mailto:nsaw1v07@soton.ac.uk)

### ABSTRACT

*The change of taxpayers' responsibilities as a result of the introduction of the Self Assessment System (SAS) had triggered debates on whether taxpayers are able to perform the required tasks under the new system. SAS demands taxpayers to perform the primary tasks that were previously handled by the tax authority, which emphasises on completing tax returns accurately, including computing tax liabilities correctly. The successful implementation of SAS, therefore, relies heavily on the performance of the taxpayers in carrying out their responsibilities. However, submitting error-free tax returns is not an easy task, especially for an average taxpayer. It is believed that taxpayers must achieve and possess intrinsic states to successfully perform their responsibilities. Due to the changes in the tax assessment system, the tax authority is currently carrying out different functions than before, including providing assistance to taxpayers to assist them performing their responsibilities under SAS. This study reports the results of an investigation of the relationships between taxpayer internal states as well as taxpayer assistance with assessment performance and simultaneously considered the moderating influence of taxpayer assistance. The data was collected using a quasi-experimental design known as posttest-only no-treatment control group design. The sample comprises post-graduate candidates, who were actual taxpayers. Among the elements of the taxpayer internal states considered in this study, tax knowledge is found to have significant relationship with assessment performance. However, taxpayer assistance does not have moderating effect on the relationships between taxpayer internal states and assessment performance. The findings of this study have contributed to the body of knowledge as there is a general dearth of published research, particularly in Malaysia that investigates such relationships.*

Field of Research: Individual taxpayer, internal states, assessment performance, tax system.

## 1. Introduction

The introduction of Self Assessment System (SAS) for Malaysian individual taxpayers in the year 2004 necessitates a complete change in taxpayers' obligations and mind set in relation to their tax matters. This new assessment system has placed an arduous burden on taxpayers, especially the burden of having to learn and understand the tax law (Saad, Mansor & Ibrahim, 2003). This is because the taxpayers need to complete their own tax return forms which involves various processes as specified in the tax law i.e. beginning from identifying the taxable income, determining allowable deductions and up to computing the correct tax liability (James, 1994; Lai & Choong, 2009; Loo & Ho, 2005). Carroll (1987) emphasised that the taxpaying process involves a series of decisions and actions relating to economics transactions, record keeping and filing of forms.

In other words, SAS requires the taxpayers to take more responsibilities for getting their tax return forms correct as the information that they furnished in the forms would be accepted at face value by the tax authority. It is therefore, the change of taxpayers' responsibilities as a result of replacing the previous tax assessment system i.e. Official Assessment System (OAS) with SAS had triggered debates on whether taxpayers are able to perform the required tasks (Jackson & Milliron, 1986; Sakurai & Braithwaite, 2003). With the implementation of SAS, the onus of performing the required tasks rests entirely on each individual who earns taxable income. Hence, under SAS, taxpayers are bound by legal obligations to ensure that they submit complete and accurate tax return forms as the self-completed tax return form is deemed as the notice of assessment, stating the amount of tax liability for the relevant assessment year. Under OAS, this notice is issued by the tax authority. Failure to perform the required tasks would amount to a commission of non-compliance, an offence under the tax law and subject to various penalties (Baldry & Kasipillai, 1996).

The change in tax assessment system also involves the shift in the roles of the tax administrators i.e. the Inland Revenue Board Malaysia (IRBM). The administration of SAS should be based on providing assistance and education to support taxpayers in self-assessing their tax liabilities (Singh, 2005). Taxpayers need to be informed that they bear obligations under the new system to file their tax return forms correctly. The IRBM has to disseminate information to taxpayers using various means to ensure that the taxpayers could easily access such information when needed. The provision of booklets and other such publications, the IRBM website and the series of dialogues are examples of avenues of disseminating information to taxpayers. Therefore, taxpayer assistance is considered as an important aspect under SAS. However, there is a general dearth of published research that investigates such issues, particularly in Malaysia. Loo, McKerchar, & Hansford (2005) argued that under SAS, taxpayers are actually performing the tasks of a professional, since the taxpayers are expected to exercise a function that was previously performed by trained taxation personnel. Therefore, in order to perform the responsibilities under SAS, researchers believed that taxpayers must achieve and possess certain states.

This paper presents the results of an investigation on the relationship between taxpayer's internal states as well as taxpayer assistance with assessment performance whilst simultaneously considering the moderating influence of taxpayer assistance. The following section discusses the taxpayer performance and reviews the literature related to taxpayer internal states. The subsequent section explains the

methodology of study. This s followed by the discussion on the results derived from the data analysis. The final section discusses implications of the study.

## **2. Taxpayer Performance and Internal States**

### **2.1 SAS and Taxpayer Performance**

Under SAS, taxpayers are responsible for the primary function previously handled by the tax authority. As such, researchers believe that the success of SAS relies heavily on the acceptance and cooperation of taxpayers, as well as on tax administrators and tax professionals (Sandford & Wallschutzky, 1994; Schisler, 1995). While there is no consensus regarding the definition of taxpayer performance in the personal taxpaying context, the topic certainly is relevant to the responsibilities of taxpayers in complying with the tax law requirements. The main difference of taxpayers' responsibilities under SAS as compared to that of under OAS is for taxpayers to carry out their own income assessment tasks in order to determine correct tax liability. Therefore in this study, taxpayer performance is referred to the performance of income assessment task which results in determining the correct amount of tax liability.

It is undoubted that taxpayer performance will be a regular problem under SAS as it has existed since OAS, where the responsibilities of the taxpayers were not as demanding as under SAS. Krishnamoorthy (2006) reported that due to the various offences, including failure to submit tax return forms, submitting inaccurate returns and providing insufficient information, the number of tax defaulters had increased by ten times between the years of assessment 2003 and 2005, after the implementation of SAS. It was reported that there were 239,666 tax defaulter cases in 2005 i.e. after the implementation of SAS as compared to 25,160 cases in 2003 before SAS was implemented. This shows that the problem of tax defaulters had increased after the implementation of SAS in 2004.

The concern on whether the taxpayers could handle their tax matters appropriately had been highlighted in previous studies. Jackson and Milliron (1986) expressed their concern about the ability of taxpayers to perform their responsibilities. However, the concern had not been specifically investigated by researchers. There were some researchers who indirectly examined the problems existed in relation to this issue. For instance, Sakurai and Braithwaite (2003) posted a question to their respondents regarding their competence and diligence in preparing income tax return forms. They found that more than 36 percent of taxpayers were not competent to carry out their income assessment task. Similar notion was also reported by Marshall, Smith & Armstrong (1997). They indicated that taxpayers are hardly able to perform their duties by themselves, specifically under SAS. This could also be the reason why about 70 percent of Australian taxpayers had placed heavy reliance on tax agents to handle their tax matters (Sakurai & Braithwaite, 2003).

The issue of taxpayer performance was also being raised and reported in the United Kingdom (UK) after nearly 10 years of practicing SAS. In a report by the UK Her Majesty Revenue and Customs (HMRC), the department targeted to increase the percentage of individuals who file their self-assessment returns on time to at least 93 percent by the year 2007-08.<sup>1</sup> These phenomena indicated that the performance of taxpayers had not achieved the satisfactory level and required further improvement. Even though SAS

<sup>1</sup> Source: [http://www.hmrc.gov.uk/psa/psa2005\\_08.pdf](http://www.hmrc.gov.uk/psa/psa2005_08.pdf)

has been implemented for quite sometimes in these countries, there are still taxpayers who are facing problems in performing their responsibilities.

However, UK taxpayers are given the choice of either to fill the return themselves or let it filled by the tax authority. Unlike in the UK, full assessment is implemented in Malaysia with the practice of do-it-yourself concept. This means that for each year of assessment all taxpayers who received taxable income under Section 4(a) to (f) of the Income Tax Act 1967 must file and submit to the tax authority a completed tax return form stating the amount of tax liability together with correct tax payment. The assessment process rests entirely on every taxpayer.

The ability of taxpayers to perform the income assessment tasks would result to correct determination of tax payment, which is the source of Government revenue. In carrying out the income assessment tasks, taxpayers need to make decisions which would involve judgmental and evaluation process. Performance of an individual could be categorised into two different aspects: (i) behavioural and (ii) outcome aspect (Campbell, 1990; Campbell, Gasser & Oswald, 1996; Kanfer, 1990). Sonnentag and Frese (2005) emphasised that individual performance was influenced by various factors. The behavioural aspect of performance depends on individual or internal factors while the outcome aspect depends not only on individual factors, but also on other non-individual or external factors. Based on the discussions, it is believed that individual taxpayer's income assessment performance would also be determined by various factors, either internal or external.

## **2.2 Taxpayer Internal States**

In accounting behavioural studies, the definition of internal states is very limited. However, in psychological studies, internal states refer to factors that influence the relationship between stimuli, sensations and post-stimuli perceptions of which the factors neither rooted outside the factors nor the time variable related to the factor (Elugardo, 1988). Applying these to the taxation context, internal states can be defined as factors which are innate in an individual taxpayer that contribute to the performance of the required responsibilities. However, internal states of an individual cannot be directly observed but their existences are normally inferred from the accuracy and speed on psychometric tests (Libby, 1995). In this study, individual taxpayer's internal states include tax knowledge, perceived complexity of the tax law, attitude towards paying tax, general problem-solving ability and experience. Among these five elements of internal states, tax knowledge is the main condition emphasised by researchers prior to the implementation of SAS in Malaysia (see for example Ahmad, Mohd Hanefah, & Mohd Noor, 2007; Bardai, 1992; Kasipillai, 1997; Loo, 2006b; Loo & Ho, 2005; Mohd Hanefah, 1997; Palil, 2010).

### **2.2.1 Tax Knowledge**

Generally, tax knowledge refers to the understanding or awareness of the basic rules and regulations stipulated by the income tax law in respect of taxpayer's responsibilities in filing their tax return forms (Bardai, 1992; Eriksen & Fallan, 1996; Kasipillai, 1997). Studies on tax knowledge received continuous interest among researchers in various tax regimes (Eriksen & Fallan, 1996; Groenland & Veldhoven, 1983; Lewis, 1982; Loo, 2006b; Loo & Ho, 2005; Loo, McKerchar & Hansford, 2009; Palil, 2010; Song & Yarbrough, 1978). In Malaysia, studies on tax knowledge can be traced from the issues arose when the Government initiated the replacement of OAS with SAS in 1995. Studies were carried out to determine

the level of taxpayers' knowledge and revealed that the level of tax knowledge possessed by taxpayers was still considerably low (Ahmed Razman and Bany Ariffin, 2000; Bardai, 1992; and Palil, 2005). The seriousness of the lack of tax knowledge among Malaysian individual taxpayers was highlighted again in Loo and Ho (2005). The findings showed that with the level of knowledge possessed by taxpayers, it was doubtful whether they could competently carry out their responsibilities under SAS. This is because the respondents failed to identify correctly the assessment year for taxable income, the eligible deductions, exemptions, relief, rebates and tax credits.

There is a limited amount of literature on the association of knowledge with performance in the individual taxpaying context. However, the importance of tax knowledge, especially under SAS implementation is documented by many researchers (Ahmad et al., 2007; Bardai, 1992; Loo, 2006b; Mohd Hanefah, 1997; Palil, 2010). Tax knowledge had been identified as the major factor in determining the accuracy of the tax return forms (Palil, 2010). The introduction of SAS has placed a greater dependence on taxpayers in filling correct annual tax return forms (Martinez-Vazquez, Hardwood & Larkins, 1992). Researchers believed that taxpayers were unable to perform their responsibilities unless they possessed relevant knowledge in taxation (Sakurai & Braithwaite, 2003). Researchers had reported that taxpayers who did not possess adequate knowledge on personal tax matters lacked the competency to file own tax return forms (Loo & Ho, 2005). Therefore, based on the above findings, the relationship of tax knowledge and assessment performance is hypothesised as follows:

Hypothesis 1 (H1): Tax knowledge is positively related with assessment performance.

### **2.2.2 Perceived Complexity of the Tax Law**

Complexity is referred to the situation when a taxpayer reported any difficulty in completing tax return form (McKerchar, 2003). It is a subjective matter which varies from one person to another. Researchers worried that the complexity of the tax law would affect the smoothness of the implementation of SAS. This is because it could lead to uncertainty and also frustrate the taxpayers in carrying out their responsibilities (Carroll, 1987). Furthermore, it could reduce taxpayers' understanding of the tax law and confidence in carrying out their duties (LeBaube & Vehorn, 1983). Goedde (1988) stressed that changes, ambiguities and details in the tax law were the crucial aspects in tax law complexity. Researchers suggested that changes and details in the tax law must be minimized in order to avoid confusion and wrong interpretation of the law. Confusion and wrong interpretation of the tax law would cause errors in tax calculations and consequently affect the confidence of taxpayers in carrying out their responsibilities. In addition, McKerchar (2003) found that complexity problems existed in relation to understanding the meaning of explanatory materials, instructions, calculations of capital gains and net tax payable/refundable. It was also found that taxpayers faced difficulties in understanding the information pack provided by the tax authority. As a result, due to the complexity issues, taxpayers would have to take a longer time to complete their return forms.

In Malaysian, Mohd Hanefah (1997) indicated that the Malaysian tax law was perceived to be complex by taxpayers. Loo (2006a) revealed that besides complexity of the tax law, ambiguities, uncertainties and lack of knowledge were the causes of either unintentional non-compliance or over-compliance. The growing interest on complexity in taxation is due to the increasingly complicated nature of the tax laws

in many countries (Jackson & Milliron, 1986). Due to the shift of responsibility from the tax authority to the taxpayers, perceived complexity of the tax law has become more important under SAS (James, Sawyer & Wallschutzky, 1998; James & Wallschutzky, 1997). Complexity would frustrate the taxpayers in their efforts to comply with the tax law (Carroll, 1987; Song & Yarbrough, 1978) as it created grey areas that led to confusion besides reducing taxpayers' understanding and confidence in performing their responsibilities (LeBaube & Vehorn, 1983). Complexity of the tax law also led to the increase in taxpayer uncertainty (Carroll, 1987). Generally, studies had reported a negative relationship between complexity and performance (Bonner, 1994; Chang, Ho & Liao, 1997; Earley, 1985; Karlinsky & Koch, 1987; Libby & Tan, 1994; O'Donnell, Koch & Boone, 2005; Tan & Kao, 1999). Based on the above discussions, it is hypothesised that:

Hypothesis 2 (H2): Perceived complexity of tax law is negatively related with assessment performance.

### 2.2.3 Attitude towards Paying Tax

In the effort to pay tax, a taxpayer gives up a fraction of his or her purchasing power in the private market in exchange for government benefits, including goods, services and possibly non-material sources of satisfaction such as a sense of belonging or affiliation (Spicer & Becker, 1980). It is believed that people would be willing to pay or even willing to pay more in order to live in a community that provides a high quality of public services (Oates, 1969; Tiebout, 1956). Alm (1991) reported that taxpayers would pay more taxes whenever they are satisfied with the returns from their tax payments and when they viewed the tax system as being fair. Hence, Torgler (2002) emphasised that attitude towards paying tax deals with the question about why people i.e. taxpayers, do not cheat in paying tax rather than why they do.<sup>2</sup> This notion could be taken as a basis to explain the importance of attitude towards paying tax among taxpayers with the implementation of SAS. As taxpayers are required to assess their own income to determine their tax liabilities, it is crucial to ensure that they do not cheat.

Loo et al. (2009) found a negative impact of taxpayers' perceptions on the change of the assessment system on taxpayers' attitude towards paying tax, which consequently affected their compliance behaviour. Taxpayer's attitude towards paying tax is viewed to have an impact on his or her decision to perform the necessary tasks relating to the taxpaying process. Eagly & Chaiken (1993) suggested that people with positive attitudes would engage in behaviours that approach, support or enhance the attitude object, whereas people with negative attitudes would engage in behaviours that avoid, oppose or hinder the object. As SAS works on a voluntary basis, whereby taxpayers are expected to make an effort to comply with the tax law therefore, taxpayers' positive attitudes towards paying tax may encourage them to comply voluntarily. In light of the above findings, the following hypothesis is derived:

Hypothesis 3 (H3): Positive attitude towards paying tax is positively related with assessment performance.

<sup>2</sup> It is noticed that the concepts of "tax morale" and "attitude towards paying tax" have been used interchangeably, however, it is observed that "tax morale" had been used in studies related to tax evasion (Alm et. al. 2005) while "attitude towards paying tax" was preferred in studies concerning taxpayers' voluntary behaviour. Due to the tendency of examining the voluntary aspects in taxpaying context, therefore this study prefers to use "attitude towards paying tax".



#### 2.2.4 General Problem-Solving Ability

Generally, as mentioned earlier, one of the important implications of the implementation of SAS is the transfer of the assessment task from the tax authority to taxpayers. Specifically, taxpayers are now exercising a function that was previously performed by trained personnel in taxation and they are now carrying out duties of tax experts. The new task requires taxpayers to be involved in decision making. For instance, they have to decide which income is taxable, how much income is subject to tax, what are deductible expenses, what relief are entitled to be claimed, how to minimise tax liability and other related matters such as records keeping. In making such decisions, taxpayers need to possess certain skill such as general problem-solving ability. There is a lack of study relating to the general-problem solving ability in the individual taxpaying context. General problem-solving ability (subsequently referred as 'the ability') is about the capacity to complete information-encoding, retrieval and analysis tasks that contribute to problem solving (Libby, 1995).

Many studies reported the contributions of problem-solving ability of an individual towards the individual's performance in the non-taxpaying contexts. These studies were carried out on the performance of tax professionals (Barrick & Spilker, 2003; Cloyd, 1995, 1997). However, since SAS emphasises the performance of taxpayers in fulfilling their responsibilities, there are opportunities to examine the general problem-solving ability, as the nature of the taxpayer's responsibilities deal with problem-solving type of activity (Carroll, 1987). Libby & Luft (1993) suggested that the strength of the effects of ability on performance depends on the nature of the tasks, or particularly on the environment where the tasks are performed. The ability of individual differs from one to another. Individual differences in abilities will affect learning and judgment performance (Mock & Vasarhelyi, 1983). As each individual taxpayer is also involved in making decisions, this study examines whether general problem-solving ability of individual taxpayers affects their assessment performance. Moreover, behavioural decision theory suggests that an individual acts within his/her own cognitive limitation. Thus, in this study, the following hypothesis is tested:

Hypothesis 4 (H4): General problem solving ability is positively related with assessment performance.

#### 2.2.5 Experience

Researchers suggested that experience provides various qualities of opportunities for learning (Davis & Solomon, 1989; Libby, 1995; Marchant, 1990). Experience is gained through practice in performing tasks as well as receiving feedback (Bonner & Walker, 1994). As highlighted in Christensen, Weihrich & Gerbing Newman (1994), tax researchers commonly used students as respondents which limit the findings, as students have limited actual tax filing experience. As such, they suggested that future studies should include an individual's amount of prior tax filing experience (i.e. number of years) and types of tax experience (i.e. specific forms and schedules included with the return) in evaluating taxpayers' behaviour.

Christensen et al. (1994) also urged future researchers to examine the effects of individuals' amount of prior tax filling experience (i.e. number of years) and type of tax experience (i.e. specific forms and schedules included with the return) on individuals tax education. Gibbins (1984) and Waller and Felix (1984) distinguished the experienced from the less experienced individuals. They suggested that experienced individuals possess knowledge structures that aid the categorization and organization of

information. This situation allows greater amount of information to be stored and successfully retrieved from taxpayer's memory. On the other hand, less experienced individuals who have less basic organizational knowledge structures that are fundamental to the learning and retention process. This phenomenon is highly related to the implementation of SAS, whereby more experienced taxpayers with more knowledge stored in their memory would perform the required tasks better than the less experienced taxpayers. Therefore, experienced taxpayers would face less difficulty in fulfilling their responsibilities as compared to the less experienced taxpayers. In light of the discussions, this study investigates the impact of taxpayers' experience on their assessment performance based on the following hypothesis:

Hypothesis 5 (H5): Experience is positively related with assessment performance.

### 3. Taxpayer Assistance

Due to the change of responsibilities between the tax authority and the taxpayers after the introduction of SAS, it is expected that the tax authority would provide the necessary assistance to ensure that taxpayers are able to perform their assessment tasks. In most cases, the provision of information by the tax authority had helped to reduce uncertain situations faced by taxpayers and consequently had assisted the taxpayers to perform their responsibilities (Alm, Cherry, Jones, & McKee, 2010). With the existence of taxpayer assistance, the information provided helped to resolve the uncertainty and provide positive effect on the reporting of tax liability. It was believed that promotion towards acquiring knowledge and understanding in tax matters is important in ensuring that the taxpayers file accurate tax return forms (Bardai, 1992).

Wilt and Perng (1990) suggested that providing assistance to the taxpayers can improve the accuracy of their tax return forms. Under SAS, the accuracy of a tax return form is vital because the form is deemed as the notice of assessment. Therefore, the amount of tax payable to the government as well as the amount of tax refundable to the taxpayers would depend solely on the amount stated in the tax return form. Any error in the tax return form would lead to underreporting or overreporting of the tax liability, which respectively represents a loss to the government or to the taxpayers. Some authors believed that providing assistance to taxpayers could reduce taxpayers' ignorance and confusion besides reducing taxpayers' burden of having to refer directly to the tax legislation (e.g. Green, 1999; LeBaube & Vehorn, 1983). Furthermore, reading related tax materials would enhance taxpayers understanding (Mohd Hanefah, 1997) and might also clarify uncertain matters. Alm et al. (2010) also agreed that the provision of information by the tax authority helps to reduce uncertainty situations faced by taxpayers and consequently assists the taxpayers to perform their responsibilities. Based on the above discussions, it is hypothesised that:

Hypothesis 6 (H6): Taxpayer assistance is positively related with assessment performance.

In addition, this study also attempts to evaluate the moderating effect of taxpayer assistance on taxpayer's internal states and assessment performance relationship. The relationships between these three variables are important since the objectives of providing taxpayer assistance is to provide all citizens with accurate and relevant information, and to assist them in complying with the tax law (Mohd Shukor, 1994). Thus, taxpayer assistance is hypothesised as to be able to moderate the relationship between taxpayer's internal states and assessment performance and also to explain the variation of



taxpayer's internal states on assessment performance. For instance, in the case of tax knowledge, the existence of taxpayer assistance is expected to moderate the assessment performance through high level of tax knowledge possessed by taxpayers. In other words, a taxpayer who possesses a high level of tax knowledge, with the existence of taxpayer assistance, would demonstrate higher level of assessment performance. Similar impact could be observed for other elements of taxpayer's internal states and hence, the following hypotheses are tested:

Hypothesis 7 (H7): The relationship between tax knowledge and assessment performance is moderated by taxpayer assistance.

Hypothesis 8 (H8): The relationship between perceived complexity of tax law and assessment performance is moderated by taxpayer assistance.

Hypothesis 9 (H9): The relationship between attitude towards paying tax and assessment performance is moderated by taxpayer assistance.

Hypothesis 10 (H10): The relationship between general problem-solving ability and assessment performance is moderated by taxpayer assistance.

Hypothesis 11 (H11): The relationship between experience and assessment performance is moderated by taxpayer assistance.

#### 4. Research Framework

The behavioural decision theory, attitude theory and cognitive structures framework provide the underlying predictions and justifications towards the aim of this study in investigating the relationship between taxpayer's internal states and assessment performance under SAS implementation in Malaysia. Taxpayer's characteristics i.e. gender, ethnicity and income level are treated as control variables to examine whether these variables affects (moderates) the relationship between taxpayer's internal states and assessment performance.

For the purpose of examining the relationships of taxpayer's internal states, taxpayer assistance and assessment performance, the following model is proposed:

$$PERFi = \beta_0 + \beta_1TKi + \beta_2COMPLEXi + \beta_3ATTi + \beta_4ABILITYi + \beta_5EXPi + \beta_6ASSISTi + \beta_7GENi + \beta_8ETHCi + \beta_9INCI + \epsilon_i \quad (1)$$

Where:

PERFi	=	assessment performance
TKi	=	tax knowledge
COMPLEXi	=	perceived complexity of tax law
ATTi	=	attitude towards paying tax
ABILITYi	=	general problem-solving ability
EXPi	=	experience
ASSISTi	=	taxpayer assistance
GENi	=	gender
ETHCi	=	ethnicity

INC<sub>i</sub> = annual gross income  
 $\epsilon_i$  = error term

As explained in the previous part, this study also attempts to evaluate the moderating effect of taxpayer assistance on the relationship of taxpayer's internal states and assessment performance. Each of the taxpayer's internal states variables is multiplied by taxpayer assistance to evaluate any influence of taxpayer assistance on the relationship between taxpayer's internal states and assessment performance. Thus, the following model is proposed:

$$\text{PERF}_i = \beta_0 + \beta_1\text{TK}_i + \beta_2\text{TK}_i\text{\_ASSIST}_i + \beta_3\text{COMPLEX}_i + \beta_4\text{COMPLEX}_i\text{\_ASSIST}_i + \beta_5\text{ATT}_i + \beta_6\text{ATT}_i\text{\_ASSIST}_i + \beta_7\text{ABILITY}_i + \beta_8\text{ABILITY}_i\text{\_ASSIST}_i + \beta_9\text{EXP}_i + \beta_{10}\text{EXP}_i\text{\_ASSIST}_i + \beta_{11}\text{ASSIST}_i + \beta_{12}\text{GEN}_i + \beta_{13}\text{ETHC}_i + \beta_{14}\text{INC}_i + \epsilon_i \quad (2)$$

Where:

TK<sub>i</sub>\_ASSIST<sub>i</sub> = interaction between TK and ASSIST  
 COMPLEX<sub>i</sub>\_ASSIST<sub>i</sub> = interaction between COMPLEX and ASSIST  
 ATT<sub>i</sub>\_ASSIST<sub>i</sub> = interaction between ATT and ASSIST  
 ABILITY<sub>i</sub>\_ASSIST<sub>i</sub> = interaction between ABILITY and ASSIST  
 EXP<sub>i</sub>\_ASSIST<sub>i</sub> = interaction between EXP and ASSIST

## 5. Variables Measurements

Tax knowledge was measured using a tax knowledge quiz which consist of 24 multiple choice questions. Each question offers four choices of answer i.e. (a), (b), (c) or (d), except for the last two questions which were true/false type that offered only three choices i.e. (a) true, (b) false or (c) not sure. There was only one correct answer to each question. The last choice of the answer in each question was 'not sure', as it was provided as an alternative in cases when the subjects did not know the correct answer to the question. Each response for the quiz-questions was scored as correct or incorrect. Each correct response was given one mark while incorrect response or 'not sure' response received zero mark. The total tax knowledge score was obtained by summing up the marks of the correct responses. Therefore, the score ranged from zero to the maximum of 24 marks. The score was then converted into ratio using the percentage of the score on the maximum total score.

The measurement of general problem-solving ability was adapted from Bonner & Lewis (1990), Bonner, Davis & Jackson (1992) and Gore (1998). The measurement measures general problem-solving ability of a person using selected questions in Graduate Record Examinations (GRE). GRE questions were used because GRE is an established standard test that measures related skills needed by an individual to solve general problems face in his/her daily life. Moreover, GRE measures general skills that are not related to any specific field of study. GRE assesses an individual's problem-solving ability from three aspects: (i) analytical writing – measures critical thinking and analytical writing skills; (ii) verbal reasoning – measures reading comprehension skills and verbal and analogical reasoning skills; and (iii) quantitative reasoning – measures basic concepts of arithmetic, algebra, geometry and data analysis. The measurement consisted of nine questions to measure three aspects of problem-solving ability i.e. analogical reasoning, data interpretation and analytical ability. Each aspect consisted of three questions. Therefore, general problem-solving ability variable was measured using nine multiple-choice questions.

Experience was measured using the subjects' self-report years of taxpaying experience i.e. the number of years they become taxpayers. The assessment performance was measured using a scenario case. The case described an individual taxpayer who works in a private company and earns non-business income such as income from employment, dividend and rent. Besides the information on the income, the case also provided information on expenses and deductions made by the individual for the relevant year of assessment. The subjects were required to complete the partial tax return form provided together with the case. Completing the return form represents the performance of income assessment task. Each completed tax return form was evaluated and one mark was given for each correct item. An item was considered as correct if the figure was correct and was written in the correct space of the tax return form. The marks were summed and taken to represent the score for the assessment performance variable. The score was then converted into ratio using the percentage of the score on the maximum total score of 14.

This study measured complexity of the tax law from the taxpayers' perspectives. Specifically, it was measured by way of participants' perception of complexities that they faced when treating each item i.e. income, expenses and deductions in the hypothetical case used to measure assessment performance. The items include various aspects involved in the assessment process to determine the correct amount of tax payable, for instance determining the amount of income from employment and the amount of allowable deductions and the relief entitled to. The subjects were required to rate the degree of complexity of each item based on their own perceptions while completing the partial tax return form used to measure assessment performance. The subjects were required to rate the degree of complexity of each item based on their own perceptions while completing the partial tax return forms. Each item was rated on a five-point Likert scale whereby 1 = extremely simple, 2 = simple, 3 = neutral, 4 = complex and 5 = extremely complex (Boy, 2007). The perceived complexity score was the summation of the weights assigned to an individual's response. The score was then converted into ratio based on the percentage of the score on the maximum total score of 100.

The instrument to measure attitude towards paying tax was adapted from the measurement used in Murphy (2004). Attitude towards paying tax was measured based on two aspects: (i) paying tax seen as a material loss; and (ii) paying tax as a moral commitment. This instrument was chosen because these two aspects are very much related to the individual's taxpaying context under SAS, which stresses on voluntary compliance. Eleven items were used to measure attitude towards paying tax, with three statements relating to the first aspect and the remaining eight statements relating to the second aspect.

The subjects were required to rate the items using a five-point Likert-scale, ranging from strongly agree to strongly disagree (Murphy, 2004). The first three items and item six were stated in the negative form and were reverse-coded before the data was analysed. The total score for attitude towards paying tax was calculated by summing up each subject's response on the Likert-scale for each of the eleven items. The score was then converted into ratio using the percentage of the score on the maximum total score of 55. Taxpayer assistance was operationalised using the explanatory note to Form BE. The explanatory note was chosen because the note was the only printed education material provided by the IRBM to each taxpayer. In practice, the explanatory note was attached together with the return form sent by the IRBM to each taxpayer.

## 6. Data Collection

The data of this study was collected using a quasi-experiment. The subjects were postgraduate (masters) students of UUM who attended classes in Kuala Lumpur and Penang branches. Specifically, the design used is known as posttest-only no-treatment control group design which is a type of quasi-experimental design (Thyer, 2010). Apart from carrying out the pilot test, the experimental procedures were emailed to an expert in experimental design study to seek his opinion and comments. Based on the feedback received, it was reasonable to proceed with the actual experimental session. The experiment was carried out in two sessions. Each session took 40 minutes to complete. In the first session, subjects were required to answer pre-knowledge test, ability test and the demographic information. In the second session, subjects completed the partial tax return form based on the information provided in the hypothetical case, indicated the level of complexity they perceived in relation to the items in the scenario case while completing the return form, attitudes towards paying tax and post-tax knowledge quiz. As the experiment was conducted in two sessions therefore, stickers were used in order to ensure that the responses in both sessions could be matched.

## 7. Results of Data Analysis

In total 67 questionnaires were usable for the analysis. The percentages of the demographic variables for the experimental group and the control group are presented in Table 1.

**Table 1: Descriptive Statistics of Demographic Characteristics**

	Groups	
	Experimental %	Control %
Gender:		
Male	59.30	62.50
Female	40.70	37.50
Total	100.00	100.00
Ethnicity:		
Chinese	33.30	32.50
Indian	0	7.5
Malay	59.30	57.50
Others	7.40	2.50
Total	100.00	100.00
Who filled your last tax return form?		
Self	66.70	85.00
Spouse	18.50	7.50
Tax agent	11.10	2.50
Friend	3.70	5.00
Total	100.00	100.00

Annual gross income group:

Under RM24,000	3.70	2.50
RM24,000 – RM48,000	48.10	30.00
RM48,001 – RM72,000	33.30	47.50
RM72,001 – RM120,000	11.20	12.50
Above RM120	3.70	7.50
Total	100.00	100.00

Age group:		
Under 26 years	7.40	0
26 – 35 years	51.90	50.00
36 – 45 years	33.30	35.00
46 – 55 years	3.70	7.50
Above 55 years	3.70	7.50
Total	100.00	100.00

### 7.1 Taxpayer Internal States, Taxpayer Assistance and Assessment Performance

The first estimation model i.e. Model 1 was used to examine the relationships between taxpayer's internal states, taxpayer assistance and assessment performance. Specifically, the model is used to test hypothesis one to six. The results of the analysis are presented in Table 2. Generally, the model is significant ( $p < 0.01$ ) with F-value of 6.76 and the adjusted R-square of 44 percent.

**Table 2: Regression Results: Taxpayer's Internal States, Taxpayer Assistance and Assessment Performance**

Independent Variables	Model 1 (n=67)
TK	0.4350 (5.08)***
COMPLEX	-0.0095 (-0.11)
ATT	0.0823 (1.00)
ABILITY	0.0770 (1.17)
EXP	-0.0995 (-0.48)
ASSIST	-2.0187 (-0.74)
GEN	0.1320 (0.05)
ETHC	-2.5870 (-1.07)

INC	2.0474 (1.19)	Figures in parentheses
Cons	26.8380 (2.85)***	
R <sup>2</sup>	0.5163	
Adjusted R <sup>2</sup>	0.4399	
F-value	6.76***	

represent t-statistics.

\*\*\* indicates significant at 1% level.

Based on the analysis, tax knowledge is found to have significant relationship with assessment performance ( $p < 0.01$ ). The results, therefore, support H1 that predicts a positive relationship between tax knowledge and assessment performance. This result provides further evidence that tax knowledge is important under SAS, as suggested by Bardai (1992) and Palil (2010). These studies emphasised that under SAS, taxpayers must possess relevant and ample tax knowledge to handle their own tax matters. If taxpayers are not equipped with the relevant and adequate tax knowledge, they would lack the competency to perform the required tasks (Loo & Ho, 2005). Hence, this finding consistently supports prior contentions relating to tax knowledge and SAS, whereby tax knowledge is a requirement for taxpayers to file correct tax return forms (Martinez-Vazquez et al., 1992; Palil, 2010).

In testing H2, this study predicted that if taxpayers perceived the tax law as complex, they would be less able to perform the assessment tasks. Taxpayers in this study refer to salaried taxpayers i.e. non-business taxpayers whose tax matters are less complex as compared to that of the business taxpayers (Loo & Ho, 2005). Therefore, salaried taxpayers are expected to be able to perform their assessment tasks. However, the result is significant, which indicates that taxpayers may have perceived the tax law in relation to their tax matters as a complex matter.

With regards to testing H3, H4 and H5, this study predicts positive relationships between attitude towards paying tax, general problem-solving ability and experience, and assessment performance respectively. Nevertheless, the results are not supportive to these hypotheses. These results imply that there is no relationship between these three variables and assessment performance. This may be because this study took place at the early stage of SAS implementation i.e. in the third year of implementation, whereby taxpayers might still be at the initial stage of the process of adapting themselves to their new responsibilities.

The three variables i.e. taxpayers' attitude towards paying tax, general problem-solving ability and experience may have relationships with assessment performance at the later stage of SAS implementation when taxpayers are involved in tax planning processes (Carroll, 1987). In testing H6, this study predicted a positive relationship between taxpayer assistance and assessment performance. However, the results of the analysis show that the relationship is not significant. This may imply that the taxpayer assistance was not tailored to the needs of the taxpayers in the performance of the assessment tasks.



## 7.2 Moderating Effect of Taxpayer Assistance

In considering the moderating influence of taxpayer assistance on the relationship between taxpayer's internal states and assessment performance, each of the taxpayer's internal states variable in the first estimation model is multiplied by taxpayer assistance i.e. ASSIST. Therefore, the second estimation model is used to test hypotheses 7 to 11 (i.e. H7 to H11), which predict the existence of moderating effect of taxpayer assistance on the relationships between perceived complexity of the tax law, attitude towards paying tax, general problem-solving ability and experience, and assessment performance respectively. The results are shown in Table 3.

**Table 3: Regression Results: Moderating Effect of Taxpayer Assistance**

Independent Variables	Model 3 (n=67)
TK	0.4098 (3.68)***
TK_ASSIST	0.0884 (0.47)
COMPLEX	-0.0309 (-0.25)
COMPLEX_ASSIST	0.0380 (0.21)
ATT	0.0486 (0.46)
ATT_ASSIST	0.0984 (0.53)
ABILITY	0.0612 (0.60)
ABILITY_ASSIST	0.0230 (0.15)
EXP	-0.1268 (-0.47)
EXP_ASSIST	0.0335 (0.10)
ASSIST	-15.1457 (-0.79)
GEN	-0.0108 (-0.00)
ETHC	-2.8629 (-1.07)
INC	2.2938 (1.20)
Cons	32.0814 (2.46)**
R <sup>2</sup>	0.5221
Adjusted R <sup>2</sup>	0.3935
F-value	4.06***

Figures in parentheses represent t-statistics. \*\*\* and \*\* indicate significant at 1% and 5% level respectively.

Generally, significant indicated by of 4.06 and R-square of However, are found to supportive

the model is (p<0.01) as the F-value the adjusted 40 percent. the results be not of

hypotheses H7 to H11, which indicate that taxpayer assistance has no moderating effect on the relationships between tax knowledge, perceived complexity of tax law, attitude towards paying tax, general problem-solving ability and experience, and assessment performance respectively.

## 8. Discussions and Conclusions

Due to the demand in carrying out more challenging tasks, as compared to the old system, taxpayers must be competent enough to fulfil the new requirements. This is because their acceptance and co-operation were believed to be crucial to ensure the successful implementation of SAS (Sandford & Wallschutzky, 1994). Based on this notion, this study investigates the relationship between taxpayer's internal states as well as taxpayer assistance and assessment performance whilst simultaneously considering the moderating influence of taxpayer assistance.

In summary, the results reveal that tax knowledge is significantly and positively related to assessment performance. It can be interpreted that taxpayers with higher tax knowledge exhibit higher assessment performance. It can be concluded that the results of this study supported the hypotheses that predicts a positive relationship between tax knowledge and assessment performance. These findings are consistent with previous evidence reported by prior researchers on the importance of tax knowledge in the SAS context (Bardai, 1992; Mohd Hanefah, 1997; Palil, 2010). The findings also support prior researchers' contentions on tax knowledge compared to the other elements of taxpayer's internal states with regards to SAS. However, the results of the analysis are found not to be supportive to other hypotheses relating to other elements of taxpayer's internal states, which predict relationships between perceived complexity of the tax law, attitude towards paying tax, general problem-solving ability and experience, and assessment performance respectively.

This study employs a quasi-experimental design as the way of its data collection method. Therefore, the results are subject to a common claim regarding the experimental design study in terms of the generalisability of the results. Even though the study is carefully planned and designed, the fact that the artificiality of the experimental research situations could prevent the results from the experimental study to be generalised to the population (Kerlinger, 1986). Despite the above limitation, the findings of this study provide some motivations and indications for future studies. This study has suggested the internal states concept, thus, future studies could be carried out to incorporate and test this variable in other contexts, such as in the context of business taxpayers or tax authority's personnel.

Besides the above suggestion, since this study was conducted at the early stage of SAS implementation i.e. in the third year of SAS implementation on individual taxpayers, therefore, to further investigate the relationship between taxpayer's internal states and assessment performance of taxpayers, future research could be conducted at some later stage, such as after ten years of SAS implementation. The results might then be different, as at the early stage taxpayers are still at the initial process of adapting themselves to the requirements of the new assessment system. At this early stage, taxpayers are trying to familiarise themselves with the responsibilities which they have just taken over from the tax authority. However, at some later stage, taxpayers might be more involved in decisions making and tax planning processes (Carroll, 1987).

## REFERENCES

- Ahmad, M. A. R., Mohd Hanefah H. M., & Mohd Noor, M. A. (2007, July). The effect of knowledge on tax compliance behaviours among Malaysian taxpayers. Paper presented at the International Conference on Business and Information, Tokyo, Japan.
- Ahmed Razman, A. B., & Bany Ariffin, A. N. (2000, October). Tax literacy rate among taxpayers in Klang Valley. Paper presented at the FEP 2000 Seminar, Penang, Malaysia.
- Alm, J. (1991). A perspective on the experimental analysis of taxpayer reporting. *The Accounting Review*, 66, 577-593.
- Alm, J., Cherry, T., Jones, M., & McKee, M. (2010). Taxpayer information assistance services and tax compliance behavior. *Journal of Economic Psychology*, 31, 577-586. doi: 10.1016/j.joep.2010.03.018
- Baldry, J. C., & Kasipillai, J. (1996). Malaysia: income tax enforcement. *Asia-Pacific Tax Buletin*, 2(9), 268-272.
- Bardai, B. (1992). Tax illiteracy in Malaysia: Problems and solution. *Journal of School of Accountancy MARA Institute of Technology*, II(2), 6-35.
- Barrick, J. A., & Spilker, B. C. (2003). The relations between knowledge, search strategy, and performance in unaided and aided information search. *Organizational Behavior and Human Decision Processes*, 90(1), 1-18. doi: 10.1016/S0749-5978(03)00002-5
- Bonner, S. E. (1994). A model of the effects of audit task complexity. *Accounting, Organizations and Society*, 19(3), 213-234.
- Bonner, S. E., Davis, J. S., & Jackson, B. R. (1992). Expertise in corporate tax planning: The issue identification stage. *Journal of Accounting Research*, 30(Supplement), 1-28.
- Bonner, S. E., & Lewis, B. L. (1990). Determinants of Auditor Expertise. *Journal of Accounting Research*, 28(Supplement), 1-28.
- Bonner, S. E., & Walker, P. L. (1994). The effects of instruction and experience on the acquisition of auditing knowledge. *The Accounting Review*, 69(1), 157-178.
- Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 1, pp. 687-732). Palo Alto: Consulting Psychologists Press.

Campbell, J. P., Gasser, M. B., & Oswald, F. L. (1996). The substantive nature of job performance variability. In K. R. Murphy (Ed.), *Individual differences and behavior in organizations* (pp. 35-70). San Francisco: Jossey-Bass.

Caroll, J. S. (1987). Compliance with the law: A decision-making approach to taxpaying. *Law and Human Behavior*, 11(4), 319-335.

Chang, C. J., Ho, J. L. Y., & Liao, W. M. (1997). The effects of justification, task complexity and experience/training on problem-solving performance. *Behavioral Research in Accounting*, 9(Supplement), 98-116.

Christensen, A. L., Weihrich, S. G., & Gerbing Newman, M. D. (1994). The impact of education on perceptions of tax fairness. *Advances in Taxation*, 6, 63-94.

Cloyd, C. B. (1995). Prior knowledge, information search behaviors, and performance in tax research tasks. *Journal of the American Taxation Association*, 17(Supplement), 82-107.

Cloyd, C. B. (1997). Performance in tax research tasks: The joint effect of knowledge and accountability. *The Accounting Review*, 72(1), 111-131.

Davis, J. S., & Solomon, I. (1989). Experience, expertise, and expert-performance research in public accounting. *Journal of Accounting Literature*, 150-164.

Eagly, A. H., & Chaiken, S. (1993). *The Psychology of Attitudes*. Orlando: Harcourt Brace Jovanovich, Inc.

Earley, P. C. (1985). Influence of information, choice and task complexity upon goal acceptance, performance and personal goals. *Journal of Applied Psychology*, 70(3), 481-491.

Elugardo, R. (1988). Against weak psychophysical supervenience. *Dialectica*, 42(2), 129-143.

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

Gibbins, M. (1984). Propositions about the psychology of professional judgment in public accounting. *Journal of Accounting Research*, 22(1), 103-125.

Goedde, H. (1988). An empirical study of tax practitioners perceptions of the effect of the 1986 tax reform act on simplification and fairness of the federal income tax. (Doctoral dissertation). Retrieved from <http://books.google.com.my>

Gore, R. (1998). Toward a more complete framework for investigating the acquisition and use of knowledge in accounting: Extending the Libby model. Available from ProQuest Dissertations & These Database. (UMI No. 41402616)

Green, S. (1999). Self-assessment: A new era for United Kingdom taxpayers, but what about the costs? *Behavioural Tax Research*, 2, 107-119.

Groenland, E. A. G., & Veldhoven, G. M. v. (1983). Tax evasion behavior: A psychological framework. *Journal of Economic Psychology*, 3, 129-144.

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

James, S. (1994). Self-assessment for Income Tax. *British Tax Review*, 3, 204-212.

James, S., Sawyer, A. J., & Wallschutzky, I. (1998). The complexities of tax simplification: Progress in Australia, New Zealand and the United Kingdom. In C. Evans and A. Greenbaum (Eds.), *Tax Administration: Facing the challenges of the future* (pp.333-356). Sydney: Prospect Media Pty Ltd.

James, S., & Wallschutzky, I. (1997). Tax law improvement in Australia and the UK: The need for a strategy for simplification. *Fiscal Studies*, 18(4), 445-460.

Kanfer, R. (1990). Motivation theory and industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 1, pp. 75-170). Palo Alto, CA: Consulting Psychologists Press.

Karlinsky, S. S., & Koch, B. S. (1987). Impact of tax law complexity on professionals. *Journal of the American Taxation Association*(Fall), 24-34.

Kasipillai. (1997). Aspects of hidden economy and tax non-compliance in Malaysia. (Unpublished doctoral dissertation). University of New England, Armidale.

Kerlinger, F. N. (1986). *Foundations of behavioral research* (2nd ed.). New York: CBS College Publishing.

Krishnamoorthy, M. (2006, August 26). 1.3 million did not pay tax. *The Star Online*. Retrieved from <http://thestar.com.my/news/story.asp?>

Lai, M.-L., & Choong, K.-F. (2009, June). Self-assessment tax system and compliance complexities: Tax practitioners' perspectives. Paper presented at the Oxford Business & Economics Conference Program, Oxford University, Oxford, United Kingdom.

LeBaube, R. A., & Vehorn, C. L. (1983). Assisting taxpayers in meeting their obligations under the law. In S. B. Hansen (Ed.), *The politics of taxation* (pp.310-334). New York: Praeger Publication.

Lewis, A. (1982). Introduction. *Journal of Economic Psychology*, 2, 155-163.

Libby, R. (1995). The role of knowledge and memory in audit judgement. In R. H. Ashton & A. H. Ashton (Eds.), *Judgement and Decision Making Research in Accounting and Auditing* (pp. 176-205). New York: Cambridge University Press.

Libby, R., & Luft, J. (1993). Determinants of judgement performance in accounting settings: Ability, knowledge, motivation and environment. *Accounting, Organizations and Society*, 18(5), 425-450.

Libby, R., & Tan, H.-T. (1994). Modeling the determinants of audit expertise. *Accounting, Organizations and Society*, 19(8), 701-716.

Loo, E. C. (2006b, September). A qualitative case study on the impact of self assessment on individual taxpayers in Malaysia. Paper presented at the Asian Academic Accounting Association Conference, Sydney, Australia.

Loo, E. C. (2006c). Tax knowledge, tax structure and compliance: A report on a quasi-experiment. *New Zealand Journal of Taxation Law and Policy*, 12(June), 1-27.

Loo, E. C., & Ho, J. K. (2005). Competency of Malaysian salaried individuals in relation to tax compliance under self assessment. Retrieved from <http://www.austlii.edu.au/au/journals/eJTR/2005/3.html>

Loo, E. C., McKerchar, M., & Hansford, A. (2005). An international comparative analysis of self assessment: What lessons are there for tax administrators? *Australia Tax Forum*, 20, 669-710.

Loo, E. C., McKerchar, M., & Hansford, A. (2009). Understanding the compliance behaviour of Malaysian individual taxpayers using a mixed method approach. *Journal of the Australasian Tax Teachers Association*, 4(1), 181-202.

Marchant, G. (1990). Discussion of Determinants of auditor expertise. *Journal of Accounting Research*, 28(Supplement), 21-28.

Marshall, R., Smith, M., & Armstrong, R. W. (1997). Self-assessment and the tax audit lottery: the Australian experience. *Managerial Auditing Journal*, 12(1), 9-15.

Martinez-Vazquez, J., Hardwood, G. B., & Larkins, E. R. (1992). Withholding position and income tax compliance: Some experimental evidence. *Public Finance Quarterly*, 20(2), 152-174.

McKerchar, M. (2003). Complexity, fairness and compliance: A study of personal income taxpayers in Australia. Sydney: Australian Tax Research Foundation.

Mock, T. J., & Vasarhelyi, M. A. (1983). Context, findings and method in cognitive style research: A comparative study. Retrieved from <http://raw.rutgers.edu/MiklosVasarhelyi/Resume%20Articles/OTHER%20PUBLICATIONS/L19.%20context%20findings.pdf>



Mohd Hanefah, H. M. (1997). An evaluation of the Malaysian tax administrative system, and taxpayers' perceptions towards assessment systems, tax law fairness, and tax law complexity. (Unpublished doctoral dissertation). Universiti Utara Malaysia, Sintok.

Mohd Shukor, M. (1994). An investigation of a taxpayer education program for developing countries: A Malaysian example. (Doctoral dissertation). Available from ProQuest Dissertations & These Database. (UMI No. 9502323).

Murphy, K. (2004). An examination of taxpayers' attitudes towards the Australian tax system: Findings from a survey of tax scheme investors (Working Paper No. 46). Canberra: Centre for Tax System Integrity, The Australian National University.

Oates, W. E. (1969). The effects of property taxes and real estate spending on property values: An empirical study of the capitalisation and the Tiebout hypothesis. *Journal of Political Economy*, 77, 957-970.

O'Donnell, E., Koch, B., & Boone, J. (2005). The influence of domain knowledge and task complexity on tax professionals' compliance recommendations. *Accounting, Organizations and Society*, 30, 145-165. doi: 10.1016/j.aos.2003.12.003

Palil, M. R. (2005). Does tax knowledge matter in self-assessment system? Evidence from Malaysian tax administrative. *The Journal of American Academy of Business*, 2, 80-84.

Palil, M. R. (2010). Tax knowledge and tax compliance determinants In self assessment system in Malaysia. (Unpublished doctoral dissertation). The University of Birmingham, Birmingham.

Saad, N., Mansor, M., & Ibrahim, I. (2003, December). The self-assessment system and its compliance costs. Paper presented at the SEMACC 2003, Kangar.

Sakurai, Y., & Braithwaite, V. (2003). Taxpayers' perceptions of practitioners: Finding one who is effective and does the right thing? *Journal of Business Ethics*, 46(4), 375-387.

Sandford, C., & Wallschutzky, I. (1994). Self-assessment of income tax: Lessons from Australia. *British Tax Review*, 3, 213-220.

Schisler, D. L. (1995). Equity, aggressiveness, consensus: A comparison of taxpayers and tax preparers. *Accounting Horizons*, 9(4), 76-87.

Singh, V. (2005). *Tax Thoughts on Today's Taxing Times* (1st ed.). Kuala Lumpur: Digibook Sdn Bhd.

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

Sonnentag, S., & Frese, M. (2005). Performance concepts and performance theory. In S. Sonnentag (Ed.), *Psychology Management of Individual Performance* (pp. 3-25). Chichester, UK: John Wiley & Sons, Ltd. doi: 10.1002/0470013419.ch1

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

Tan, H.-T., & Kao, A. (1999). Accountability effects on auditors' performance: The influence of knowledge, problem-solving ability and task complexity. *Journal of Accounting Research*, 37(1), 209-223.

Thyer, B. (Ed.). (2010). *The handbook of social work research methods* (2nd ed.). Los Angeles: Sage Publications Ltd.

Tiebout, C. (1956). A pure theory of local expenditures. *Journal of Political Economy*, 65, 416-424.

Torgler, B. (2002). Speaking to theorist and searching for facts: Tax morale and tax compliance in experiments. *Journal of Economic Survey*, 16(5), 658-683. doi: 10.1111/1467-6419.00185

Waller, W., & Felix, W. (1984). Cognition and the auditor's opinion formulation process: A schematic model of interactions between memory and current audit evidence. In S. Moriarity & E. Joyce (Eds.), *Decision Making and Accounting: Current Research* (pp. 27-48). Norman, OK: University of Oklahoma Press.

Wilt, D., & Perng, S. (1990). The effects of taxpayer assistance on compliance: A laboratory tests. Paper presented at the IRS Research Conference, Washington.