A STUDY ON THE RELATIONSHIP BETWEEN PROFESSIONAL SKEPTICISM CHARACTERISTICS AND AUDITORS' FRAUD DETECTION IN MALAYSIAN CONTEXT

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DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 10,648 words.

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DEDICATION

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LIST OF ABBREVIATIONS

ACCA	Association of Charted Certified Accountants
AICPA	American Institute of Certified Public Accountants
AOB	Audit Oversight Board
CIMA	Chartered Institute of Management Accountants
CPA	Certified Public Accountant
CPD	Continuing Professional Development
DV	Dependent Variable
FD	Auditors' Fraud Detection
HPSM	Hurtt's Professional Skepticism Model
ICAEW	Institute of Chartered Accountants in England and Wales
ISA	International Standards on Auditing
IV	Independent Variable
IU	Interpersonal Understanding
KPMG	Klynveld Peat Marwick Goerdeler
LOC	Locus of Control
MIA	Malaysia Institute of Accountants
MLR	Multiple Linear Regression
PCAOB	Public Company Accounting Oversight Board
PS	Professional Skepticism
QM	Questioning Mind
RMSE	Root Mean Squared Error
SAS	Statistical Analytical Software
SC	Self-confidence
SD	Self-determining
SFK	Search For Knowledge
SOJ	Suspension of Judgement
US	United States

PREFACE

Auditors' fraud detection refers to the process undergone by auditors in finding material irregularities or the red flags that signify fraud. As the fraud cases become more prevalent nowadays, fraud detection is increasingly critical which can later affect the auditors in forming opinion regarding the true and fairness of the financial report. Although it is the management's responsibility to prevent and detect fraud in their organization, yet, the ability of the auditor in detecting fraud and investigating it further is emphasized as auditors are under great scrutiny and have to bear the legal consequences accordingly.

As a result, the importance of auditors' professional skepticism has been highlighted. Professional skepticism refers to the skeptical mindset that drives a person to withhold judgment by acquiring more information as well as possess strong belief in own judgment and not easily influenced by others. We believe that a skeptical auditor tends to be more alert and will conduct critical assessment whenever they found out any fraud indication. Therefore, we decided to investigate whether professional skepticism does affect the auditors' fraud detection.

In Malaysia, there are limited studies pertaining to the relationship between professional skepticism and auditors' fraud detection. Hence, this research specifically addresses the impact of professional skepticism on auditors' fraud detection among Malaysia's auditors with MIA membership. By analyzing the 6 characteristics of professional skepticism, this study provides insight for the interested parties like regulators, professional bodies and practicing auditors in applying professional skepticism when dealing with fraud detection issues.

ABSTRACT

The importance of professional skepticism has grabbed the attention of public and audit regulatory bodies such as American Institute of Certified Public Accountants and Public Company Accounting Oversight Board due to the increasing fraud incidence in the recent years and brought about the questions whether lack of professional skepticism negatively impact auditors' fraud detection and subsequently impair the quality of financial reporting. However, limited studies have attempted to measure professional skepticism traits in Malaysia although the concern for auditors' professional skepticism pertaining fraudulent financial reporting has increased tremendously since the year 1997. Hurtt's Professional Skepticism Model was adopted in this research to examine the relationship between the six professional skepticism characteristics (questioning mind, search for knowledge, suspension of judgement, interpersonal understanding, self-confidence and self-determining) and auditors' fraud detection in Malaysia. Cross-sectional study was conducted on the auditors with Malaysian Institute of Accountants membership by distributing 700 sets of survey questionnaires to Selangor, Wilayah Persekutuan, Penang, Johor and Sarawak. 252 sets of questionnaires were used for data analysis by performing Pearson Correlation Analysis and Multiple Linear Regression Analysis. This study could contribute to the auditors by adding insights into the development of auditors skeptical characteristics that lead to the better detection of fraud, thus improving the audit quality in Malaysia. Furthermore, the prospective researchers can make use of this study in providing in-depth analysis on the dimensions of professional skepticism.

CHAPTER 1: RESEARCH OVERVIEW

1.1 Research Background

Professional skepticism (PS) is auditors' skeptical mindset when evaluating information and in making conclusions which is essential to the consideration of fraud because it drives them into taking a questioning approach (American Institute of Certified Public Accountants [AICPA], 2002). PS must be exercised throughout the audit, particularly in the areas that requires significant judgements or transactions beyond the customary course of business. Inappropriate use of PS may affect auditor's ability to evaluate the sufficiency and appropriateness of audit evidence obtained and to determine whether the financial statements are fairly presented (AICPA, 2002; Public Company Accounting Oversight Board [PCAOB], 2012).

Financial reporting fraud is a criminal act of manipulating material facts that will influence the decision of the financial statement users. Auditors' fraud detection means the auditors look for the offences committed intentionally that resulted in the fraudulent financial reporting (Suryandari & Yuesti, 2017). One of the causes of audit failure is the lack of PS that dulls auditors' sensitivity to fraud indicators (Idawati & Gunawan, 2015). Fraud indicators can be explained into three categories. Firstly, indicators relating to the corporate environment such as firm's ethics. Secondly, symptoms related to the fraud perpetrator for instance, financial pressures and opportunities to commit fraud. Thirdly, indicators relating to financial and accounting practices (Fullerton & Durtschi, 2004).

Fraud in Malaysia is a pervasive threat affecting organizations despite the efforts being taken towards having a fraud-free environment. According to statistics reported by Securities Commission Malaysia (2016), there were 53 cases and 57 ongoing court cases in relation to fraud for the year 2015 and 2016 respectively. Furthermore, Global Economic Crime Survey 2016 revealed that amongst the

fraud cases, there was a 30% increase in reported asset misappropriation incidences which was regarded as the easiest of fraud to be detected (PricewaterhouseCoopers, 2016). Furthermore, KPMG's Report on Fraud Survey in 2013 showed that fraud in financial statement represents 12% of the total fraud perpetrated in organizations but auditors only discovered 14% of these cases (KPMG, 2013). Hence, this creates questions whether lack of PS contributed to lesser fraud discoveries given that researchers have identified the relationship between PS and auditors' fraud detection (Hurtt, 2010).

1.2 Problem Statement

In Malaysia, the concern for auditors' PS pertaining fraudulent financial reporting has increased tremendously since the 1997's economic crisis (Hasnan & Mahenthiran, 2014). In 2007, the PS of auditors was challenged after the financial scandal of Transmile Group Bhd that falsely reported its revenue despite suffering loss prior to the year (Oh, 2015). Besides, a former director of Linear Corp Bhd was charged for authorizing the furnishing of a false statement to Bursa Malaysia Securities Bhd on 2015. Since auditors are heavily relied upon to provide assurance on the firm's reporting activities, the society has always trusted auditors to maintain their PS for detecting fraudulent reporting (Sayed Hussin & Iskandar, 2015). Therefore, these have brought the attention of public and audit regulatory bodies relating the PS of auditors in discovering fraud (Oh, 2015). Academic researchers have indicated the connection between PS and fraud detection (Hurtt, 2010). It is therefore important to study the characteristics of PS as a fundamental role in improving fraud detection (Fullerton & Durtschi, 2004).

In the past, researchers have carried out various studies to examine the significance of PS of auditors. Sayed Hussin, Iskandar, Saleh, and Jaffar (2017) examined the impact of PS, experience and time budget on auditors' assessment of risk of material misstatement in the Big 4 audit firms and identified that PS and experience positively affect auditors' ability in assessing risk of material misstatement. Besides, Fullerton and Durtschi (2004) addressed the relationship

between internal auditors' PS behaviour and fraud awareness in a longitudinal study by evaluating their fraud awareness before and after training session. Moreover, Pramana, Irianto, and Nurkholis (2016) had studied auditors' PS, experience and independence affecting the ability to detect fraud and their study identified a significant relationship with fraud detection. Although the past researchers have examined the PS of auditors, yet few researchers have studied the correlation concerning auditors' PS and auditors' fraud detection.

There are some deficiencies in the past empirical researches. Some researchers have studied the behaviours of skeptical auditors (Anderson & Maletta, 1999; Asare & McDaniel, 1996; Mueller & Anderson, 2002). However, limited studies have attempted to measure PS traits (McMillan & White, 1993; Shaub, 1996). Besides, researchers that measured PS have turned the scale to measure hypotheses unique to their experimental constructs such as trust, independence and suspicion (Shaub & Lawrence, 1996). Although studies of Fullerton and Durtschi (2004) and Hurtt (2010) have tested PS model, there are still limited studies conducted to test the impact of PS model on the auditors' fraud detection. Sayed Hussin and Iskandar (2013) examined whether Hurtt's PS model is applicable in Malaysian context, however the study used final year accounting students as samples rather than the auditors. Therefore, this research is carried out to test the characteristics of PS model on the practicing auditors in Malaysia to give further evidence on its impact on fraud detection.

1.3 Research Objectives

Table 1.1: General Research Objective and General Research Question

General Research Objective	General Research Question
To examine the relationship between professional skepticism characteristics and auditors' fraud detection.	Do the auditor professional skepticism characteristics affect auditors' fraud detection?

Source: Formed for the research

Table 1.2: Specific Research Objectives and Specific Research Questions

Specific Research Objectives	Specific Research Questions
To examine the relationship between questioning mind and auditors' fraud detection.	Is there a positive relationship between questioning mind and auditors' fraud detection?
To examine the relationship between search for knowledge and auditors' fraud detection.	Is there a positive relationship between search for knowledge and auditors' fraud detection?
To examine the relationship between suspension of judgement and auditors' fraud detection.	Is there a positive relationship between suspension of judgement and auditors' fraud detection?
To examine the relationship between interpersonal understanding and auditors' fraud detection.	Is there a positive relationship between interpersonal understanding and auditors' fraud detection?
To examine the relationship between self-confidence and auditors' fraud detection.	Is there a positive relationship between self-confidence and auditors' fraud detection?
To examine the relationship between self-determining and auditors' fraud detection.	Is there a positive relationship between self-determining and auditors' fraud detection?

Source: Formed for the research

1.4 Significance of Study

1.4.1 Theoretical

There is an increasing attention given to PS in the academic literatures. Even though prior academic researchers have begun to address PS of auditors, there are more questions than answers to how the auditors' PS will have an impact on their ability to detect fraud. Most prior studies have only tested PS as a whole rather than examining the individual characteristics of PS model. This research examines the characteristics of PS separately and its impact on fraud detection in Malaysian context. From this research, the ability to ascertain characteristics of PS individually should provide the prospective researchers an important tool in examining its impact on auditing. Moreover, they may use this study as an inspiration for their research to examine whether auditors' PS can be enhanced through experience, gender, audit training and incentives. We believe that this study will give a foundation for studying these important issues in future research.

1.4.2 Practical

This study contributes to the auditors who own the responsibility to protect the public's well-being from corporate fraud in Malaysia. Complexities of businesses in recent years has increased tremendously, and so is the need for compliance of auditing standards. This research has implications for practicing auditors in improving their skeptical characteristics in their practice in order to make a significant positive change to the increasing financial reporting fraud in Malaysia. It may also create the awareness of statutory bodies of auditing on the significance of PS on the accounting fraud, hence may facilitate them in improving and modifying the standards to better suit the current fraudulent reporting issues by taking the auditors'

PS into consideration. This may eventually lead to better regulations of auditors in Malaysia and improve the overall audit quality of Malaysia's audit firms.

1.5 Chapter Layout

In this chapter, we present the introduction pertaining this study. In the next chapter, review of literatures, theoretical foundation and hypothesis development will be presented. Chapter 3 discusses the research methodology that is applied in this research that includes research design, data collection methods, sampling design, research instrument, variables and measurement and data analysis. In chapter 4, data analysis will be presented and it comprises of descriptive examination, measurement of scale and inferential testing. Finally, chapter 5 will summarize this research by providing deliberations of the results, implications and limitations of this study. Then, suggestions for upcoming researchers will also be presented.

1.6 Conclusion

This chapter represents the introduction to this study which is intended to examine the relationship concerning PS characteristics and auditors' fraud detection. The following chapter will show the literature review, a proposed theoretical framework and also an elaborate discussion on the constructs used in this study.

CHAPTER 2: LITERATURE REVIEW

2.1 Theoretical Foundation

For this research, we adopted Hurtt's Professional Skepticism Model (HPSM) developed by R. Kathy Hurtt in 2003 (Hurtt, 2007). HPSM was developed to empirically examine the scales to measure PS based on relevant researches and professional standards. Before developing HPSM, Hurtt reviewed relevant standards and studied on skepticism from auditing, psychology, philosophy, and consumer behavior to identify the characteristics of PS which revealed that multiple features do exist in auditing context (Hurtt, 2010). The standards do not explicitly describe PS, but rather provides guidelines on the responsibilities of auditors to maintain PS. Auditing standards state it as an attitude that includes a questioning mind and a critical assessment of audit evidence (Nelson, 2009). The standards incorporate a "neutral view" because it states that the auditor neither assumes management is always dishonest nor do they assume unquestioned honesty (Hurtt, 2010).

Academic researchers have somewhat been inconsistent in defining PS. Firstly, PS is viewed using "trust-based view" which parallels skepticism with trust (Quadackers, 2007; Shaub, 1996). Secondly, some researchers used "presumptive doubt" view and defined PS as intensified evaluation of the risk that an assertion is incorrect, except when there is information to prove otherwise (Nelson, 2009). Thirdly, Hurtt (2007) takes a "neutral perspective" and defined PS in terms of various traits. From the three views on PS, Hurtt's definition is aligned with the neutral definition of PS found in both the United States and international auditing standards because its viewpoint is that auditors gather more evidence instead of focusing on the adequacy of evidence when higher risks exist (Hurtt, Eining, & Plumlee, 2008).

HPSM was used by Farag and Elias (2016) in examining the relationship between the Big Five personality characteristics (Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience) of accounting students' PS and their level of anticipatory socialization in deciding if auditing is an appropriate career choice for them. Besides, Elias and Farag (2015) used HPSM to study the internal auditor's likelihood of whistleblowing about accounting fraud. Moreover, Agarwalla, Desai, and Tripathy (2017) integrated HPSM to study impact of self-deception on individuals' assessment of ethicality of various earnings management choices. Furthermore, researchers used HPSM in various studies like management accounting, misstatement risk assessment and accountant's professional judgement (Charron & Lowe, 2008; Mhlongo, 2015; Sayed Hussin et al., 2017).

Table 2.1 below explains the six characteristics of PS from HPSM:

Table 2.1: Explanation of the Constructs of Hurtt's Professional Skepticism Model

Constructs	Description
Questioning mind	The questioning attitude relating to curiosity and interest (Hurtt, 2010). An auditor will question the information and audit evidence obtained and require further clarification before making audit judgements or forming conclusions (Charron & Lowe, 2008; Sayed Hussin & Iskandar, 2013).
Search for knowledge	It is a sense of driving curiosity in seeking knowledge for knowledge's sake and not simply for verifying a conclusion (Hurtt, 2010). The auditor will try to clarify the complex situation by acquiring additional knowledge and wisdom (Royaee, Nezhad, & Azinfar, 2013).
Suspension of judgement	An attitude whereby the auditors withhold their judgements until the audit evidence sufficiently obtained to base a conclusion (Hurtt, 2010). They will not simply accept any statement or explanation without critically evaluating the audit evidence

	(Sayed Hussin & Iskandar, 2013).
Interpersonal understanding	It deals with understanding the motivation and the integrity of those that provide the evidence (Hurtt, 2010). By understanding their clients' behaviour, auditors can challenge or correct the mistaken assumptions imbedded in their audit works and to detect inaccurate and misleading information (Sayed Hussin & Iskandar, 2013).
Self-confidence	It relates to the feelings of self-worth and belief in one's own abilities (Hurtt, 2010). Hence, they are capable of challenging client's assumptions and decisions and defend themselves against any pressure (Sayed Hussin & Iskandar, 2013).
Self-determining	Auditor's ability to decide on the adequacy of the information as evidence to render an audit judgement (Hurtt, 2010). Hence, they are resisted against the beliefs or persuasion attempts of others and will undertake additional investigations until they are satisfied with their own judgement (Sayed Hussin & Iskandar, 2013).

Source: Formed for the research

HPSM is used because prior studies often used PS as an inspiration for their research but the measure of traits was yet to exist before Hurtt developed the model and it is crucial to study HPSM in Malaysian environment since fewer studies confirm that PS characteristics affect auditors' fraud detection in Malaysia (Sayed Hussin & Iskandar, 2013). Therefore, all the six constructs of HPSM are adopted in this study to examine the relationship among PS characteristics and auditors' fraud detection in Malaysian context.

2.2 Literature Review

2.2.1 Auditors' Fraud Detection

Fraud detection refers to the design, planning or procedures to find the material irregularities or the symptoms of possible fraud (Bernardi, 1994). The profession took the position that fraud detection was management's responsibility to implement appropriate internal control systems to prevent, deter and detect fraud in their organisations (Kuria & Muturi, 2015). However, Statement of Auditing Standards no. 99 in 2002 has emphasised the auditors' responsibility in considering the possibility of fraud during financial statements audit by providing more guidelines on consideration of fraud includes the importance of PS and the characteristics of fraud (AICPA, 2002).

Fraud symptoms can be described into three categories. Firstly, certain corporate environments or cultures can lead to higher exposure of fraud. Autocratic management style, hostile internal relationship, high turnover rate and frequent changes in auditors are some of the conditions that indicate the potential fraud in a firm. Secondly, fraud symptoms can be discovered through the likely perpetrators' behavioural changes related to pressures, opportunities to commit fraud, and rationalization of the fraud. In other words, the likely perpetrators can be identified by observing a change or contradiction in an individual's circumstances, behavior, or lifestyle. Thirdly, improper ways of handling financial records and accounting practices may reflect certain fraud symptoms (Fullerton & Durtschi, 2004). Unlike financial statements audit, fraud detection requires a unique skill set and forensic techniques due to the existence of various types of fraud symptoms and thus it is important for the auditors to possess the skill or expertise in detecting the indicators of the fraud (Chui & Pike, 2013).

2.2.2 Questioning Mind

Questioning mind is the questioning attitude in examining the information and audit evidence obtained during the process of forming conclusions (Charron & Lowe, 2008; Sayed Hussin & Iskandar, 2013). Idawati and Gunawan (2015) suggested that skeptical mindset assists auditor in accessing risks and in decision making. The result indicated that auditors with questioning mind significantly affect their ability to detect fraud.

Besides, any experiment that studied senior-level auditors from the Big 4 auditing businesses to audit a client's analysis of goodwill impairment test (Griffith, Hammersley, Kadous, & Young, 2014). The study posited that deliberative mindset improves auditors' ability to identify unreasonable estimates and addressing audit issues. It identified that auditors who are inquisitive will more likely recognize the inconsistencies underlying complex estimates.

Peytcheva (2013) opined that suspicious mind towards client significantly improves auditors' cognitive performance in hypothesis-testing task. It implies that an increase in PS will improve auditors' ability to select evidence diagnostic to the hypothesis at hand.

Therefore, this study hypothesizes a positive relationship between questioning mind and auditors' fraud detection in Malaysian context.

2.2.3 Search for Knowledge

Search for knowledge refers to a sense that drives auditors to seek more knowledge to clarify complex situations (Royaee et al., 2013). A study conducted by Fullerton and Durtschi (2004) among Florida internal auditors discovered that high skeptical auditors tend to request further information when confronted with red-flags. Specifically, auditors sought more information when they noted suspicious relationships, opportunities for fraud and symptoms relating to fraud among employees.

Besides, Sayed Hussin et al. (2017) suggested that the quest for information significantly affects the auditors' ability in assessing risk of material misstatement pertaining fraud matter. With high level of PS, the auditors would tend to make extra checks of information before making judgements. Similarly, Pramana et al. (2016) also agreed that auditors can detect fraud when they seek for knowledge. The greater the evidence searched, the more capable the auditor in discovering fraud.

Consistent with above researches, the study by Ashari (2017) also indicated that higher curiosity level of auditors anchoring higher risk assessment towards fraud. Result suggested that auditors who tend to search for additional evidence will come into a decision to heightening the assessment of risk that the assertion is inappropriate and subjected to condition.

Based on the review of empirical researches, a positive hypothesis is drawn in examining the impact of search for knowledge on auditors' fraud detection.

2.2.4 Suspension of Judgement

Suspension of judgement is an attitude of withholding audit judgement until the audit evidences are sufficiently obtained (Hurtt, 2010). Quadackers, Groot, and Wright (2009) found that there is a significant effect of the need for closure on auditors' skeptical judgements, which means auditors suspend their judgement before decision is made. The study provides evidence that skeptics would spend more time in critical probing for solutions that enhance decision making.

Furthermore, findings from Bailey, Daily, and Philips (2011) also exhibited a consistent result with the above study. It demonstrated that auditors (especially partners and managers) are low in need for closure and will spend time to consider more relevant evidence before making decision. Next, Agarwalla et al. (2017) also proved that withholding judgement could avoid making unethical decisions or prevent others from making unethical decisions. This paper examined how self-deception and PS influence the perceptions of ethicality. The result exhibited that skeptics are more likely to suspend judgement and tend to perceive the various earnings management techniques to be relatively more unethical.

Another research evidence from Bailey et al. (2006) also suggested that suspension of judgement significantly affects auditors' skeptical judgements and decisions. Meanwhile, need for cognitive closure is the construct used in this study to measure suspension of judgement. Hence, from the response, it further proved that auditors with lower need for cognitive closure tend to suspend judgement by taking time to consider all perspectives and possibilities and more able to look at bigger picture for subsequent evidence evaluation.

Hence, with all of the above empirical evidences, the positive correlation between suspension of judgement is hypothesized for this research to test on auditors' fraud detection.

2.2.5 Interpersonal Understanding

Interpersonal understanding is the understanding of motivation and integrity of the information providers (Hurtt, 2010). Jahari and Kiswanto (2017) examined whether interpersonal understanding will give significant effect on the auditor's ability to detect fraud. Findings showed a positive relationship between auditors' interpersonal understanding and their ability to detect fraud. Besides, McAllister, Blay, and Kadous (2016) have examined the association between the role of individual's interpersonal understanding and fraud risk brainstorming. Result indicated that interpersonal understanding of individual can significantly impact the outcomes of fraud risk brainstorming.

Pramana et al. (2016) tested the influence of auditors' interpersonal understanding on their fraud detection capability. It was revealed that auditors that shows more interpersonal understanding trait are capable of more fraud detection. Multiple regression analysis was carried out and it was revealed that PS affects the auditor's ability to detect fraud.

Lastly, Carpenter and Reimers (2013) revealed that interpersonal understanding will effect of a partner's influence on fraud detection. This study found that there is a positive relationship between interpersonal understanding and the level of fraud indicators or auditors' fraud judgements and action. Furthermore, this study provides a further evidence that a partner's emphasis on PS is critical for both effective and efficient identification of relevant fraud risk factors and choice of relevant audit procedures.

Auditors with higher skeptical behaviours tend to require more information when they discovered the potential that fraud may exist in a firm (Fullerton & Durtschi, 2004). Following these former studies, this research concludes a positive link between interpersonal understanding and auditors' fraud detection.

2.2.6 Self-confidence

Self-confidence is the feeling of self-worth and believing in own abilities (Hurtt, 2010). Bogdan, Mester, Gherai, and Scorte (2017) investigated whether professional accountants' self-confidence is correlated with their opinion regarding the carrying out of an accounting judgement process. The results showed a positive correlation between accountants' self-confidence and their opinion regarding accounting judgement process.

Owhoso and Weickgenannt (2009) examined how auditors' self-perceived abilities affect their actual performance in conducting audits. Self-perceived ability is the belief of an individual associate with his or her ability to perform and complete tasks successfully. The results indicated that auditors' self-perceived ability is positively related to their performance in detecting errors.

Lee, Su, Tsai, Lu, and Dong (2016) examined the relationship between self-efficacy and performances of auditors. Self-efficacy is an individual's subjective view of one's own ability, it profoundly influences personal actions, motivations and persistence. The results showed that the auditors' self-efficacy and audit quality are positively related. Furthermore, Mhlongo (2015) investigated the influence of self-confidence on professional judgement. The result revealed that self-confidence has significant influence to audit judgement. When auditors' self-confidence is appropriately applied to the audit judgement, it may increase the quality of audit judgement.

PS requires some degree of self-confidence which is important to collect audit evidence in the course of audit (Hurtt, 2010). Based on these past literature reviews, self-confidence has a positive connection with auditors' fraud detection.

2.2.7 Self-determining

Self-determining is the ability to determine the sufficiency of audit evidence to render an audit judgement (Hurtt, 2010). Royaee et al. (2013) examined whether there is any relationship between self-determination of independent auditors and their decision making. The findings showed a positive relationship between self-determination of independent auditors and their decision making.

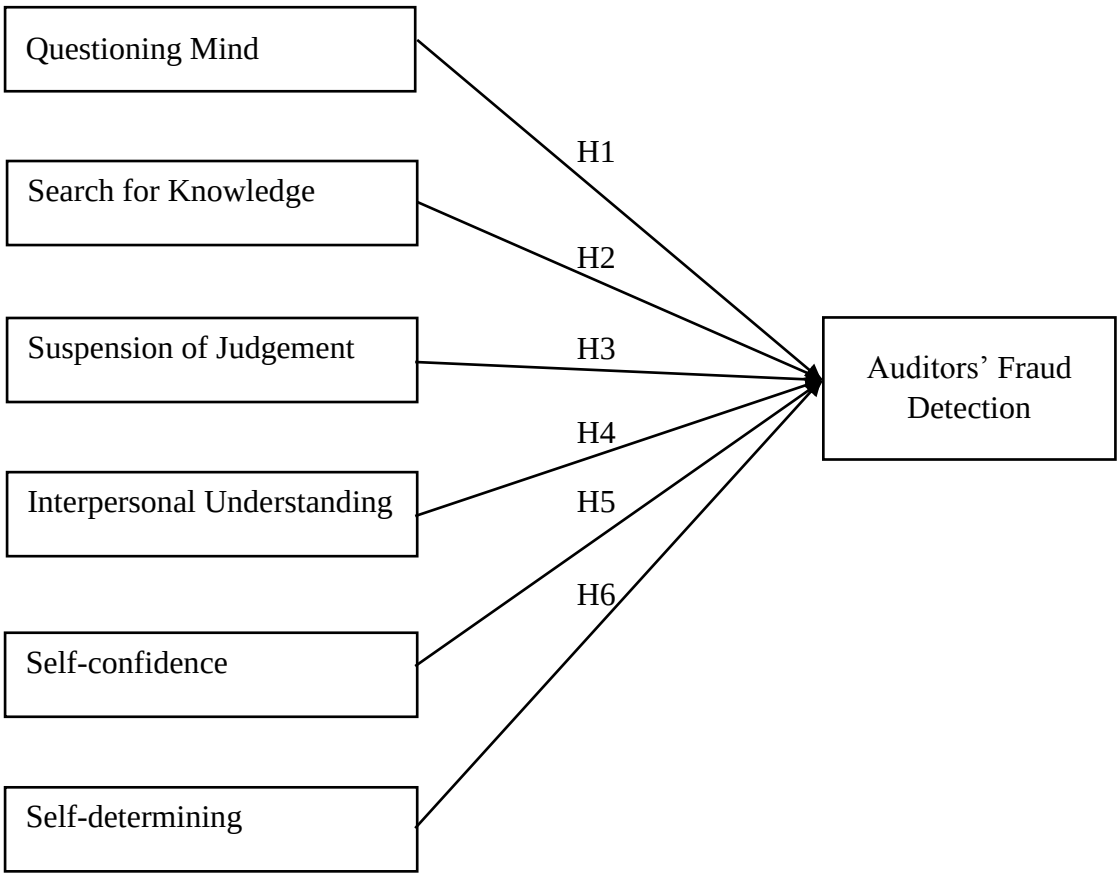
Furthermore, McKnight and Wright (2011) investigated whether the relationship between an auditor's locus of control (LOC) and their relative job performance is significant. LOC is defined as the extent of the involvement of individuals in a process leading to a desired outcome and influences how individuals conceive of themselves. LOC can be splited into two categories (internal LOC that directly influence judgement and external LOC that indirectly influence judgement). The results showed that auditors' job performance will improve when they possess more internal LOC.

Studies conducted by Jahari and Kiswanto (2017) examined whether self-determining will give significant effect on the auditor's ability to detect fraud. The findings revealed that PS has significant effect on the auditor's ability to detect fraud. Results supported the hypothesis that the higher the self-determination of an auditor, the higher their ability in detecting fraud.

In a nutshell, we conclude that self-determining and auditors' judgement in detecting fraud has a direct positive relationship. Their ability to analyse and arrive at a conclusion without being influenced by other factors enables them to detect fraud (Fullerton & Durtschi, 2004).

2.3 Proposed Conceptual Model

Figure 2.1: The Six Characteristics of Professional Skepticism Affecting Auditors' Fraud Detection



Source: Hurtt, R. K. (2010). Development of a scale to measure professional skepticism. *Auditing: A Journal of Practice & Theory*, *29*(1), 149–171.

The model presented above is used in this research to inspect the correlation between PS characteristics and auditors' fraud detection. The independent variables (IVs) of this study are questioning mind, search for knowledge, suspension of judgement, interpersonal understanding, self-confidence and self-determining. The dependent variable (DV) is auditors' fraud detection.

2.4 Hypothesis Development

The following hypotheses are established based on the prior research reviews:

H1 = There is a positive relationship between Questioning Mind and Auditors' Fraud Detection.

H2 = There is a positive relationship between Search for Knowledge and Auditors' Fraud Detection.

H3 = There is a positive relationship between Suspension of Judgement and Auditors' Fraud Detection.

H4 = There is a positive relationship between Interpersonal Understanding and Auditors' Fraud Detection.

H5 = There is a positive relationship between Self-confidence and Auditors' Fraud Detection.

H6 = There is a positive relationship between Self-determining and Auditors' Fraud Detection.

2.5 Conclusion

This chapter reviewed the theoretical grounds of PS model, review of prior studies and a proposed concept framework. The next chapter will elaborate on the research methodology.

CHAPTER 3: METHODOLOGY

3.0 Introduction

This chapter gives an overview of research methodology by introducing the research design of this study. Subsequently, it highlights the population, the sample and sampling technique, followed by method of collecting data, construct and measurement, research instruments and finally the data assessment technique.

3.1 Research Design

This research intends to study the relationship between PS characteristics and auditors' fraud detection. Quantitative approach is employed because it permits quick summarization of large amount of data with consistency to achieve a greater accuracy (Fabozzi, Focardi, & Ma, 2005). This research is a cross-sectional study because it is carried out at one point in time. This method is suitable as it is not costly and not time consuming (Saunders, Lewis, & Thornhill, 2016).

Existing survey is adapted from Hurtt (2010) and Fullerton and Durtschi (2004) with minor changes to the questionnaire items to better suit this research. Survey is used because it is relatively inexpensive and quicker to administer. Besides, survey is more convenient for respondents to respond. Since their answers will be kept confidential, respondents will be more willing to provide information (Zikmund, Babin, Carr, & Griffin, 2010).

3.2 Method of Collecting Data

3.2.1 Primary Data

The data that we have collected is a primary data. The data collection method is self-administered questionnaires because it can reach more respondents and permits faster responses (Muijs, 2004; Sekaran & Bougie, 2016). Besides, internet questionnaire was also adopted in this research to gather more responses from the respondents. Google Forms were used and the link was sent to the target respondents via email.

3.3 Sampling Design

3.3.1 Target Population

Target population refers to the entire group of cases where the research project focused on (Saunders et al., 2016). The target population of this research is auditors with Malaysian Institute of Accountants (MIA) membership. MIA members were chosen as the target respondents because it was stated under MIA by-laws in International Standard of Auditing (ISA) 200 that auditors should maintain PS throughout the audit and aware of the possibility that fraud may exist (Malaysian Institute of Accountants [MIA], 2010). The statistics of population is shown in Table 3.1.

Table 3.1: MIA Members Categorized by States

States	Numbers	Percentage (%)	Ranking	Remark
*Wilayah Persekutuan	7658	22.7558	2	*Top 5 states:* 41.06% + 22.76% + 6.71% + 6.51% + 6.05% = **83.09%**
Terengganu	317	0.9420	12	
*Selangor	13817	41.0573	1	
*Sarawak	2037	6.0530	5	
Sabah	1196	3.5539	6	
*Pulau Pinang	2258	6.7097	3	*These 5 states represent 83.09% of MIA members.
Perlis	66	0.1961	14	
Perak	1196	3.5539	6	
Pahang	496	1.4739	11	
Negeri Sembilan	763	2.2673	8	
Melaka	709	2.1068	9	
Kelantan	268	0.7964	13	
Kedah	680	2.0206	10	
*Johor	2192	6.5135	4	
Total	**33653**	**100**		

Source: Malaysian Institute of Accountants, 2018

3.3.2 Sampling Frame and Sampling Location

The sampling frame used in this study is MIA Members Firm Directory from MIA's official website. According to the statistics from Table 3.1, the number of MIA members is highest at Selangor, followed by Wilayah Persekutuan, Penang, Johor and Sarawak. Therefore, these 5 states were chosen as the sampling location of this research and questionnaires have been distributed to these 5 states. These 5 states cover 83.09% (27,962 out of 33,653) of MIA members in Malaysia.

3.3.3 Sampling Elements

The respondents of this study are the MIA members from Selangor, Wilayah Persekutuan, Penang, Johor and Sarawak. The reason to choose MIA member as the target respondents is because MIA by-laws in ISA 200 stated that auditors should maintain PS throughout the audit and aware of the possibility that fraud may exist (MIA, 2010). Therefore, it is suitable to choose MIA members as the target respondents.

3.3.4 Sampling Techniques

In this study, the sampling frame used is MIA Members Firm Directory from MIA's official website. Since sampling frame is available, probability sampling is used. Cluster sampling technique has been applied because MIA members are scattered all over the states with different proportion, thus, it would be cost effective to use cluster sampling (Copper & Schindler, 2014; Sekaran & Bougie, 2016). The population of MIA members have been divided into 14 clusters according to their states. Then, 5 states with highest MIA members have been selected as primary sampling unit. Lastly, samples were randomly chosen from the selected clusters.

3.3.5 Sampling Size

Given that the total population is 33,653, the sample size for this research was set at 379 by referring to the sample size table provided by Krejcie and Morgan (1970) which simplified sample size decision scientifically. The sample size also fits the limit proposed by several other researchers. Roscoe (as cited in Sekaran & Bougie, 2016) proposed that sample size of 30 to 500 is appropriate for majority researches. Hair, Black, Babin, and Anderson (2010) suggested a sample size ranging from 100 to 400. Hence, it can be concluded that the sample size of 379 is suitable for this study. In order to

obtain the data, a total of 700 surveys were distributed because it was anticipated that possible difficulties may incur such as lower response rate. Hence, 300 sets of surveys were distributed physically and 400 Google Forms were distributed via email to the target respondents.

3.4 Research Instrument

Self-directed questionnaires are adopted for this study because we could collect completed responses within short period of time, thus, the response rate could be maximized. Besides, questionnaires are efficient way of collecting data from large group of respondents because same set of questions is asked to each respondent (Saunders et al., 2016).

Pre-test have been conducted by 4 lecturers with auditing and research experience to assist us in identifying problems of leading questions, bias question order and wording (Zikmund et al., 2010). The size pre-test used in this study was appropriate as it is recommended to be around 4 to 20 individuals and beyond 20 would not provide incremental information for improving questionnaire (Hair, Celsi, Money, Samouel, & Page, 2016).

Pilot test was also conducted on 30 MIA members from Selangor and Wilayah Persekutuan. Pilot test is small-scale study carried out prior to main survey and is significant to enhance reliability and validity of questionnaires because amendment can be made if problems detected (Wilson, 2014). According to Hertzog (2008), sample size for pilot testing is adequate around 10 to 15, Whereas, according to Radhakrishna (2007), 30 subjects shall be sufficient. Hence, the 30 respondents for pilot test used in this study suits the minimum criteria for pilot testing.

3.5 Constructs Measurement

Table 3.2: Definition of Six Constructs Used in this Study

Constructs	Definition
Questioning mind	The questioning attitude relating to curiosity and interest (Hurtt, 2010).
Search for knowledge	It refers to a sense of driving curiosity in seeking knowledge for knowledge's sake and not simply for verifying a conclusion (Hurtt, 2010).
Suspension of judgement	An attitude whereby the auditors withhold their judgements until the audit evidence sufficiently obtained to base a conclusion (Hurtt, 2010).
Interpersonal understanding	It deals with understanding the evidence provider's motivation and integrity (Hurtt, 2010).
Self-confidence	It relates to the feelings of self-worth and belief in one's own abilities (Hurtt, 2010).
Self-determining	Auditor's ability to decide on the adequacy of the information as evidence to render an audit judgement (Hurtt, 2010)

Source: Formed for the research

Table 3.2 shows the definition of constructs used in this study. The questionnaire consists of 3 sections. Section A for Demographic Profile, Section B for IVs and Section C for DV. Nominal and ordinal scale have been used to quantify the profile demographic of respondents. Nominal scale is suitable for measuring items that cannot be arranged in order. For the demographic profile, it applies on gender, professional qualifications, and MIA membership. Ordinal scale is also used when data can be ranked orderly. It applies on range of age of respondents, education level and years of experiences as an auditor.

The DV of this research (auditors' fraud detection) is measured by 6 questions that was adopted from Fullerton and Durtschi (2004). Whereas, the six IVs in this study (questioning mind, search for knowledge, suspension of judgement, interpersonal understanding, self-confidence and self-determining) are measured

by a total of 30 questions which was adapted from Hurtt (2010). Interval scaling technique is used to measure all the constructs with 5-point Likert scale (1=Not at all; 2=Slightly; 3=Moderate; 4=Very; 5=Extremely) because reliability of rating is not improved and it is just as good as other Likert scales (Sekaran & Bougie, 2016).

3.6 Data Analysis

Collected data were processed by using Statistical Analytical Software (SAS). SAS is an analytic software that performs statistical analysis on the quantitative data. Hence, this research runs descriptive statistics, reliability test, normality test, Pearson Correlation Coefficient and Multiple Linear Regression Analysis.

3.6.1 Descriptive Analysis

Descriptive analysis is the conversion of raw data into numerical or graphical form to ease understanding and interpretation (Zikmund et al., 2010). It used to describe and summarize the basic features of target respondents (Hair et al., 2016). Thus, descriptive analysis was used to illustrate the demographic profile of target respondents by constructing frequency and percentage table and the measure of central tendency and variation i.e. mean and standard deviation to describe the variables.

3.6.2 Inferential Analysis

Inferential analysis is a statistical method that provides conclusive results about a population. Inferences will be drawn based on the analysis of sample data representing that population. It tests the hypotheses formulated statistically whether they are accepted or rejected and evaluate the effects of

an IV on a DV (Zikmund et al., 2010). Pearson Correlation Coefficient and Multiple Linear Regression (MLR) Analysis were used as the variables for this research are measured in interval scale.

3.6.2.1 Reliability Test

This test is to the identify the consistency of measurement which yields the same result when repeated measurements are taken over different forms of attempts of data collecting (Zikmund et al., 2010). In this study, Cronbach's Alpha was used for reliability test as it is the best measurement of core consistency for reliability test. It ranges from 0 (no consistency) to 1.00 (complete consistency) (Wells & Wollack, 2003). It is preferable to have coefficient ≥ 0.70 that indicates good reliability to enrich the evaluation of the assessment and questionnaires (Hair et al., 2016).

3.6.2.2 Normality Test

Normality test was conducted to examine whether the data to be analyzed represent the symmetrical distribution. Two typical measures for normality test are skewness and kurtosis. Skewness is the magnitude of symmetry in a distribution while kurtosis is its peakedness (Hair et al., 2016). Normality test is necessary to be carried out to ascertain the normality of data distribution before conducting the MLR (Shukla, 2015).

3.6.2.3 Pearson Correlation Coefficient

Pearson Correlation Coefficient was used to measure the extent of the strength of linear relationship between two variables (Hair et al., 2016). It ranges from -1.00 (perfect negative correlation) to +1.00 (perfect positive

correlation), 0 indicating no relationship exists (Zikmund et al., 2010). It can be either positive or negative whereby a positive correlation depicts a rise in one variable causes the increase in another variable and vice versa (Hair et al., 2016). Therefore, it was conducted to identify if there is a relationship exists between each IV and DV respectively as well as the direction and the strength of each relationship in this research.

3.6.2.4 Multiple Linear Regression Analysis

Multiple Linear Regression Analysis is a statistical method that analyzes the connotation between IVs with DV mathematically that represented by an equation (Zikmund et al., 2010). This analysis can determine the relative influence of several IVs on the DV and identify which IV has the most impact on DV (Hair et al., 2016). We have taken note of several assumptions to be satisfied before conducting this analysis for instance the data are normally distributed, each relationship between IV and DV is linear, and no multicollinearity problem (Hair et al., 2016). The regression equation of this research was formed as below:

Fraud detection = $\beta 0 + \beta 1$(Questioning mind) + $\beta 2$(Search for knowledge) + $\beta 3$(Suspension of judgement) + $\beta 4$(Interpersonal understanding) + $\beta 5$(Self-confidence) + $\beta 6$(Self-determining) + ε

3.7 Conclusion

The research design, method of collecting data, sampling design, research instrument, construct measurement and data analysis was reviewed in this section. The next section will discuss on the outcomes of this study.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This section describes the analysis of 252 sets of questionnaires gathered. Statistical Analysis Software (SAS) Enterprise Guide 7.1 is used to analyze the data and to generate the outcomes to examine the contrasted hypothesis of this research.

4.1 Descriptive Analysis

700 surveys were sent out to the target respondents by physical distribution and online distribution. Then, 252 surveys were successfully obtained after identifying 38 unusable responses through careful screening. Unusable responses are questionnaires from non-MIA members and/or with incomplete responses. The response rate for physical distribution is 55% while the online distribution's response rate is 22%. Hence, the net response rate for this research is 36%. A summary of the responses is presented in Table 4.1.

Table 4.1: Response Rate of Survey Questionnaires

	Physical Distribution	**Online Survey (Google Form)**	**Total**
Distributed	300	400	700
Collected	179	111	290
(-) Unusable Responses	13	25	38
Net Responses	166	86	252
Net Response Rate	55%	22%	36%

Source: Formed for the research

4.1.1 Demographic Profile of Respondents

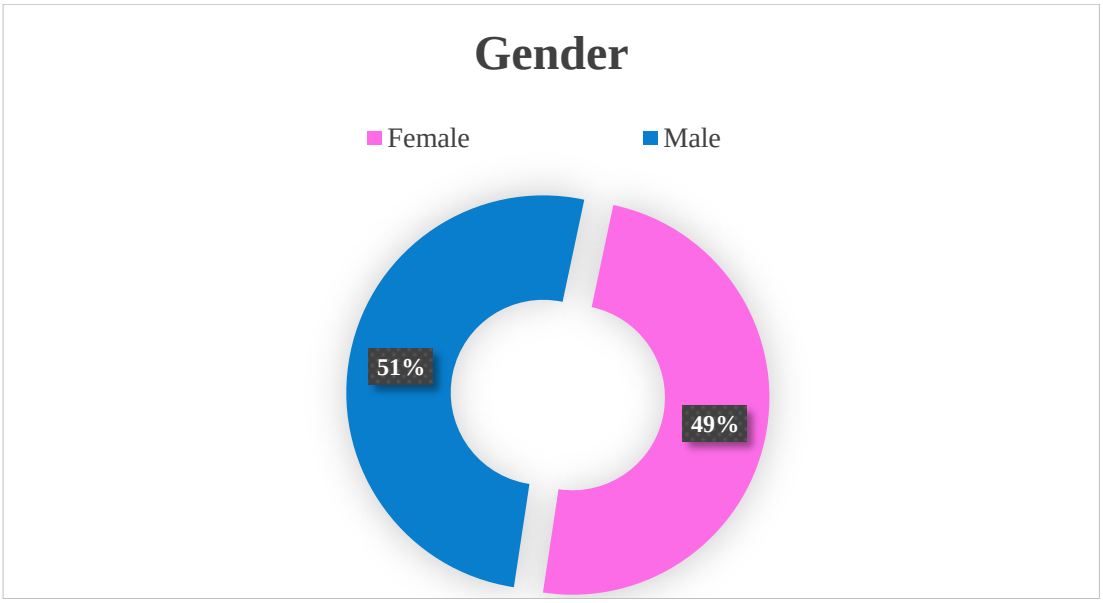
(a) Gender

Table 4.2: Survey Respondents by Gender

Gender	Frequency	Percentage (%)
Female	104	41.27
Male	148	58.73
Total	252	100

Source: Formed for the research

Figure 4.1: Survey Respondents by Gender



Source: Formed for the research

Table 4.2 and Figure 4.1 above show the gender of the respondents. Among the 252 respondents, 104 (41.27%) are female while 148 (58.73%) of them are male respondents.

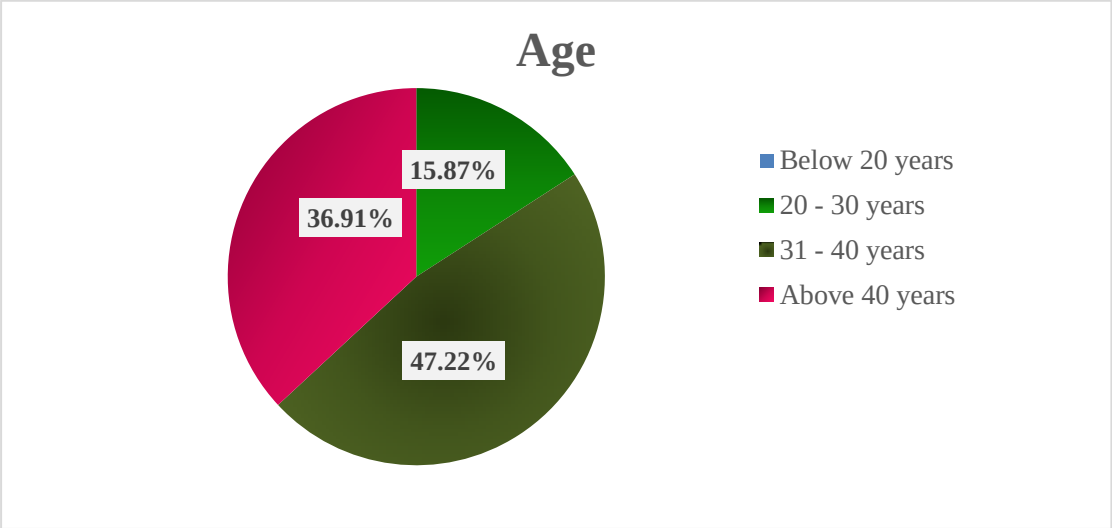
(b) Age

Table 4.3: Survey Respondents by Age

Age	Frequency	Percentage (%)
Below 20 years old	0	0
20 to 30 years old	40	15.87
31 to 40 years old	119	47.22
Above 40 years	93	36.91
Total	252	100

Source: Formed for the research

Figure 4.2: Survey Respondents by Age



Source: Formed for the research

Table 4.3 and Figure 4.2 above show the age of the respondents. None of the respondents are aged below 20 years old, 40 (15.87%) respondents are aged between 20 to 30 years old, 119 (47.22%) respondents are between the age of 31 to 40 years old and finally, 93 (36.91%) of them are above 40 years old.

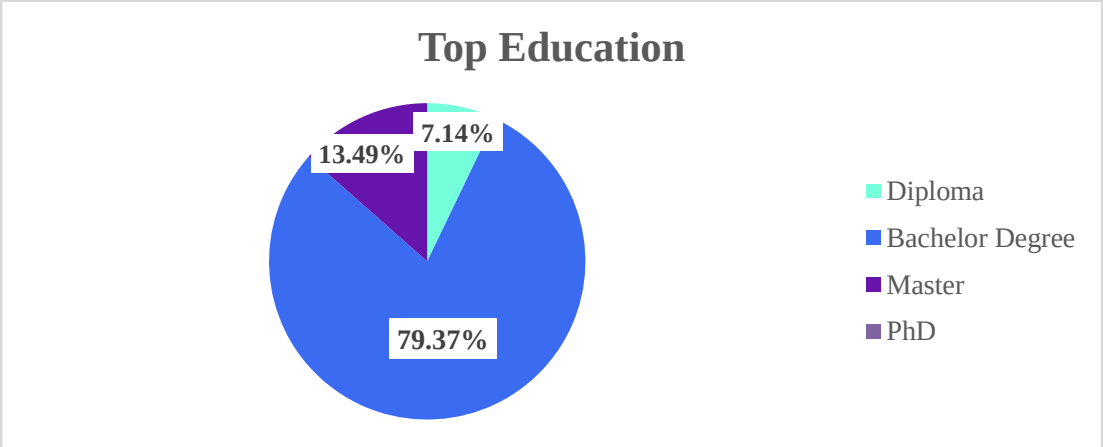
(c) Top Education Completed

Table 4.4: Survey Respondents by Top Education Completed

Education Level	Frequency	Percentage (%)
Diploma	18	7.14
Bachelor Degree	200	79.37
Master	34	13.49
PhD	0	0
Total	252	100

Source: Formed for the research

Figure 4.3: Survey Respondents by Highest Education Completed



Source: Formed for the research

Table 4.4 and Figure 4.3 above show the highest education completed by the respondents. Among the respondents, the majority of the respondents' highest education level is Bachelor Degree which comprises of 200 (79.37%) respondents. Meanwhile, 18 (7.14%) respondents hold a Diploma and 34 (13.49%) respondents' highest education level is Master's Degree.

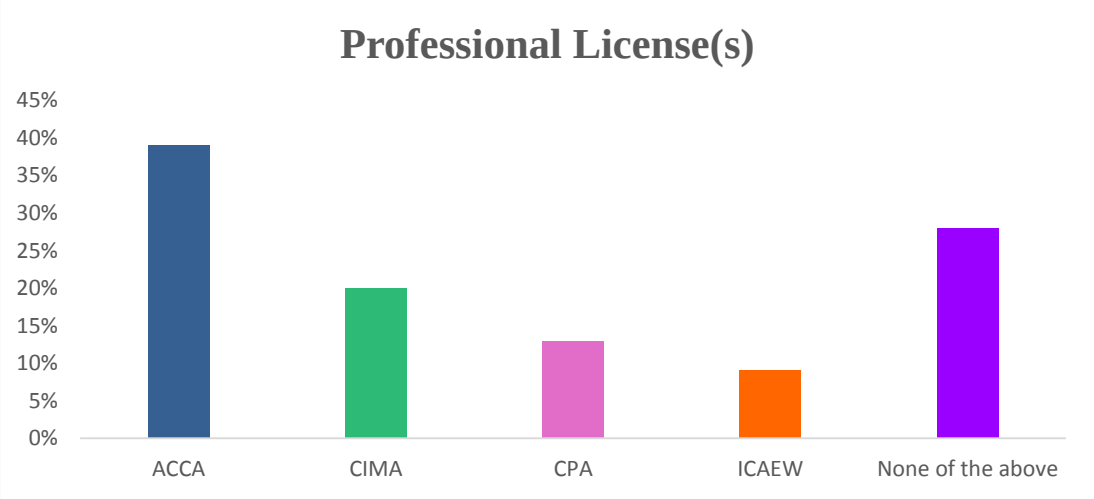
(d) Professional License(s) Hold

Table 4.5: Survey Respondents by Professional License(s) Hold

Professional License (Number of cases)	Frequency	Percentage (%)
ACCA	98	39
CIMA	50	20
CPA	33	13
ICAEW	22	9
None of the above	70	28

Source: Formed for the research

Figure 4.4: Survey Respondents by Professional License(s) Hold



Source: Formed for the research

Table 4.5 and Figure 4.4 above present the professional license(s) hold by the respondents. 98 (39%) respondents have ACCA professional qualification, 50 (20%) respondents have CIMA, 33 (13%) of them hold CPA, 22 (9%) of the respondents have ICAEW and finally, 70 (28%) respondents have none of the above professional qualifications.

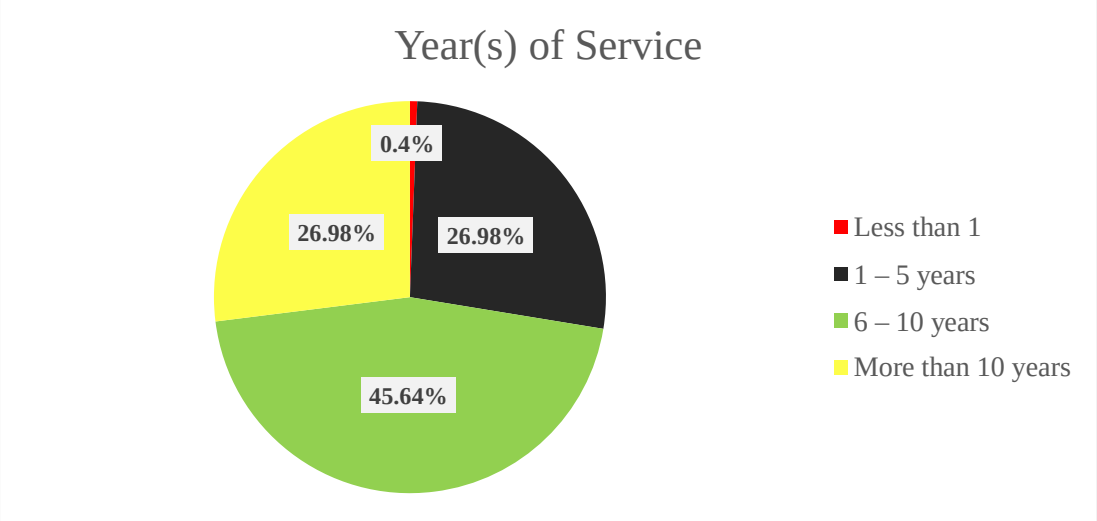
(e) Year(s) of Service in Current Organization

Table 4.6: Survey Respondents by Year(s) of Service in Current Organizations

Years	Frequency	Percentage (%)
Less than 1	1	0.4
1 – 5	68	26.98
6 – 10	115	45.64
More than 10	68	26.98
Total	252	100

Source: Formed for the research

Figure 4.5: Survey Respondents by Year(s) of Service in Current Organizations



Source: Formed for the research

Table 4.6 and Figure 4.5 above show the year(s) of service of respondents in current organizations. 1 (0.4%) respondent has less than a year of service in his/her current organization. 68 (26.98%) respondents have 1 to 5 years of service and 115 (45.64%) respondents have 6 to 10 years of service in their current organizations. Finally, the respondents with more than 10 years of experience in their current organizations are 68 respondents (26.98%).

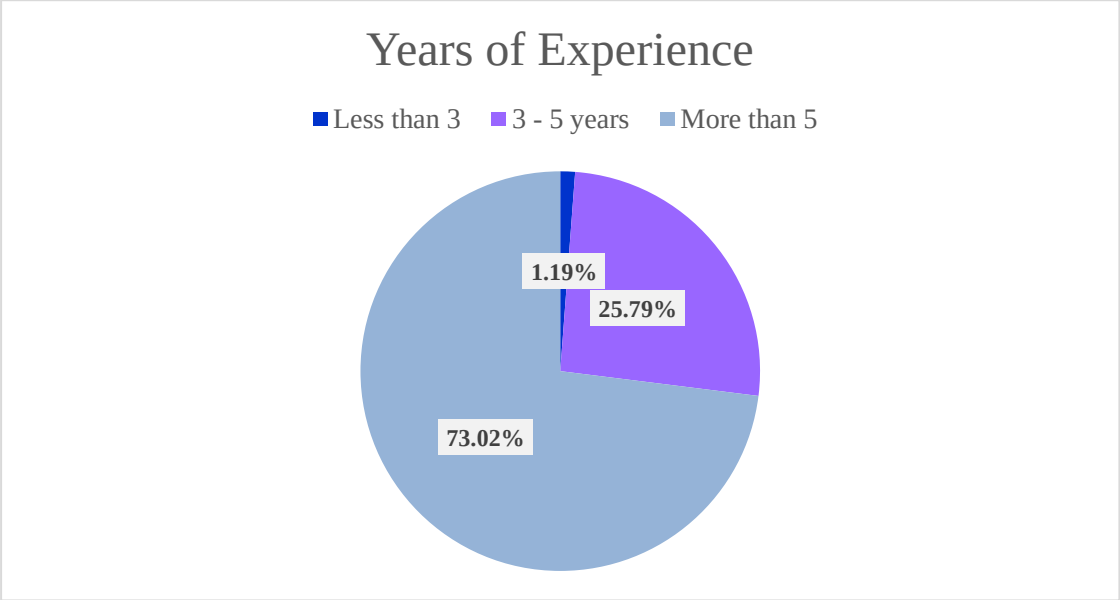
(f) Year(s) of Experience as an Auditor

Table 4.7: Survey Respondents by Year(s) of Experience as an Auditor

Years	Frequency	Percentage (%)
Less than 3	3	1.19
3 – 5	65	25.79
More than 5	184	73.02
Total	252	100

Source: Formed for the research

Figure 4.6: Survey Respondents by Year(s) of Experience as an Auditor



Source: Formed for the research

Table 4.7 and Figure 4.6 above show the year(s) of experience of respondents as an auditor. Among the respondents, 3 (1.19%) of them have less than 3 years of experience as auditors. 65 (25.79%) respondents have years of experience between 3 to 5 years and 184 (73.02%) respondents have more than 5 years of experience as auditors.

4.1.2 Measure of the Central Tendencies of Variables

Table 4.8: Measure of the Central Tendencies of Variables

Constructs	Items	Mean	Standard Deviation
Questioning Mind (QM)	QM1	4.4405	0.7682
	QM2	4.2937	0.8798
	QM3	4.4008	0.7535
Search for Knowledge (SFK)	SFK1	4.4365	0.6739
	SFK2	4.4881	0.6151
	SFK3	4.4921	0.6280
	SFK4	4.4603	0.6268
	SFK5	4.4167	0.6835
	SFK6	4.5198	0.6340
Suspension of Judgement (SOJ)	SOJ1	4.5159	0.5817
	SOJ2	4.5357	0.5808
	SOJ3	4.5040	0.6087
	SOJ4	4.4563	0.5871
	SOJ5	4.4683	0.5742
Interpersonal Understanding (IU)	IU1	4.4325	0.7303
	IU2	4.3571	0.8030
	IU3	4.2698	0.7722
	IU4	4.2421	1.0641
	IU5	4.2619	0.9504
Self-confidence (SC)	SC1	4.6746	0.5255
	SC2	4.7302	0.5192
	SC3	4.4286	0.6110
	SC4	4.5079	0.6216
	SC5	4.5198	0.5884

Self-determining (SD)	SD1	4.5357	0.7433
	SD2	4.3849	0.7618
	SD3	4.4802	0.6465
	SD4	4.3413	0.7215
	SD5	4.3929	0.7471
	SD6	4.5516	0.7261
Auditors' Fraud Detection (FD)	FD1	4.3492	0.8451
	FD2	4.2341	0.8496
	FD3	4.2500	0.8114
	FD4	4.2540	0.8415
	FD5	4.3492	0.8684
	FD6	4.5119	0.8301

Source: Formed for the research

Table 4.8 summarizes the frequency analysis of the questionnaire items of each 7 variables. The central tendencies and measure of dispersion are generated using SAS software and the mean of each item as well as the standard deviation are presented above.

The mean values of all the items range between 4.2341 and 4.7302. This shows that the majority of the MIA members answered 'moderately', 'very' or 'extremely' for the items. Item SC2 has the highest mean of 4.7302 as most respondents. It is due to the nature of question as a reverse question. Therefore, most respondents answered either 'not at all' or 'slightly' for the question "I often do not feel sure of my judgement". On the other hand, the item with lowest mean of 4.2341 is FD2 as it is a reverse question. Hence most respondents answered either 'not at all' or 'slightly' for the question "I usually accept things I see, read, or hear at face value". Central of the scale is acceptable if the mean value is above 3.00 as a minimum value for cut point (Aksu, 2003).

Except for item IU4, the standard deviation for all other items are less than 1 and they range between 0.51 and 0.95. The standard deviation for item IU4

is 1.0641. The responses are considered consistent as most of the standard deviations are close to 0.

4.1.3 Pilot Test

(a) Reliability Test

Table 4.9: Reliability Statistics for Pilot Test

Variables		**Constructs**	**Cronbach's Alpha**
Independent Variables (IVs)	IV1	Questioning Mind	0.710897
	IV2	Search for Knowledge	0.755557
	IV3	Suspension of Judgement	0.715487
	IV4	Interpersonal Understanding	0.726909
	IV5	Self-confidence	0.711580
	IV6	Self-determining	0.759820
Dependent Variable (DV)	DV	Auditors' Fraud Detection	0.701102

Source: Formed for the research

Table 4.9 shows the outcome of reliability test for pilot testing. Pilot test was conducted prior to actual distribution of the survey. The result of Cronbach's Alpha coefficient for pilot test ranges from 0.701102 to 0.759820. The values conform to the Cronbach's Alpha above 0.70 proposed by Nunnally (1978) which indicates that the questionnaires used in this research is reliable. Thus, a final survey distribution was carried out.

(b) Normality Test

Table 4.10: Normality Statistics for Pilot Test

Constructs	Items	Skewness	Kurtosis
Questioning Mind (QM)	QM1	0.430057	-1.949956
	QM2	-0.517219	-0.534297
	QM3	-0.882021	-0.168420
Search for Knowledge (SFK)	SFK1	0.430057	-1.949956
	SFK2	-0.882021	-0.168420
	SFK3	-1.042104	0.176208
	SFK4	-0.758169	-0.320685
	SFK5	-0.086051	-0.357469
	SFK6	-0.591151	-0.619707
Suspension of Judgement (SOJ)	SOJ1	-0.283443	-2.062056
	SOJ2	-0.586005	-0.588900
	SOJ3	-0.758169	-0.320685
	SOJ4	0.430057	-1.949956
	SOJ5	-0.073540	-0.796384
Interpersonal Understanding (IU)	IU1	-0.887701	-0.134006
	IU2	-0.887701	-0.134006
	IU3	-0.441492	-1.160100
	IU4	-2.067825	3.096606
	IU5	-1.661911	2.331112
Self-confidence (SC)	SC1	-1.329992	0.830803
	SC2	-2.283997	4.525335
	SC3	-0.586005	-0.588900
	SC4	-0.456051	-0.747868
	SC5	-1.171699	0.430742

Self-determining (SD)	SD1	-1.102786	1.030075
	SD2	-0.819694	-0.201289
	SD3	-1.378669	2.730346
	SD4	-0.166171	-0.502212
	SD5	-0.480400	-0.972011
	SD6	-1.378669	2.730346
Auditors' Fraud Detection (FD)	FD1	-0.517219	-0.534297
	FD2	-0.107087	-0.556810
	FD3	-0.361978	-1.141008
	FD4	-0.715927	0.516620
	FD5	-0.889713	2.012654
	FD6	-0.732500	-0.429407

Source: Formed for the research

Table 4.10 illustrates the results of normality test for pilot testing. After conducting the pilot test, the result of normality showed between -2.283997 and 0.430057. On the other hand, the values of kurtosis range from -2.062056 to 4.525335 for pilot test.

4.2 Scale Measurement

4.2.1 Reliability Test

Table 4.11: Reliability Statistics for Final Test

Variables		Constructs	Cronbach's Alpha
Independent Variables (IVs)	IV1	Questioning Mind	0.714143
	IV2	Search for Knowledge	0.712645
	IV3	Suspension of Judgement	0.713578
	IV4	Interpersonal Understanding	0.727514
	IV5	Self-confidence	0.726325
	IV6	Self-determining	0.705987
Dependent Variable (DV)	DV	Auditors' Fraud Detection	0.838970

Source: Formed for the research

Table 4.11 shows the outcome of reliability test for final test of each variable examined in this research. The reliability test is conducted to test the internal consistencies and stability of the multi-items scale. Internal consistency explains the degree to which the items measure the same construct (Tavakol & Dennick, 2011). The nearer the Cronbach's Alpha coefficient to 1.00, the greater the internal consistency. Nunnally (1978) suggested reliabilities of 0.70 or more for basic research.

For final test, the Cronbach's Alpha coefficient ranges from 0.705987 to 0.838970. This indicates that all the variables examined have passed reliability test since the Cronbach's Alpha values are above 0.70. It shows that the strength of association is under good reliability as referred to the rule of thumb proposed by Hair et al. (2016). Furthermore, variables are considered reliable and dependable if the Cronbach's Alpha is above 0.70

(Christmann & Van Aelst, 2006). Hence, the questionnaire used in this study has been proven to be reliable.

4.2.2 Normality Test

Table 4.12: Normality Statistics

Variables	Items	Final Test	
		Skewness	Kurtosis
Questioning Mind (QM)	QM1	-1.419806	2.277872
	QM2	-1.389069	2.074230
	QM3	-1.263248	1.708657
Search for Knowledge (SFK)	SFK1	-0.947794	0.379854
	SFK2	-0.782728	-0.370625
	SFK3	-0.942860	0.318726
	SFK4	-0.729816	-0.452529
	SFK5	-0.903030	0.234757
	SFK6	-1.067618	0.496050
Suspension of Judgement (SOJ)	SOJ1	-0.735374	-0.438099
	SOJ2	-0.816381	-0.318924
	SOJ3	-0.816596	-0.317244
	SOJ4	-0.543700	-0.633086
	SOJ5	-0.511562	-0.701310
Interpersonal Understanding (IU)	IU1	-1.063023	0.353915
	IU2	-1.387411	2.474644
	IU3	-0.663816	-0.517506
	IU4	-1.396300	1.214632
	IU5	-1.331697	1.363709
Self-confidence (SC)	SC1	-1.318564	0.768664
	SC2	-2.131972	5.666274
	SC3	-0.569047	-0.587975
	SC4	-0.983314	0.423362

	SC5	-0.787051	-0.356678
Self-determining (SD)	SD1	-1.824909	3.905980
	SD2	-1.104406	0.685440
	SD3	-1.129706	1.320000
	SD4	-0.810345	0.047035
	SD5	-0.899456	-0.233207
	SD6	-2.100953	5.977085
Auditors' Fraud Detection (FD)	FD1	-1.573754	2.991031
	FD2	-1.253916	2.053717
	FD3	-1.209411	2.074854
	FD4	-1.156105	1.345011
	FD5	-1.551742	2.641488
	FD6	-2.123168	5.152930

Source: Formed for the research

Table 4.12 illustrates the skewness and kurtosis values of all constructs of this study. Skewness and kurtosis values determine the value of normal distribution. Skewness is a measure of the asymmetry in a distribution, where the curve could be skewed either to the left or right (Hair et al., 2010). The result for final test reveals that the skewness of the items ranges from -2.131972 to -0.511562. It shows a negatively-skewed distribution.

On the other hand, kurtosis values range from -0.701310 to 5.977085. Kurtosis measures the sharpness of central peak, relative to a normal distribution curve. A positive kurtosis shows that the distribution is peaked while negative kurtosis shows a relatively flat distribution.

As proposed by Kline (2005), the acceptable range of skewness and kurtosis in order to prove that the data is normally distributed is ±3 and ±10 respectively. Both the value of skewness and kurtosis for all items fall within the acceptable range of ±3 and ±10 respectively as suggested by Kline (2005). Assumptions are made that the sample of 252 MIA members drawn and all constructs in this study do not much any departure from

normality. Therefore, it can be concluded that the data is normally distributed.

4.3 Inferential Analysis

4.3.1 Pearson Correlation Analysis

Table 4.13: Pearson's Correlation Analysis

Variables	QM	SFK	SOJ	IU	SC	SD	FD
QM	1.00000						
SFK	0.53670	1.00000					
	<.0001						
SOJ	0.51660	0.46168	1.00000				
	<.0001	<.0001					
IU	0.52081	0.46125	0.48533	1.00000			
	<.0001	<.0001	<.0001				
SC	0.50170	0.45693	0.53808	0.47548	1.00000		
	<.0001	<.0001	<.0001	<.0001			
SD	0.41405	0.34770	0.25539	0.32838	0.42407	1.00000	
	<.0001	<.0001	<.0001	<.0001	<.0001		
FD	0.46381	0.37381	0.40413	0.40516	0.46525	0.39472	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	

Source: Formed for the research

The result of Pearson correlation analysis is shown in the table 4.13 above. Overall, the result exhibits a weak correlation between variables as the correlation coefficient falls within the range between 0.25539 and 0.53808. The correlation between SOJ and SC is the strongest (r=0.53808) whereas the weakest correlation exists between SOJ and SD (r=0.25539). In addition,

a p-value of less than 0.0001 shows that the correlation between the two variables is statistically significant.

4.3.1.1 Multicollinearity Problem

Furthermore, as suggested by Hair et al. (2010) the correlation value should not greater than 0.90 to avoid multicollinearity problem. Based on the results, although the highest correlation is between SOJ and SC (i.e. r =0.53808), still, there is no multicollinearity problem which proved by p-value of less than 0.90.

4.3.2 Multiple Linear Regression (MLR)

MLR testing procedure is performed to examine pattern of in what way the multiple predictors relate with outcome variable (Saunders et al., 2016). In this research, the MLR equation can be formulated as Table 4.14 below:

Table 4.14: Formulation of Regression Equation

$FD = \beta0 + \beta1\ QM + \beta2\ SFK + \beta3\ SOJ + \beta4\ IU + \beta5\ SC + \beta6\ SD + \varepsilon$
Where,
FD = Auditors' Fraud Detection
QM = Questioning Mind
SFK = Search for Knowledge
SOJ = Suspension of Judgement
IU = Interpersonal Understanding
SC = Self-Confidence
SD = Self-Determining
$\beta0$ = Constant
$\beta_{1...}\beta_6$ = Slope of the regression surface
ε = Error term

Source: Formed for the research

Table 4.15: Summary of Multiple Linear Regression Analysis

Variable	DF	Parameter Estimate	Pr > |t|	Standardized Estimate	Tolerance	Variance Inflation
Intercept	1	-0.24505	0.6162	0	-	0
QM	1	0.16698	0.0176	0.17070	0.53484	1.86971
SFK	1	0.06689	0.5066	0.04408	0.62113	1.60996
SOJ	1	0.16274	0.1288	0.10412	0.58465	1.71041
IU	1	0.10724	0.1237	0.10261	0.61843	1.61700
SC	1	0.28664	0.0092	0.18204	0.56782	1.76112
SD	1	0.23269	0.0049	0.17123	0.75053	1.33239
Root Mean Squared Error (RMSE)				0.51813		
Dependent Mean				4.32474		
Coeff Variable				11.98051		
R Square (R^2)				0.3316 (33.16%)		
Adjusted R^2				0.3152		
F Value				20.26		
Pr> F				<.0001		

Source: Formed for the research

Table 4.15 demonstrates a summary of MLR assessment. From the parameter estimate, a regression equation can be formulated as below:

Auditors' Fraud Detection = -0.24505 + 0.16698(QM) + 0.06689(SFK) + 0.16274(SOJ) + 0.10724(IU) + 0.28664(SC) + 0.23269(SD)

The equation above shows that there are correlations between Auditors' Fraud Detection (FD) and QM, SFK, SOJ, IU, SC, SD. It is predicted that for each increase in QM, FD will rise by 0.16698; for each increase in SFK, FD will rise by 0.06689; for each increase in SOJ, FD will rise by 0.16274; for each increase in IU, FD will rise by 0.10724; for each increase in SC, FD will rise by 0.28664; for each increase in SD, FD will rise by 0.23269, ceteris paribus.

4.3.2.1 Assumptions for MLR Model

There are some key assumptions in this model. First, the data should follow a normal distribution. Second, linearity should exist among all the variables. Third, there is absence of multicollinearity problem. Lastly, equal variances (i.e., homoscedasticity) must be portrayed in all data (Saunders et al., 2016).

4.3.2.2 R-Square (R^2)

Through this parametric analysis shown in table 4.15 above, the R^2 obtained is 0.3316, which means 33.16% of the changes in DV (Auditors' Fraud Detection) is explained by all the six IVs (Questioning Mind, Search for Knowledge, Suspension of Judgement, Interpersonal Understanding, Self-confidence and Self-determining). In other words, the other 66.84% (100% - 33.16%) of the variation in the DV is unexplained in the research as it is explained by other predictors which are not tested in this study.

4.3.2.3 Model Fit

Table 4.15 above also shows the results of Model Fit. The F value (20.26) is large and p-value < 0.0001 is much lesser than 0.05. This indicates that model fit is achieved. This means at least one of the IVs can be used to model Auditors' Fraud Detection. Therefore, the model is good and sufficient in predicting the DV by using the 6 IVs.

4.4 Conclusion

This chapter presented a more informative interpretation of the test results attained from numerous data analysis techniques such as normality tests, reliability tests, Pearson correlation and multiple linear regression analysis.

CHAPTER 5: DISCUSSION, IMPLICATIONS AND CONCLUSION

5.0 Introduction

This section summarizes the research results and discusses the study objectives based on the findings. The limitation, discussion and conclusion are also presented.

5.1 Summary on Statistical Testing

5.1.1 Summary of Descriptive Analysis

Based on Table 4.2 in the earlier chapter, 58.73% of respondents are male and 41.27% of respondents are female. Majority of the respondents fall under the age group of 31 to 40 years old (47.22%) followed by above 40 years old (36.91%) and 20 to 30 years old (15.87%). Furthermore, most of the respondents have completed their Degree (79.37%) followed by Master (13.49%) and a few of respondents are Diploma holders (7.14%). Besides, majority of the respondents are ACCA holders (39%) and ICAEW holders are the least among the respondents (9%). Most respondents have worked for their existing employers for 6 to 10 years (45.64%) and only 0.4% of respondents have worked for current employers for less than 1 year. 73.02% of respondents have more than five years of experience as an auditor, followed by the respondents who have 3 to 5 years of experience as an auditor (25.79%) and only 1.19% have worked as an auditor for less than 3 years.

Table 5.1: Average of Measurement of Central Tendencies of Constructs

Variables		Items	Average Mean	Average Standard Deviation
IVs	Questioning Mind	3	4.3783	0.80050
	Search for Knowledge	6	4.4689	0.64355
	Suspension of Judgement	5	4.4960	0.58650
	Interpersonal Understanding	5	4.3127	0.86400
	Self-Confidence	5	4.5722	0.57314
	Self-Determining	6	4.4478	0.72438
DV	Auditors' Fraud Detection	6	4.3247	0.84102

Source: Formed for the research

Table 5.1 displays that interpersonal understanding takes the lowest average mean and self-confidence takes the highest average mean. Besides, the lowest average standard deviation is self-confidence while the highest average standard deviation is interpersonal understanding. It indicates that the respondents are consistent with their opinions on the questionnaires since the average standard deviation is lower than 1.0 (Hair et al., 2016).

5.1.2 Summary of Scale Measurement

5.1.2.1 Reliability Test

Based on Table 4.11, the Cronbach's Alpha coefficient varies from 0.705987 to 0.838970. Thus, all the constructs are proven to achieve the reliability test as the Cronbach's Alpha values are higher than 0.70 (Hair et al., 2016).

5.1.2.2 Normality Test

According to Table 4.12, the skewness results range from -2.131972 to -0.511562. It shows a negatively-skewed distribution and the data values are skewed to the left. Then again, the kurtosis values range from -0.701310 to 5.977085. As overall, since both values of average kurtosis and skewness fall within the ±3 and ±10 range, thus the normality test has been passed (Kline, 2005).

5.1.3 Summary of Inferential Analysis

5.1.3.1 Pearson Correlation Analysis

Based on Table 4.13, the highest correlation is between self-confident and suspension of judgement (r=0.53808) while the lowest correlation is between self-determining and suspension of judgement (r=0.25539). The correlation measurement of all the IVs is lower than 0.90 and hence, no multicollinearity problem (Hair et al., 2010).

5.1.3.2 Multiple Linear Regression Analysis

According to Table 4.15, the R^2 value is 0.3316 which proposes that 33.16% of changes in DV can be described by all the six IVs. The data also exhibits that there are only three IVs have significant relationships with DV which are questioning mind, self-confidence and self-determining as their significant values are less than 0.05. The remaining three IVs which are search for knowledge, suspension of judgement and interpersonal understanding are proved to be insignicantly affect auditors' fraud detection. Hence, only 3 hypotheses (H1, H5 and H6) are found to be supported.

5.2 Discussions of Key Findings

Table 5.2: Summary of Hypotheses Testing Outcomes

Hypotheses		**Significant Value Pr > |t|**	**Result**
H1	There is a positive relationship between Questioning Mind and Auditors' Fraud Detection.	0.0176	Supported
H2	There is a positive relationship between Search for Knowledge and Auditors' Fraud Detection.	0.5066	Not Supported
H3	There is a positive relationship between Suspension of Judgement and Auditors' Fraud Detection.	0.1288	Not Supported
H4	There is a positive relationship between Interpersonal Understanding and Auditors' Fraud Detection.	0.1237	Not Supported
H5	There is a positive relationship between Self-confidence and Auditors' Fraud Detection.	0.0092	Supported
H6	There is a positive relationship between Self-determining and Auditors' Fraud Detection.	0.0049	Supported

Source: Formed for the research

5.2.1 Questioning Mind

Based on the results, H1 is supported as the significant value (0.0176) is less than 0.05 and this indicated that questioning mind is positively and significantly related to auditors' fraud detection. The outcome is in conjunction with the researches of Griffith et al. (2014), Peytcheva (2013) and Idawati and Gunawan (2015) which proved that questioning mind contributes significantly to the auditors' fraud detection and this justifies why the International and the US auditing standards stress a questioning mindset in the assessment of audit evidence (Glover & Prawitt, 2014). This is further supported by Royaee et al., (2013) which stated that the questioning mind characteristics of auditors causes them to get more relevant information about the opportunity for fraud to exist, hence, improve their effectiveness in identifying the existence of material misstatements during the course of audit.

Furthermore, external auditors are influenced by institutionalized and social roles which means that their profession is highly seen by the society as a "watchdog" (Westermann, Cohen, & Trompeter, 2014). Violation of this societal expectation will affect their profession. Hence, the cost from the lack of questioning mindset can be enhanced by maintaining a "jaundice eye" approach as suggested by Nelson (2009). Among all the 6 constructs examined in this research, questioning mind has one of the most significant impact towards auditors' fraud detection. The possible explanation would be the MIA members in Malaysia, although in their peak period, will tend to maintain critical mindset in evaluating the audit evidences since it would live up to the society's expectations of their performances. Therefore, it can be concluded that the need to maintain a questioning mind is an utmost important trait of an auditor to strengthen their ability to detect fraud.

5.2.2 Search for Knowledge

H2 is not supported because the significant value (0.5066) is above 0.05 and hence there is no significant relationship between search for knowledge and auditors' fraud detection. This outcome is contradictory to the past studies of Fullerton and Durtschi (2004), Sayed Hussin et al. (2017) and Pramana et al. (2016) which evidenced that search for knowledge can significantly influence auditors' fraud detection. A person with this trait is filled with curiosity and seeks knowledge not simply for verifying a specific conclusion but enjoy the learning process (Hurtt, 2010). Azhari (2017) also stated that auditors with high curiosity tend to search for additional evidence especially when faced with complex situations.

Conversely, in Westermann et al. (2014) study highlighted that sometimes the auditors will only process information they have within the timeframe of completing their work. They are reluctant to find out insignificant problems if it is time intensive (Gold, Gronewold, & Saterio, 2014). Hence, time and cost pressures may provoke them to complete their job at the expense of collecting evidence that needed. In addition, seeking for more information may result in over collection of audit evidence and create an imbalance of efficiency (Glover & Prawitt, 2014). The data collection period of this research was conducted during a peak period, where auditors were facing time and budget constraints completing their audit work. Search for knowledge trait is not supported probably because it is necessary for them to obtain specific information to support their conclusion within the time limit, therefore this trait might not be applicable during this time of the year.

5.2.3 Suspension of Judgement

The significant value of 0.1288 is more than 0.05 which means that suspension of judgement is not significantly related to auditors' fraud detection and therefore H3 is not supported. This result contradicts with findings of Quadackers et al. (2009), Bailey et al. (2011) and Agarwalla et al. (2017). The possible explanation is suspension of judgement may not be applicable in the audit environment in Malaysia. Malaysian auditors might not withhold their judgements until the audit evidence sufficiently obtained due to the need to meet the deadlines for audit work (Sayed Hussin & Iskandar, 2015). Besides, a study conducted by Royaee et al., (2013) showed insignificant relationship between suspension judgement of independent auditors and decision making.

Moreover, this result can be supported by a few reasons. Malaysian auditing profession have tight working schedule and serious time budget pressure due to low audit fees. Insufficient audit fees constraint auditors perform more audit procedures. Besides, Malaysian market competitiveness gives pressure to auditors in sustaining their clients. Therefore, the auditors could not postpone their judgement to make efficient use of the resources (Sayed Hussin et al., 2017). Given that auditors themselves already have exercised sufficient professional care, they might not suspend their judgement as they can use their time on other matters (Nehme, Mutawa, & Jizi, 2016).

5.2.4 Interpersonal Understanding

H4 is not supported as interpersonal understanding is found to not have significant relationship with auditors' fraud detection as its significance value (0.1237) more than 0.05. This study examined this trait on individual auditors in Malaysia. However, the outcome is in contrary with the studies of Jahari and Kiswanto (2017), McAllister et al. (2016) Pramana et al. (2016) and Carpenter and Reimers (2013). In fact, the audit works are usually performed in a team and it requires teamwork so that the audit works can be conducted effectively (Sayed Hussin et al., 2017). An audit team consists of a group of people from different background and they might have different perceptions on the behaviour of the client. Auditors seek the balance between trust and suspicion in the relationship with client and the measurement of trust or suspicion are based on individual's perception of another's motives and behaviour (Shaub & Lawrence, 1996). This may lead to the conflict within the team and affect the progress of their audit works. Moreover, the contrasting perceptions may give rise to biased or misleading information that deter them from making appropriate judgement (Royaee et al. 2013).

5.2.5 Self-confidence

Self-confidence shows significant positive influence on auditors' fraud detection and H5 is supported with significance value (0.0092) is less than 0.05. This outcome is unvarying with the studies of Bogdan et al. (2017), Lee et al. (2016) and Owhoso, Mhlongo (2015) and Weickgenannt (2009). This indicates that self-confident auditors have the competency to perform their audit tasks and enhance the discovery of fraud as they could challenge the assertions or justification presented by the clients. Weickgenannt (2009) who also supported that auditors' self-perceived ability is positively related to their performance in detecting errors because they will not succumb to pressure and have a strong personality to apply judgement in all situations.

Furthermore, Lee et al. (2016) provided evidence that self-efficacy influences auditors' personal actions, decision and motivation and hence, it is justifiable why self-confidence has a positive relationship with auditors' judgement. It is because they are able to resist any temptation to succumb to influences and can challenge others (Aschauer, Fink, Moro, Bakel-Auer, & Rasmussen, 2017). Finally, Ciolek (2017) showed that self-confidence has an inverse relationship to susceptibility to influences because skeptical auditors value their own perceptions while investigating evidences.

5.2.6 Self-determining

The significance value of 0.0049 is below 0.05 revealed that H6 is supported and self-determining has significant positive relationship with auditors' fraud detection. Besides, this outcome is supported by Royaee et. al (2013), McKnight and Wright (2011) and Jahari and Kiswanto (2017). The result is supported because it is necessary for auditors to be self-determining as it is crucial in conducting the audit work. When they are more self-determining, they will identify more evidence and probe for more information when discover fraud indication. This helps them in investigating the problem until they are determined to form an opinion (Sayed Hussin et al., 2017).

Furthermore, Royaee et al., (2013) proved that auditors who possess self-determining trait will pay extra attention to any contradiction in the documents or remarks because they are not easily convinced to accept facts without evidence. Similarly, Weiss and Sherman (1973) revealed that auditors with high internal locus of control will probe further if there is any variance from their initial expectation or when they notice the symptoms of red flags. Thus, these studies supported the results of this study which signifies the self-determining characteristics as auditors rely less on unproven information when their self-determining is high because they will not be easily influenced by opinion of others and are determined to critically examine the perspective of others (Sayed Hussin & Iskandar, 2015).

5.3 Implications of The Study

5.3.1 Managerial Implications

Based on the research findings, there are some managerial implications toward the auditing scope in Malaysian context. Firstly, there are implications toward the auditing regulatory bodies and standard setting body in Malaysia. In particular, the Audit Oversight Board (AOB) in Malaysia can enhance its inspection process on auditors. The AOB's inspection programs can involve addressing the level of skeptical behaviours of the auditors and their fraud detection capabilities. This could provide a meaningful assessment and feedback to auditors about the effectiveness of the auditors' skeptical decision process.

Next, this study indicates several possible explanations; questioning mind, self-confidence and self-determining characteristics have significant influence towards auditors' fraud detection where else search for knowledge, suspension of judgement and interpersonal understanding have no significant influence in Malaysian context. In regard to this, the understanding of the PS will be useful in evaluating the training needs of the auditors (Brewster, 2012). Hence, the training and Continuing Professional Development (CPD) for auditors can be designed more specifically to improve these PS characteristics of auditors. Moreover, additional standards and a comprehensive conceptual framework could be established together with the practical implementation guidance and requirement to properly exercise PS. From this study, it can be made aware to the auditing profession that the key to enhancing PS is to recognize that it is affected by multiple individual characteristics of an auditor.

5.3.2 Theoretical Implications

This research gives a more implications for researchers by examining the effect of Hurtt's Professional Skepticism Model on the auditor's fraud detection in Malaysia. This model was previously examined in the United States' environment and because skeptical behaviours may be influenced by cultural differences as stated by Hofstede (2001), it is important to examine if the results may differ in different countries. This is further proven based on the findings of this research. From the findings, it was found that search for knowledge, suspension of judgement and interpersonal understanding may not be significant in affecting the auditors' fraud detection in Malaysia.

Apart from that, future researchers can enhance the model used in this study by adding more unique constructs that have been proven to influence the PS traits such as experience, area of expertise, individual risk preferences and training. This study explains some of the unanswered questions pertaining the individual characteristics of auditors in enhancing their skeptical behaviours. Furthermore, from the results of this study, other Malaysian researchers can test the 6 IVs of this study to get a further understanding on how the 3 insignificant traits proven in this study could be improved in Malaysia. Hence, it may be worthwhile to examine the impact of these individual PS characteristics on other dependent variables such as material-risk assessment, audit quality, overall audit engagement and error detection to enrich the understanding on this model.

5.4 Limitations of the Study

This study has encountered some limitations. Firstly, internet questionnaires were used to collect data from Penang, Johor and Sarawak via email due to time constraint and resource limitation. This may influence the truthfulness of the data composed as the questionnaires might not be filled by intended respondents (Hair et al., 2016). Moreover, the questionnaires were distributed during the peak period in most audit firms in Malaysia. Hence, the respondents tend to answer the questionnaires quickly without proper understanding on the context of the question which may give rise to some deviations in the results.

Secondly, we adopted 5 point-Likert scale to measure all the six IVs and DV. However, the responses from MIA members were limited to the scale given in the questionnaire. The PS characteristics are related to human's attitude and sometimes it can be subjective to evaluate the level of the characteristics in terms of numerical data. Therefore, the results may not adequately to address the opinion of the respondents.

Thirdly, our initial sample size of 379 was reduced to 252 due to low response rate. It is because the respondents may view the email received as a spam. Low response rate may give rise to biased conclusion as non-respondents may have different view on the questions (Hair et al., 2016). Moreover, the sample size of 252 is relatively small to represent the whole population as there are 33,653 MIA members around Malaysia according to MIA Member Firm Directory 2018.

Lastly, this research only focuses on the six characteristics of PS. Nevertheless, based on the result of MLR analysis, only 33.16% of the changes in DV is explained by the six IVs. The remaining 66.84% of variables were not considered in this research and hence it may lack of some significant factors that are more suitable to apply in the research.

5.5 Recommendations for Future Research

Upcoming researchers are advised to distribute the questionnaire during the period in which the respondents are not busy with their work so that they have more time to read and able to answer the questions with a clearer mind.

Besides, it is also encouraged to include some open-ended questions on the questionnaires to gain a better understanding as the respondents will be able to clarify and elaborate on their responses freely which can provide greater richness to the data (Zikmund et al., 2010). A combination of survey questionnaire and interview can also be considered to capture more reliable information.

Furthermore, it is recommended to multiply the sampling size by including the respondents from all the states to enhance the accuracy of the sample to represent its population (Gravetter & Wallnau, 2013). Thus, future researchers can stimulate the response rate through providing incentives to respond or send follow-up reminders so that the sample size can be achieved as expected (Zikmund et al., 2010). The response bias can be reduced by increasing the sample size so that the assessment on the questionnaire will be more accurate (Pannucci & Wilkins, 2010).

Lastly, future researchers may incorporate the PS model with additional IVs as auditors' fraud detection might also being affected by other variables such as experience, competence and auditors' independence (Idawati & Gunawan, 2015; Pramana et. al, 2016). It is also recommended that PS model may be revised for future research by identifying more useful constructs to predict the impact on auditors' fraud detection.

5.6 Conclusion

The research objectives on examining the relationship between PS characteristics and auditors' fraud detection have been achieved and the proposed hypotheses are being supported by the results generated except for suspension of judgement, search for knowledge and interpersonal understanding. Based on the result from MLR analysis, questioning mind has the greatest and noteworthy influence on auditors' fraud detection, followed by self-confidence and self-determining whereas suspension of judgement, search for knowledge and interpersonal understanding do not significantly influence auditors' fraud detection. In a nutshell, the auditors and the statutory bodies should pay more attention on developing the characteristic of questioning mind, self-confidence and self-determining in order to enhance the ability of detect fraud. Apart from that, future researchers should consider the recommendations proposed to overcome the limitations that have been revealed in this study.

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Appendix A: Summary of Past Empirical Studies

Title of Article	Authors/Year	Country	Purpose / Objective	Methodology	Funding Summary
Effect of competence, independence, and professional skepticism against ability to detect fraud action in audit assignment	Idawati & Gunawan, 2015	Indonesia	To determine and analyse whether the competence, independence and professional skepticsm influence on the ability to detect fraud.	Survey questionnaire	The competence, independence and professional skepticism has an influence on the auditor's ability to detect fraud, either partially or simultaneously.
Auditor mindsets and audits of complex estimates	Griffith, Hammersly, Kadous, & Young, 2014	United States	To examine whether and how changing auditors' mindsets can improve audits of estimates, thereby enhancing audit quality in this important area.	Experiment	Prompting a deliberative mindset could improve auditors' ability to make higher quality, more balanced decisions.
Professional skepticism and auditor cognitive performance in a hypothesis-testing task	Peytcheva, 2013	United States	To study the effects of two different types of state skepticism prompts, as well as the effect of the trait of professional skepticism on auditor cognitive performance in a hypothesis-testing task.	Experiment	The personality trait of professional skepticism is a significant predictor of cognitive performance in the sample of students but not in the sample of auditors.

Auditors' skeptical characteristics and their relationship to skeptical judgments and decisions	Quadackers, Groot, & Wright, 2009	United States	To examine the relationship between auditors' skeptical characteristics and skeptical judgments and decisions.	Experiment	The strength of the relationship between the alternative skeptical characteristics and skeptical judgments and decisions varies significantly.
Auditors' levels of dispositional need for closure and effects on hypothesis generation and confidence	Bailey, Daily, & Phillips, 2011	United States	To investigate the effects of dispositional need for closure on the hypothesis generation and confidence of experienced auditors.	Survey questionnaire	Auditors higher in dispositional need for closure generate fewer, lower quality hypotheses, yet express greater confidence in their hypothesis set.
The impact of self-deception and professional skepticism on perceptions of ethicality	Agarwalla, Desai, & Tripathy, 2017	India	To examine the impact of two contradictory psychological traits, self-deception (SD) and professional skepticism (PS), on individuals' assessment of ethicality of various earnings management choices.	Survey questionnaire	SD, PS, and participant type significantly affected the participants' ethicality ratings.
The effect of professional skepticism on the fraud detection skills of internal auditors	Fullerton & Durtschi, 2004	United States	To examine whether higher levels of skepticism are correlated with behaviors that might enable internal auditors to better detect fraud.	Survey questionnaire	Internal auditors who have high self-confidence, report an interesting in continual learning, can suspend judgment, and have good interpersonal understanding are more likely to seek additional evidence that could potentially lead to increased fraud detection.

Professional skepticism and auditors' assessment of misstatement risks: the moderating effect of experience and time budget pressure	Sayed Hussin, Iskandar, Saleh, & Jaffar, 2017	Malaysia	To examine the relationship between professional skepticism, experience, and time budget pressure on auditors' assessment of risk of misstatement.	Experiment and survey questionnaire	Professional skepticism and experience have positive effects while time budget pressure has a negative effect on auditors' assessment of risk from material misstatements. The positive effect of professional skepticism on auditors' assessment of risk from material misstatement is stronger among more experienced auditors than that among less experienced.
The influence of professional skepticism, experience and auditors independence on the ability to detect fraud	Pramana, Irianto, & Nurkholis, 2016	Indonesia	To test empirically the influence of professional skepticism, experience, and auditors independence on the auditors ability to detect fraud.	Survey questionnaire	Professional skepticism, experience and independence significantly affects the ability to detect fraud.
The role of individual professional skepticism in fraud risk brainstorming.	McAllister, Blay, & Kadous, 2010	United States	To examine the association between the role of individual professional scepticism and fraud risk brainstorming.	Survey questionnaire and interview	Individual differences in trait professional skepticism of group members can significantly impact the outcomes of fraud risk brainstorming at least in terms of the group's perceptions of fraud risk.
Determinant of auditor ability to detect fraud with professional skepticism as a mediator variable.	Jahari & Kiswanto, 2017	Indonesia	To examine whether professional skepticism will give significant effect on the auditor's ability to detect fraud.	Survey questionnaire	Professional scepticism is able to mediate the relationship between fraud risk assessment and time pressure however is unable to mediate the training relationship to the auditor's ability to detect fraud.

An analysis of the influences of individual optimism, risk taking and self-confidence on professional accounting judgment.	Bogdan, Meşter, Gherai, & Scorţe, 2017	Romanian	To investigate whether professional accountants' self-confidence is in direct correlation with their opinion regarding the main aspects that influence the carrying out of an accounting judgment process.	Survey questionnaire	There is a correlation between the accountants' propensity towards optimism and their perception regarding the need of a theoretical framework of professional accounting judgment, and between accountants' propensity towards risk and their choice regarding the main aspects that influence the professional accounting judgment. Also, professional accountants' self-confidence is in direct correlation with their opinion regarding the main aspects that influence judgment and decision making in accounting and with their opinion regarding the need of a theoretical framework of accounting professional judgment.
Auditors' self-perceived abilities in conducting domain audits.	Owhoso & Weickgenannt, 2009	United States	To determine how auditors self-perceived abilities related with their actual performance in conducting domain audits.	Survey questionnaire	Differences in auditor rank are insignificant in terms of this propensity to overestimate self-perceived abilities relative to actual performance; But, above median effective auditors are far less overconfident than below median effective auditors.
A comprehensive survey of government auditors' self-efficacy and professional development for improving audit quality.	Lee, Su, Tsai, Lu, & Dong, 2016	Taiwan	To examine whether the relationship between self-efficacy and performances of auditors have strong influence.	Survey questionnaire	The result indicated that any auditing experience and professionalization able significantly influence the professional awareness.

Characteristics of relatively high-performance auditors.	McKnight & Wright, 2011	United States	To investigate whether the relationship between an auditor's locus of control and their relative job performance is significant.	Survey questionnaire	Higher-performing auditors focused the essential of the three areas of the work of an auditor which are lower-performing auditors did not; Higher-performing auditors were more inclined to extend standardized audit procedures. Auditors who have more of an internal versus external locus of control, were associated with higher levels of job performance.
Relationship between skepticism and decision making in audit.	Royaee, Nezhad, & Azinfar, 2013	Iran	To analysed the relationship of professional skepticism and decision making in Iran audit.	Survey questionnaire	There is a significant and positive relationship between self-determinations and questioning mind indexes and decision making.
The influence of professional skepticism, experience and auditors independence on the ability to detect fraud.	Pramana, Irianto, & Nurkholis, 2016	Indonesia	To test the influence of professional skepticism on the ability to detect fraud.	Survey questionnaire	Professional scepticism, experience and independence will affect the auditor's ability to detect fraud.
Professional skepticism: the effects of a partner's influence and the level of fraud indicators on auditors' fraud judgments and actions	Carpenter & Reimers, 2013	United States	To investigate whether interpersonal understanding will effect of a partner's influence on fraud detection.	Survey questionnaire	This study found that there is a positive relationship between interpersonal understanding and the level of fraud indicators or auditors' fraud judgments and action.

Professional skepticism and its effect on the professional judgment of trainee accountants from the Durban and Midlands regions of KwaZulu-Natal	Mhlongo, 2015	South America	To investigate whether self-confidence is able to influence professional judgment.	Survey questionnaire	The result revealed that self-confidence has significant influence to audit judgement. When auditor's self-confidence is appropriate applied to the audit judgement, it may increase the quality of audit fraud detection.
Translation and validation of Hurtt's professional skepticism scales for Indonesian context	Ashari, 2017	Indonesia	To investigate whether forensic accounting training and/or course will affect the level of professional scepticism and which is later positively related to risk assessment	Survey Questionnaire	Higher curiosity level of auditors anchoring higher risk assessment towards fraud.
A study of Kruglanski's need for closure construct and its implications for judgment and decision making in accounting and auditing	Bailey, Daily, & Phillips, 2006	United States	To study how dispositional need for closure affects the judgment and decision-making process.	Survey Questionnaire	Suspension of judgement significantly affect auditors' skeptical judgments and decisions.

Appendix B: Variables and Measurement

Variables	Items	Description of Items	Measurement	Sources
Questioning mind (QM)	QM1	I often reject statements unless I have proof that they are true.	5-point Likert scale 1= Not at all 2= Slightly 3= Moderate 4= Very 5= Extremely	Hurtt, 2010
	QM2	My friends tell me that I often question things that I see or hear.		
	QM3	I am often curious about things that I see or hear.		
Search for Knowledge (SFK)	SFK1	I think that learning is exciting.	5-point Likert scale 1= Not at all 2= Slightly 3= Moderate 4= Very 5= Extremely	Hurtt, 2010
	SFK2	I am driven to explore and discover new information.		
	SFK3	Discovering new information is fun.		
	SFK4	I like searching for knowledge.		
	SFK5	The prospect of learning enthuses me.		
	SFK6	I seek to know if what I read or hear is true.		
Suspension of Judgement (SOJ)	SOJ1	I take my time to get sufficient information before making final decisions.	5-point Likert scale 1= Not at all 2= Slightly 3= Moderate 4= Very 5= Extremely	Hurtt, 2010
	SOJ2	I don't like to decide until I've looked at all of the readily available information.		
	SOJ3	I dislike having to make decisions quickly.		
	SOJ4	I like to ensure that I've considered most available information before making a decision.		
	SOJ5	I wait to decide on issues until I can get more information.		

Interpersonal Understanding (IU)	IU1	I like to understand the reason for other people's behavior.	5-point Likert scale 1= Not at all 2= Slightly 3= Moderate 4= Very 5= Extremely	Hurtt, 2010
	IU2	I am interested in what causes people to behave the way that they do.		
	IU3	The actions people take and the reasons for those actions are fascinating.		
	IU4	I seldom consider why people behave in a certain way.		
	IU5	Other people's behavior doesn't interest me.		
Self-confidence (SC)	SC1	I have confidence in myself.	5-point Likert scale 1= Not at all 2= Slightly 3= Moderate 4= Very 5= Extremely	Hurtt, 2010
	SC2	I often do not feel sure of my judgement.		
	SC3	I am always self-assured in delivering my task.		
	SC4	I am confident of my abilities.		
	SC5	I feel good about myself.		
Self-determining (SD)	SD1	I tend to immediately accept what other people tell me.	5-point Likert scale 1= Not at all 2= Slightly 3= Moderate 4= Very 5= Extremely	Hurtt, 2010
	SD2	I usually accept things I see, read, or hear at face value.		
	SD3	I often accept other people's explanations without further thought.		
	SD4	It is easy for other people to convince me.		
	SD5	Most often I agree with what the others in my group think.		
	SD6	I usually notice inconsistencies in explanations I receive from others.		

Fraud detection (FD)	FD1	The controller was making a lot of adjusting entries the week before the external auditors arrived.	5-point Likert scale 1= Not at all 2= Slightly 3= Moderate 4= Very 5= Extremely	Fullerton & Durtschi, 2004
	FD2	There was a large adjustment to correct the inventory account after the year-end physical count.		
	FD3	A manager comments about how often the petty cash is replenished.		
	FD4	The auditors could not locate several invoices for purchase transactions.		
	FD5	There was an unusual number of receivables that were written off.		
	FD6	The marketing director has a weak explanation for why advertising costs have almost doubled in the past year.		

Source: Developed for research.

Appendix C: Survey Questionnaire

Universiti Tunku Abdul Rahman

Faculty of Business and Finance

BACHELOR OF COMMERCE (HONS) ACCOUNTING

A Study on The Relationship Between Professional Skepticism Characteristics and Auditors' Fraud Detection in Malaysian Context

Survey Questionnaire

Dear Respondent,

We are final year undergraduate students of Bachelor of Commerce (Accounting), Universiti Tunku Abdul Rahman (UTAR). The purpose of this survey is to conduct a research to examine the relationship between characteristics of professional skepticism and auditors' fraud detection. Please answer all questions to the best of your knowledge. There are no wrong responses to any of these statements. All responses are collected for academic research purpose and will be kept strictly confidential.

Thank you for your participation.

Instructions:

1) There are THREE (3) sections in this questionnaire. Please answer ALL questions in ALL sections.
2) Completion of this form will take you less than 5 minutes.
3) The contents of this questionnaire will be kept strictly confidential.

Section A: Demographic Profile

In this section, we would like you to fill in some of your personal details. Please tick your answer and your answers will be kept strictly confidential.

QA 1: Gender: □ Female □ Male

QA 2: Age:
- □ Below 20 years old
- □ 20 to 30 years old
- □ 31 to 40 years old
- □ Above 40 years

QA 3: Highest education completed:
- □ Diploma
- □ Bachelor Degree
- □ Master
- □ PhD

QA 3: Professional License(s) you hold (Please choose all that apply):
- □ ACCA
- □ CIMA
- □ CPA
- □ ICAEW
- □ None of the above

QA 4. Year(s) of services in current organization:
- □ Less than 1
- □ 1 – 5
- □ 6 – 10
- □ More than 10

QA 5: Year(s) of experiences as an auditor:
- □ Less than 3
- □ 3-5
- □ More than 5

QA 6: Are you an MIA member?
- □ Yes
- □ No

Section B

This section is seeking your opinion regarding the characteristics of auditors' professional skepticism. Please circle one number per line with each statement using 5 Likert scale [(1) = Not at all; (2) = slightly; (3) = moderately; (4) = very and (5) =extremely] response framework.

Questioning Mind

No	Questions	Not at all	Slightly	Moderately	Very	Extremely
QM1	I often reject statements unless I have proof that they are true.	1	2	3	4	5
QM2	My friends tell me that I often question things that I see or hear.	1	2	3	4	5
QM3	I am often curious about things that I see or hear.	1	2	3	4	5

Search for Knowledge

No	Questions	Not at all	Slightly	Moderately	Very	Extremely
SFK1	I think that learning is exciting.	1	2	3	4	5
SFK2	I am driven to explore and discover new information.	1	2	3	4	5
SFK3	Discovering new information is fun.	1	2	3	4	5
SFK4	I like searching for knowledge.	1	2	3	4	5
SFK5	The prospect of learning enthuses me.	1	2	3	4	5
SFK6	I seek to know if what I read or hear is true.	1	2	3	4	5

Suspension of Judgement

No	Questions	Not at all	Slightly	Moderately	Very	Extremely
SOJ1	I take my time to get sufficient information before making final decisions.	1	2	3	4	5
SOJ2	I don't like to decide until I've looked at all of the readily available information.	1	2	3	4	5
SOJ3	I dislike having to make decisions quickly.	1	2	3	4	5
SOJ4	I like to ensure that I've considered most available information before making a decision.	1	2	3	4	5
SOJ5	I wait to decide on issues until I can get more information.	1	2	3	4	5

Interpersonal Understanding

No	Questions	Not at all	Slightly	Moderately	Very	Extremely
IU1	I like to understand the reason for other people's behavior.	1	2	3	4	5
IU2	I am interested in what causes people to behave the way that they do.	1	2	3	4	5
IU3	The actions people take and the reasons for those actions are fascinating.	1	2	3	4	5
IU4	I seldom consider why people behave in a certain way.	1	2	3	4	5
IU5	Other people's behavior doesn't interest me.	1	2	3	4	5

Self-confidence

No	Questions	Not at all	Slightly	Moderately	Very	Extremely
SC1	I have confidence in myself.	1	2	3	4	5
SC2	I often do not feel sure of my judgement.	1	2	3	4	5
SC3	I am always self-assured in delivering my task.	1	2	3	4	5
SC4	I am confident of my abilities.	1	2	3	4	5
SC5	I feel good about myself.	1	2	3	4	5

Self-determining

No	Questions	Not at all	Slightly	Moderately	Very	Extremely
SD1	I tend to immediately accept what other people tell me.	1	2	3	4	5
SD2	I usually accept things I see, read, or hear at face value.	1	2	3	4	5
SD3	I often accept other people's explanations without further thought.	1	2	3	4	5
SD4	It is easy for other people to convince me.	1	2	3	4	5
SD5	Most often I agree with what the others in my group think.	1	2	3	4	5
SD6	I usually notice inconsistencies in explanations I receive from others.	1	2	3	4	5

Section C

This section is seeking your opinion regarding the fraud indicators. Please circle one number for each statement using 5 Likert scale [(1) = Not at all; (2) = slightly; (3) = moderately; (4) = very and (5) =extremely] response framework to indicate the importance of obtaining further audit evidence on the following situations.

Fraud detection

No	Questions	Not at all	Slightly	Moderatel	Very	Extremely
FD1	The controller was making a lot of adjusting entries the week before the external auditors arrived.	1	2	3	4	5
FD2	There was a large adjustment to correct the inventory account after the year-end physical count.	1	2	3	4	5
FD3	A manager comments about how often the petty cash is replenished.	1	2	3	4	5
FD4	The auditors could not locate several invoices for purchase transactions.	1	2	3	4	5
FD5	There was an unusual number of receivables that were written off.	1	2	3	4	5
FD6	The marketing director has a weak explanation for why advertising costs have almost doubled in the past year.	1	2	3	4	5

Thank you for your participation

Appendix D: Permission Letter to Conduct Survey

UNIVERSITI TUNKU ABDUL RAHMAN
Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

5th April 2018

To Whom It May Concern,

Dear Sir/Madam,

Permission to Conduct Survey

This is to confirm that the following students are currently pursuing their *Bachelor of Commerce (Hons) Accounting* program at the Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR) Perak Campus.

I would be most grateful if you could assist them by allowing them to conduct their research at your institution. All information collected will be kept confidential and used only for academic purposes.

The students are as follows:

Name of Student	Student ID
Sarah Mary A/P Vensen	16ABB05630
Cheot Siew Siew	16ABB05516
Chin Cheal Zen	16ABB05671
Lee Zhi Hui	16ABB05767
Tong Pei Ying	16ABB05514

If you need further verification, please do not hesitate to contact me.

Thank you.

Yours sincerely,

Dr Zam Zuriyati Binti Mohamad
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Faculty of Business and Finance
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