

# Auditors' Professional Scepticism and Moral Reasoning

**Khalsa Abdullah Salim Al Akhzami**

BSc in Finance - MBA

**Doctor of Philosophy**

University of York

Management

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## 1.1 Abstract

Professional scepticism is central to the audit process not least because it is fundamental to assisting auditors in the application of their professional judgement. In recent years, high profile audit failures have resulted in regulators, governments, professional bodies and other stakeholders debating whether auditors have been too unquestioning when performing audits and, hence, whether they have demonstrated insufficient professional scepticism. Recent audit failures have also raised important questions about auditors' ethical standards and, hence, their levels of moral reasoning. Professional bodies and regulators have posited that raising ethical standards might lead to increased levels of professional scepticism, but without having evidence available to support this supposition.

This thesis empirically tests whether there is an association between moral reasoning and professional scepticism. The research measures and analyses levels of professional scepticism and moral reasoning within a UK context using the same sample of participants. Researchers have previously studied professional scepticism and moral reasoning primarily in the USA and, importantly, as separate concepts. This study differs from previous research in that it investigates whether a relationship exists between the two concepts. Further, it investigates the two concepts within the under-examined UK context.

The study employs a mixed methods approach. A two-part questionnaire administered to undergraduate students at two UK universities enables the researcher to quantify levels of professional scepticism and levels of moral reasoning based, respectively, upon Hurtt's (2010) Professional Scepticism Scale (HPSS) and Thorne's (2000) Accounting Ethical Dilemma Instrument (AEDI). Whilst the HPSS and AEDI results independently confirm prior research, the results of testing for a relationship between HPSS and AEDI indicate the relationship between professional scepticism and moral reasoning is weak. Interviews were conducted with audit practitioners and standard setters to add further depth to the analysis. These interviews emphasise the complexity of the concepts. In turn, this suggests any potential relationship between the two concepts will be equally complex and very challenging to determine. This research has implications for the development and training of auditors.

**Key words:** Auditors, professional scepticism, moral reasoning, mixed methods.

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# Author's Declaration

*I hereby declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.*

**Khalsa A. Al-Akhzami**

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# Chapter 1

## 1 Introduction

This thesis is situated within the auditing field. There has been considerable attention directed towards audit and the auditing profession in the last decade with some claiming “audit has lost its way” (Brydon Review, 2019, p. 4). Accompanying these recent critiques of audit and the audit profession there have been calls for substantive audit reforms to rebuild and modernize the audit profession (see, for example, ICAEW Audit Manifesto, 2020). Auditing has many dimensions and is a complex process. Therefore, rebuilding the profession is a significant task. Two aspects of audit which have been the subject of important debates within the recent critiques are the role ethics plays in audit and that the role of professional scepticism in audits needs to be revisited. This thesis focuses on these two aspects and examines the relationship between moral reasoning and professional scepticism.

The next section of this chapter sets out the context for the study and explains why ethics and professional scepticism are important to research and, hence, it establishes the motivation for the research. This includes providing an explanation of how ethics and professional scepticism have been connected together in recent debates evaluating the current state of the audit profession. A short summary of where the study is located in relation to extant research in the audit field is then provided. This enables the research gap which the research addresses to be explained and, hence, this provides a justification for the research. The research setting, research aims, and research questions are then specified, and the overall data collection strategy is summarised. Following this section, the contributions of the research are summarised. The penultimate section in the chapter explains the structure of the remainder of the thesis and, finally, a chapter conclusion is provided.

### 1.1 Background and Motivation

#### 1.1.1 Audit failures and calls for audit reforms

In 2018 the UK government initiated an independent review into how auditing and the audit process could be reformed to better serve users and the public interest. This review was led by Sir Donald Brydon and his report, the Brydon Review, was published at the

end of 2019. The government was greatly concerned that audit quality had deteriorated to such an extent that significant reform was vital. The government cited the collapse of BHS, Patisserie Valerie and Carillion as key indicators that a review was required and, additionally, cited a list of audits which were under investigation at that time including Rolls Royce, Sports Direct, Domino's Pizza, Conviviality, Mitie Group and Ted Baker (Parliament, 2019). The government's contention was that the collapse of these large organizations indicated a wider crisis of trust in audit industry (Parliament 2019, p.2) and, furthermore, the government claimed that this sequence of audit investigations raises critical questions about the role and quality of audit in the UK. The government were especially concerned to stress they believed the UK had a particular responsibility for ensuring the audit industry is as robust and trusted as possible as many of the world's largest audit companies were first established in the UK.

The government's concerns regarding inadequacies in the audit process and the need to re-establish trust in the profession were already evident prior to its initiating the Brydon Review, as it had previously requested Sir John Kingman to review the remit and functioning of the Financial Reporting Council (FRC) in 2018. The role of the Kingman Review (2018) was, fundamentally, to determine whether the FRC was fit for purpose in its role as regulator of the audit profession. The Kingman Review was, similar to the Brydon Review, motivated by corporate collapses not having been foreseen by auditors. This perception of audit as not being of sufficient quality is not new. At the beginning of the 2000s it was noted that auditing faced a range of challenges and that an increasingly competitive audit market impacted greatly on how audit firms and their partners conducted audits (Glascock, 2002; Windsor and Warming-Rasmussen, 2009). The prominence of the Enron case, which resulted in the collapse of one of the then Big Five audit companies Arthur Andersen in 2001, was highly significant in generating these examinations of audit quality (Francis, 2004; Kumar et al., 2015). This led to debates about auditor responsibilities and increased calls from stakeholders for the audit role to be enhanced and for greater transparency. It is perhaps inevitable that concerns regarding audit quality of regulators, the public and other stakeholders increase when high-profile financial scandals occur. Therefore, the global financial crisis of 2007-8 has similarly impacted on discussions about the role of audit with, for example, the European Commission (2010) arguing that the audit should be (but was not in the



financial crisis) a key contributor to financial stability as it provides the assurance on the financial health of financial and non-financial companies. Thus, whilst there is currently a determination to address audit quality through, for example, the Brydon Review and the Kingman Review, it is undoubtedly the case that this is built on prior concerns regarding audit quality and factors influencing audit quality.

### **1.1.2 The importance of audit**

These concerns about the audit process and audit profession are understandable given the important function of an audit in serving the public interest. Auditing, as defined by Humphrey (2009), is a systematic process of objectively obtaining and evaluating evidence regarding economic actions, claims and events. An annual audit is a statutory requirement for all public companies unless dormant and the purpose of the audit is to provide assurance to shareholders that the financial statements provide a “true and fair view” of the organization enabling them to manage their risk in respect of the organization (Flint, 1988). It also reassures other stakeholders who have an interest in the organisation (Sikka 2009). Thus, auditors are perceived as “gatekeepers” who are responsible for the protection of the public interest (Satava et al. 2006). Consequently, audit is a trust-creating exercise designed to persuade the public that the organisation’s accounts are without misstatements and no fraud exists (Power 1997). Without the audit financial markets would not be able to function effectively with wider implications for the functioning of the economy. Additionally, if a firm fails because of inadequacies in the audit then this may affect employees, suppliers, customers, lenders and other stakeholders.

### **1.1.3 Calls for ethics and professional scepticism to be addressed**

The different reports which have been published in the wake of audit failures over the last approximately twenty years have, understandably, found multiple causes have contributed to the failures. Thus, these audit failures are not solely due to inadequacies in regulations and they are not just attributable to changes that have occurred in recent years in the audit industry. Importantly, failures have also been ascribed to the auditors’ behavioural and decision-making characteristics. One factor that has been commonly cited as significant in audit failures is auditors not adopting an appropriate level of professional scepticism (see, for example, Brydon Review, 2019; IFIAR, 2014; Hurtt et al., 2008). Moreover, auditors have been accused of being silent when the audit failures

have occurred and authors such as Sikka (2009) have argued persuasively there is an ethical crisis for the profession, particularly as innocent stakeholders are harmed when audits are not conducted appropriately (Sikka, 2009). This ethical dimension has also been a significant feature of the reviews of recent audit failures. Thus, for example, the ICAEW's 2020 Audit Manifesto incorporates discussions of how professional ethics needs rethinking.

This thesis examines these two important aspects of auditing: ethics and professional scepticism. These two aspects are introduced further in the next sections of this introductory chapter and also included is a preliminary discussion about how different reports, professional accounting bodies and related organisations are increasingly seeking to understand how ethics and professional scepticism may be connected to one another. Thus, more specifically, this thesis explores the possibility of an association between moral reasoning (ethics) and professional scepticism.

## **1.2 The importance of professional scepticism for auditing**

### **1.2.1 Audit and professional scepticism**

Auditing is vital for supporting the functioning of financial markets. Shareholders, lenders and other stakeholders rely on the opinion of the auditor, and if there is, a green light from the auditor the assumption is the auditor has undertaken appropriate processes to verify the financial statements provide a true and fair view of company's state of affairs (Sikka, 2009). The consequences of a company audit failing to detect material misstatements has potentially serious implications. There may be a direct impact on, for example, shareholders, employees, customers, suppliers and lenders to the company. As important, there may be wider effects not just in respect of the company where the audit failure occurs, but with trust in the audit process more generally being adversely impacted.

The audit engagement is a complex process and its outputs require auditors to make a range of important judgments and decisions. This includes judgments about the amount and type of evidence to collect, the extent to which such evidence is credible, and the actions that should be taken in response to the evidence that has been collected and evaluated (Ashton and Ashton, 1995). These judgments eventually result in the ultimate output of an audit which is an independent opinion about whether the auditee's financial

statements are free of material misstatements. The auditor is, therefore, required to apply professional scepticism and this is seen as central to the audit process with, for example, the chairman of the PCAOB asserting that the foundation of a public accounting audit is independence and professional scepticism (Toba, 2011).

Professional scepticism is commonly defined (including by the International Standard on Auditing) as an “attitude that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence”. Hence, relatedly, the International Forum of Independent Audit Regulators (IFIAR) defines the lack of professional scepticism as a situation where two elements jointly occur; not acquiring sufficient evidence and failing to address material misstatements (IFIAR, 2014 p.1). Acting as representatives of public interest auditors should be sensitive to the expectations of the different stakeholder groups while at the same time containing these expectations within the constraints of what is possible (Flint, 1988). In reality, performing audit after audit without encountering a material irregularity should not make auditors so complacent that they fail to recognise one when it is encountered. In other words, auditors must ‘battle’ to maintain a sense of professional scepticism despite they may have natural tendencies to the contrary (Shaub, 1996).

### **1.2.2 Professional scepticism as a focal point in the last decade**

In the last decade regulators and standard setters have made calls for the enhancement of auditors' professional scepticism in practice, with initiatives being introduced by, for example, the Audit Inspection Unit (AIU, 2011), the Public Company Audit Oversight Board (PCAOB) in the US (2008) and the Australian Securities and Investments Commission (ASIC) (2010). In addition, international auditing associations and gatherings have increasingly discussed professional scepticism; for instance, the European Commission 2010 Green Paper (European Commission, 2010), Auditing Practices Board APB (APB 2010), Financial Reporting Council (FRC, 2011) and the International Auditing and Assurance Standards Board (IAASB). In 2015, the International Auditing and Assurance Standards Board (IAASB), International Ethics Standards Board for Accountants (IESBA), and the International Accounting Education Standards Board (IAESB) created a professional scepticism Working Group as part of the Audit Quality Enhancement Coordination Group (AQECG). The group was formed

to better understand the concept of professional scepticism and how it should apply to audit. Their 2017 report ‘Toward Enhanced Professional S[c]epticism’ stressed how the concept has become increasingly important in the current environment, not least because of financial reporting and business having become highly complex. This complexity is evident in a number of ways; for example, the greater sophistication of business models and increasing reliance on management estimates. The challenge of professional scepticism has also been noted in respect of Coronavirus with, for example, the ICAEW issuing guidance in 2020 on how to maintain professional scepticism and “think the unthinkable” during unprecedented times where ‘unchartered waters’ are being entered.

### **1.2.3 The importance of professional scepticism before the last decade**

Whilst there is currently clearly an intense focus on professional scepticism it should not be assumed that it is only in the last decade that the importance of professional scepticism as a fundamental foundation for audit is noticeable. After the 2007-8 banking crisis and following the well-publicised problems of firms such as Northern Rock in the UK, and Lehman Brothers, Washington Mutual and IndyMac Banks in the US, a lack of professional scepticism was considered one of the principal causes of audit deficiencies in these banks (Messier et al., 2010; Humphrey et al., 2011; Sikka, 2009; Carpenter and Reimers, 2013; European Commission, 2010; Hurtt et al., 2013). This accusation that auditors were not exercising a sufficient level of professional scepticism arose because of regulators and other stakeholders questioning why there had been a lack of early indicators or warnings in audit reports prior to the crisis. The banks had been audited, but auditors appeared not to have questioned them regarding the details of the financial accounts and the risks that were being taken by banks went unnoticed (Grenier, 2015; Nelson, 2009; Toba, 2011). Hence, regulators and other audit-related stakeholders commenced on initiatives to enhance audit quality through reconsidering professional scepticism (FRC, 2015; IAASB, 2012; PCAOB, 2014).

But even prior to the 2007-8 banking crisis failure to exercise professional scepticism had been highlighted as one of the three most important factors for audit deficiencies according to the US Securities and Exchange Commission (SEC)’s fraud related cases report (Beasley et al., 2001). Additionally, significant changes in the contemporary business environment such as regulatory pressures and an increasingly competitive audit

market were noted approximately 20 years ago as impacting greatly on audit firms and their partners with implications for professional scepticism (Glascock, 2002). For example, it was noted that auditors are more responsive to auditee management control and, hence, less able to be sceptical, when the auditee provides a significant proportion of the auditor's income (Gul, 1991; Minnis, 2011). In respect of competition in the audit market Gul (1991) further noted how auditors are being challenged by significant pressures and that the auditor's relationship with the auditee is potentially problematic when it comes to the adoption of a questioning mind which is a necessity for ensuring professional scepticism. The issue is not just that auditors fear the loss of a major auditee should they be appearing to question the auditee too strongly. Auditors need to achieve a balance between efficiency and effectiveness by applying the right level of scepticism (Kadous and Zhou, 2015; Quadackers et al., 2014; Toba, 2011), but in a competitive market the pressure to be efficient may outweigh the need to be effective when being sceptical.

Therefore, the crisis of trust in audit and the importance of professional scepticism is not only related to audit scandals such as Carillion or Northern Rock. It is also a product of changes in the audit profession where a commercial logic has come to dominate over a professional logic. This change in logic, which began in the mid-1960s, has been ongoing since then and is well-documented in prior research examining the audit profession. For example, Hanlon (1996) has documented this in his discussions of the appearance of a new paradigm within the field of professional labour that saw a shift from a social service to a more commercialised mechanism. One important outcome was the service providers relation with the auditee changed significantly with this paradigm shift, including there being an increasing ambiguity as to who qualified to be the auditee. For example, in auditing services the company managers came to be viewed as the clients rather than the shareholders, the public, or the state (Hanlon, 1996).

This move to the auditee being seen as central to the audit firm as a commercial logic dominates is of great importance as it brings changes of behaviours in audit firms (see, for example, Zeff, 2003; Spence and Carter, 2014; Guo, 2016). As the auditee rises in prominence then the role of serving the public interest becomes reduced. Competition to win new clients intensifies and increasing fee income for the audit firm becomes an important and major task for audit partners. Consequently, partners are not only

focusing more on gaining new auditees, they are also looking to sell non-audit services to existing clients. It then becomes more difficult for auditors to maintain a questioning approach when engaging with auditees and conducting audits. Whilst the case of Enron in 2001 is commonly held up as an exemplar of this issue of auditors becoming unwilling to be professionally sceptical, the problem existed well before Enron's bankruptcy. Therefore, it is important to emphasise that auditing practice was challenged with conflicts of interests before 2001, including the fundamental challenge that they are auditing the management who pay their fees (Windsor and Warming-Rasmussen, 2009, p. 268).

That the auditors' role is growing in complexity and there has been this change to a commercial logic means that creating an understanding of the auditors' behaviour and decision-making is crucial. Since the 1990's professional scepticism has been the topic of a range of research studies (see, for example, Bell et al., 2005; Carmichael and Craig Jr., 1996; McMillan and White, 1993). In response to the calls of regulators and the claims that auditors' professional scepticism is an important cause of audit failures a number of studies have had the aim of creating a deeper understanding of the concept and this literature is examined in detail in chapter 2 of the thesis. Much of this prior academic literature that is connected to professional scepticism is examining the auditors' ability to identify and react to potential misstatements or fraud cues as part of a questioning mindset (Hurtt and Thomas, 2008; Hurtt 2010; Nelson, 2009; Quadackers et al., 2009; Quadackers et al., 2014; Carpenter and Reimers, 2013; Grenier, 2015; Olsen and Gold, 2018). Chapter 2 considers the concept of professional scepticism and discusses audit-related papers that address professional scepticism in full detail.

#### **1.2.4 The need for better understanding of the complexities of the concept of professional scepticism**

Professional scepticism enhances audit practice by encouraging the appropriate exercise of professional judgment and action. In addition, professional scepticism is related to the effectiveness of an audit procedure. According to the International Audit and Assurance Standards Boards' (IAASB) Professional Scepticism Guidelines, appropriate employment of professional scepticism is associated with the reduction of misapplied audit procedures and the misinterpretation of audit results (IAASB, 2012).

Therefore, we know that professional scepticism is of great importance. However, a further aspect relating to professional scepticism that is clear from current and prior discussions and debates is that professional scepticism is a complex concept. Given its importance there is, therefore, a need for a deeper understanding as to how it is internalised and operationalised within the audit profession. The blurred understanding of professional scepticism that is, in part, associated with varied explanations of professional scepticism from both academics and regulators (Carpenter and Reimers, 2013b; Olsen and Gold, 2018) means that having further understanding of the concept is essential for ensuring quality in the audit environment. Therefore, creating a better understanding of professional scepticism is becoming essential for all stakeholders and critical for enhancing auditors' skills (McKnight and Wright, 2011; Heath and Staggs, 2015; Glover and Prawitt, 2014). For whilst professional scepticism has received some attention in recent research which is discussed in detail in chapter 2 of the thesis (Brazel et al., 2016; Olsen et al., 2015; Robinson et al., 2018) it remains an "ill-defined" concept that is sometimes labelled as a "black box" (DeFond and Zhang, 2014). Further the research has been very focused on the USA context. Consequently, there is a research gap in respect of the concept of professional scepticism. Namely, there is a need for further research into professional scepticism and if the research can be conducted in non-USA settings this can broaden the research settings. This thesis seeks to address this gap by investigating professional scepticism in a non-USA context and, specifically through considering its connection to moral reasoning (ethics). Therefore, the next section of this introduction discusses ethics in relation to auditing, and specifically it includes discussions of moral reasoning and professional scepticism.

### **1.3 Ethics, moral reasoning and professional scepticism**

#### **1.3.1 The importance of ethics to auditors and auditing**

Ethics is important in the context of auditing and qualified accountants are required to follow the Codes of Ethics relevant to the professional body they are members of. For example, the ICAEW has a Code of Ethics with five fundamental principles: integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour (ICAEW Code of Ethics, 2020). Ethical behaviour is essential for ensuring the auditor serves the public interest. The principles-based approach to ethics allows for flexibility and obliges auditors to follow the spirit of the code. This flexibility is needed

as auditors may encounter a very wide variety of situations where they have to ensure they conduct themselves professionally using judgment. Compliance with this conceptual framework is obligatory for all audit engagements. At the outset the Code reminds auditors that:

*A distinguishing mark of the accountancy profession is its acceptance of the responsibility to act in the public interest. A professional accountant's responsibility is not exclusively to satisfy the needs of an individual client or employing organisation. Therefore, the Code contains requirements and application material to enable professional accountants to meet their responsibility to act in the public interest.* (ICAEW Code of Ethics, 2020, p. 12)

The ICAEW Code of Ethics contains a section on professional scepticism and, hence, connects ethics to the concept of professional scepticism. A general statement is made at the outset of the discussions on professional scepticism section with the code stating that “(p)rofessional scepticism and the fundamental principles that are described in Section 110 are inter-related” (ICAEW Code of Ethics, 2020, p. 22). Extended discussions are contained in the code which add further to this by, for example, elaborating upon connections between integrity, objectivity, and independence of mind and professional scepticism.

The ICAEW Code of Ethics derives from the International Ethics Standards Board for Accountants (IESBA) ethics code. IESBA establishes ethics standards for professional accountants and was created by IFAC. IESBA sets ethical standards independently although it is overseen by the Public Interest Oversight Board (PIOB). The IESBA ‘International Code of Ethics for Professional Accountants (including International Independence Standards)’ was updated in 2018. This update included incorporating new material relating to professional scepticism following the work undertaken by IESBA with the Professional S[c]epticism Working Group as part of the Audit Quality Enhancement Coordination Group (AQECG) mentioned earlier in this introductory chapter. The new material explains the International Code of Ethics requires professional scepticism to be exercised and that the fundamental principles (which are the same as the ICAEW Code of Ethics) “individually and collectively, support the exercise of professional scepticism” (IESBA International Code of Ethics for Professional Accountants, 2018, p. 26).



To build on the working group's work on professional scepticism IESBA then established a project 'Role and Mindset Expected of Professional Accountants'. The stated aim of this project is to ensure that the Code "promotes the role, mindset and behavioural characteristics expected of all professional accountants when performing their professional activities". In the IESBA publication that formed the basis for this project 'Professional s[c]epticism – meeting public expectations' (2018) consideration is given to the idea that ethics might directly be connected to professional scepticism, for example, in speculating 'behavioural characteristics required (for professional scepticism) might include ... moral courage' (p. 10).

This idea of moral courage being a behaviour underpinning professional scepticism derives from a Thought Leadership report prepared by the Institute of Chartered Accountants in Scotland (ICAS). Under the heading of 'Power of One' ICAS commenced an examination of ethics publishing a series of papers of which one is titled 'Moral Courage' (2015). This paper argues that courage is a virtue required by accountants to act ethically and is particularly necessary when ethical dilemmas arise. For example, moral courage might be required by the auditor as their "decisions can be subject to unnecessary influence from others within the organisation (being audited) who may have an agenda that favours reporting better financial results than the company has actually achieved" (p. 5). This need for moral courage is, at least in part, seen as necessary by ICAS because being a professional accountant involves the "need to exercise professional judgement on a daily basis. When ethical matters are involved, judgement should not be clouded by purely short-term commercial considerations or personal gain." (ICAS Personal Responsibility and Leadership, 2015, p. 13)

This focus on ethics by ICAS is in recognition that "increased focus on recent corporate failures ... (has impacted on) confidence and trust in the accountancy profession ... (and) greater emphasis needs to be placed on the ethical and public interest aspects" (ICAS Guidance on Conflict of Interest, 2019, p. 2). Likewise, Sikka (2015b) recognises an increased focus on ethics emanating from failures associated with auditing problems. This leads Sikka to raise the question whether as audit firms have become more commercialised then has this meant they have become less ethical?

Overall, what is clear is that in the current business environment ethics has been re-discovered as an important topic that needs debating further. Auditors are continually

challenged by ethical dilemmas and some argue this is potentially exacerbated since “current and future business leaders are products of business schools, which often teaches that money always comes before ethics” (Koestenbaum et al., 2005). In the next sub-section there is discussion how ethics connects to professional scepticism through moral reasoning.

### **1.3.2 Ethics, moral reasoning and professional scepticism**

In its deliberations on moral courage, ICAS has debated whether moral courage should become a sixth fundamental principle in the ethics code stating that a possible definition of moral courage could be:

*Moral courage – To exhibit fortitude and a constant determination to exert professional scepticism, to challenge others who are behaving inappropriately, and to resist the exploitation of professional opportunity for private benefit rather than the public interest.* (Moral Courage, 2015, p. 5)

This definition explicitly associates moral courage with professional scepticism. According to auditing standards, exercising professional scepticism requires some level of ex-ante distrust in the auditee’s honesty (e.g., IAASB, 2009b, ISA 240.8). Thus, having moral courage implies that the holder of this virtue will, when making judgements and taking difficult decisions, think ethically and apply moral reasoning to dilemmas they face. Yankova (2014) defines moral development as an individual’s state of mind regarding matters of ethics and morality in the context of social interaction, and moral reasoning has been identified by researchers, for example Glover and Prawitt (2013), as a personal trait that contributes to the ability of the auditor to implement an appropriate level of professional scepticism. Hurtt et al. (2013) have also argued that auditors’ individual characteristics play an important role in professional scepticism studies and moral reasoning is one of these individual characteristics that the auditor brings to the engagement. Nelson (2009) similarly views moral reasoning as one of the three non-knowledge traits important to auditing.

Since auditing is a systematic process that depends on, amongst other things, the auditor’s logic and reasoning (Shaub, 1996) then it appears reasonable to argue that moral reasoning is an important factor when auditor’s engage in decision-making. Moral reasoning is concerned with the conscientiousness with which they deal with

difficult conflicts in their daily practice (Ponemon and Gabhart, 1990) and is an element of their moral disposition (Shaub and Lawrence, 1996). Shaub and Lawrence (1996) argue, therefore, that professional scepticism is associated with the auditor's ethical predisposition and, thus, there is a potential relation between auditors' professional scepticism and their moral reasoning. Chapter 2 considers the concept of moral reasoning and also discusses audit-related papers that address moral reasoning in greater detail.

Kohlberg (1976) identifies moral reasoning as one of the factors that controls an individual's cognitive development, and according to Peytcheva (2014), professional scepticism as a personality trait is an important predictor of an auditor's cognitive performance. Moral dilemmas frequently appear in the day to day audit functions. Therefore, there appears to be a good case for arguing there is an interrelation between professional scepticism and moral reasoning<sup>1</sup>. If this case is accepted, then investigating this potential relationship is important as it might help create a better understanding of both ethics and professional scepticism. Furthermore, it can support regulators, standard setters, auditee and audit practitioners in enhancing an auditor's scepticism and consequently achieving audit quality.

According to these studies, professional scepticism is formed by auditors' personal differences such as traits, knowledge and incentives (Bell et al., 2005; Nelson, 2009). Additionally, there are external incentives that influence auditors' professional scepticism such as audit managers, partners and even the auditee (Hurt et al., 2013; Kadous and Zhou, 2015; Nelson, 2009). Moreover, professional scepticism as a mindset can be affected by other personal traits like auditors' moral reasoning.

### **1.3.3 Ethics and professional scepticism**

It has explained above that whilst professional scepticism has received some attention in recent research it remains an "ill-defined" concept. Consequently, there is a research gap in respect of the concept of professional scepticism and there is particularly a need for research conducted in non-USA settings. In addition, given the above discussions concerning ethics and its potential connection to professional scepticism, then this also

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<sup>1</sup> It is worthy of note that trainee auditors studying to become a member of the ICAEW now have to study a module titled 'Ethics and professional scepticism'. This indicates the ICAEW sees the two concepts as connected.

presents another research gap. Namely, the discussions concerning the connection between ethics and professional scepticism are as yet untested and, therefore, there is a need to investigate empirically whether this connection is evident. Hence, the thesis seeks to address this gap by investigating professional scepticism in a non-USA context and testing whether an association exists between moral reasoning (ethics) and professional scepticism. Therefore, the next section of this introduction discusses ethics in relation to auditing, and specifically it includes discussions of moral reasoning and professional scepticism.

## **1.4 Scope of Research**

### **1.4.1 The focus of the research**

This thesis focuses on auditors' professional scepticism in relation to their moral reasoning. The interaction of professional scepticism with moral reasoning is examined in the UK context and, therefore, is conducted outside a USA setting where most studies on professional scepticism have been conducted. There have been only a limited number of studies of professional scepticism conducted to date and in the UK context there have been no published studies to the knowledge of the researcher. Because a number of prior studies now date back to the 1990's many respondents to the Audit Practice Board (APB) paper "Raising the Bar" (APB, 2010) questioned the relevance of this existing research on the basis of the age and context of the research performed. In addition, recent research has disagreed with many of the findings of previous research (see, for example, Shaub, 1996).

This research aims, in a UK context, to measure and analyse levels of professional scepticism, to measure and analyse levels of moral reasoning, and to investigate if there is a relation between professional scepticism and moral reasoning. This may then help in reaching a greater understanding of the concept of professional scepticism. The analysis of levels of professional scepticism and moral reasoning has been undertaken separately in prior studies. There is an ongoing discussion on the topic of audit quality and specifically professional scepticism that resulted in changes within the financial environment in the UK ( see; ICAEW, 2021; FRC, 2017; ICAS and FRC, 2016) that led to changes in regulations and increased transparency.

The UK represents a potentially important study site for this research project as follows. The audit explosion which Power (1997) refers to in his seminal book 'The Audit Society' is identified as starting in the UK. This 'audit explosion' commenced in the early 1980s with the systematic rise of the new public management (NPM), increased demand for accountability and transparency, and the rise of quality assurance models of organizational control (Power, 2003). Thus, this audit explosion suggests there is a contextual background in respect of audit in the UK which may make the UK worthy of auditing research in respect of the concepts of professional scepticism and moral reasoning in audit. Further, most prior research related to professional scepticism has been conducted in the US but, whilst the UK and USA share similar features in respect of both having well developed audit professions, there are also differences. For example, the UK and USA culture differs. Linsley and Shrivies (2009) in their examination of audit failure relating to Enron argue that in the USA individualism has risen to become the dominant culture in audit firms since the 1980s and they argue this has impacted negatively on the ability of USA audit firms to act fully independently and objectively. Hence, this cultural change also implies that USA audit firms might be adversely impacted in respect of both ethics and professional scepticism. The culture in the UK also appears to have changed over time (see, for example, Linsley et al., 2016)) and to have become more individualistic (see, for example, Linsley et al., 2016). However, it is arguable whether the UK culture has moved to become as individualistic as the USA and, if it is not, then it might be surmise that adverse impacts individualism might bring about in respect of ethics and professional scepticism will be less in the UK. This research does not examine culture, however this possible difference in UK and USA cultures suggest it is worthwhile research being conducted into ethics and professional scepticism in a UK setting.

This research builds on the limited prior research by examining the concepts in the UK setting and, further, it extends the prior research by testing for a relationship between the two concepts. This has not, to the knowledge of the researcher, been undertaken in any prior study and, therefore, represents a new research departure.

#### **1.4.2 Research methodology**

This study adopts a mixed methods approach where both quantitative and qualitative data will be collected and analysed. First, a questionnaire that contains two instruments

is administered to measure: (a) individuals' professional scepticism, and (b) their level of moral reasoning. This then permits the researcher to ascertain whether there is a relationship between moral reasoning and professional scepticism as measured by the two questionnaires.

The questionnaire was selected as the most suitable tool to collect large amounts of data in order to find generalizable results. Questionnaires were distributed to university students studying in two Management-Business Schools in the UK. The justification for administering the questionnaires to university students rather than auditors is provided in the research methodology chapter. The first part of the questionnaire adopts Hurtt's professional scepticism scale (HPSS) (Hurtt, 2010) to measure professional scepticism traits. The second part of the questionnaire uses a modified version of the Accounting-Specific Ethical Dilemma Instrument (AEDI) developed by Thorne (2000). AEDI is a tool to measure the participants' moral reasoning through a set of scenarios related to the accounting context developed by Thorne (2000). The small adaptations made by the researcher to the AEDI scenarios are explained and justified in the research methodology chapter. The AEDI instrument is derived from one of the most widely used theories in socio-moral psychology which is Kohlberg's (1969) theory of developmental moral reasoning (see Rest et al., 1999) and this is explained further in chapter 2.

Second, semi-structured interviews were conducted with audit practitioners and regulators in the UK in order to add depth to the analysis of the questionnaire results. This study is, thus, using a mixed method approach to achieve greater depth in the analysis.

This is the first study that analyses professional scepticism in relation to moral reasoning. It is the only known study that administers the Hurtt Professional Scepticism Scale (HPSS) (Hurtt, 2010) and Accounting-Specific Ethical Dilemma Instrument (AEDI) (Thorne, 2000) simultaneously to the same participants.

## **1.5 Research Aims and Objectives**

This research aims to focus on auditors as the core element of the audit context and whether their level of moral reasoning is related to the level of their professional scepticism.

Therefore, the research conducts an empirical analysis to analyse the association between auditors' moral reasoning and their individual level of professional scepticism. This is undertaken by measuring the level of professional scepticism of the participants using the HPSS scale and then comparing it with their moral reasoning levels using the AEDI scale. This facilitates the exploration of implications of the relation between auditors' professional scepticism and moral reasoning in their training and education. The interviews with practitioners enable the researcher to investigate further the association between the two concepts of moral reasoning (ethics) and professional scepticism. The interviews are important as they enable the researcher to understand the lived experience of auditors and the perspective of regulators and standard setters.

### **1.6 Research Questions**

Based on the research objectives the following three questions are analysed in this research:

1. How do the levels of professional scepticism in the UK context compare to levels of professional scepticism in non-UK context?
2. How do the levels of moral reasoning in the UK context compare to levels of moral reasoning in non-UK contexts?
3. Is there any association between levels of moral reasoning and professional scepticism?

### **1.7 Contribution**

This study contributes to existing knowledge in the following ways. The study contributes to the existing professional scepticism literature by advancing understanding in respect of auditors' professional scepticism and its relationship to moral reasoning. This research, to the best of the researcher's knowledge, is the first study to extend professional scepticism research to incorporate moral reasoning research. Further, the research is carried out in the UK context with most previous professional scepticism literature is mainly being USA-based (see Farag et al., 2016; Hurtt et al., 2013; Nelson, 2009; Robinson et al., 2018). Testing for a relationship between the two concepts of professional scepticism and moral reasoning has not been undertaken in any prior study and, therefore, represents a new research departure as suggested by Hurtt et al. (2013)

and Yankova (2014). To test for the potential relationship Hurtt's (2010) Professional Scepticism Scale (HPSS) and Thorne's (2000) Accounting-specific Ethical Dilemma Instrument (AEDI) are utilised. Therefore, measuring the two concepts simultaneously makes it possible to test for correlations. Furthermore, this research is responding to increasing calls for deeper investigations into the social dynamic in auditing (Dirsmith et al., 2015). It also contributes in applying contemporary methodologies in the auditing research in comparison with the most common and traditional approaches applied (Power and Gendron, 2015).

Unlike previous literature, this study applies a mixed methods approach to add depth to the qualitative data collected. One of the instruments used is a questionnaire, which is the first to combine two scales and to employ them simultaneously; hence, it contains the Hurtt's (2010) Professional Scepticism Scale and Thorne's (2000) Accounting-specific Ethical Dilemma Instrument (AEDI). Therefore, measuring the two concepts simultaneously makes it possible to test for associations.

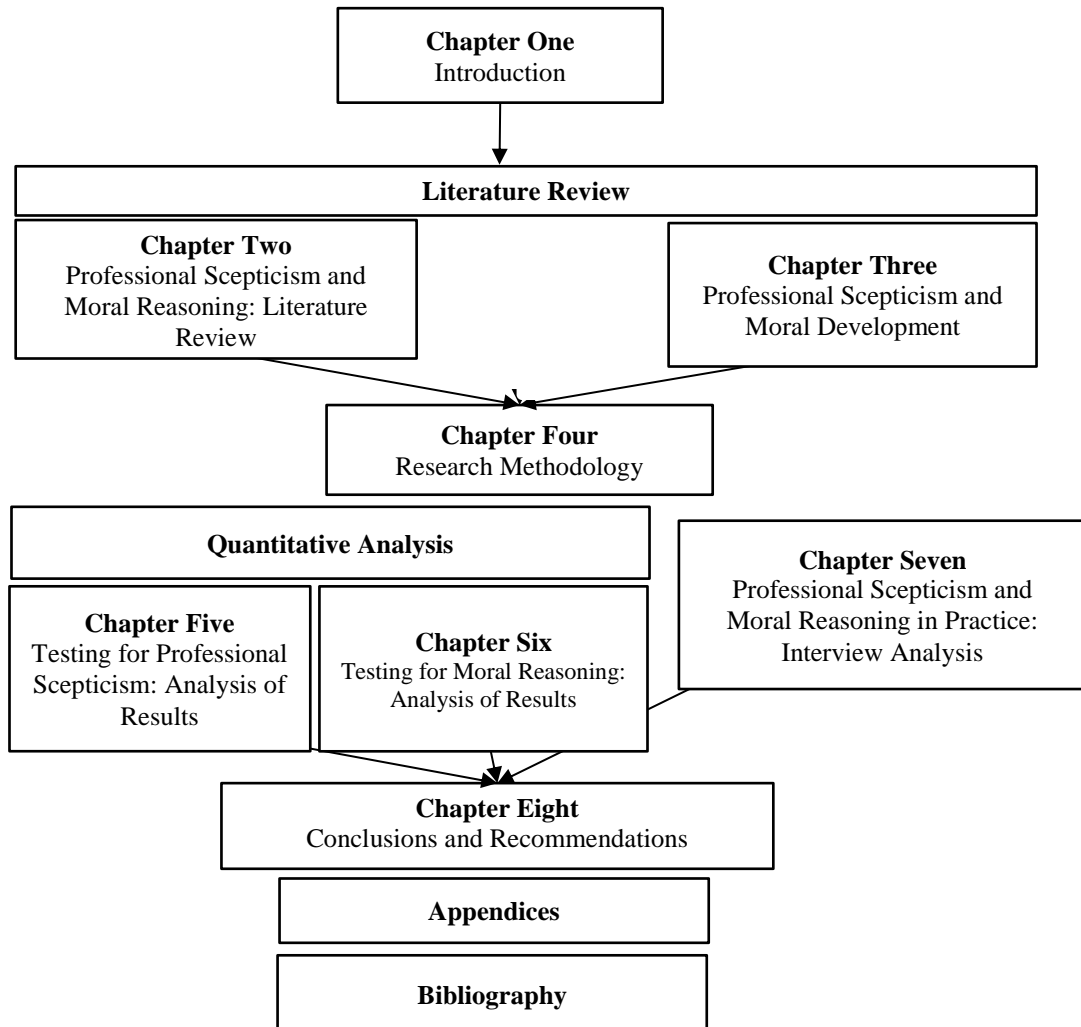
Moreover, this study applies a mixed methods approach to add a depth to the qualitative data collected. In the case of the qualitative data, the research adopted a multi-stakeholder perspective and interviewed five participants who are regulators and practitioners in the audit industry. It highlights the potential challenges to implement the right level of professional scepticism and moral reasoning.

The findings of the study should be of value to regulators, standard setters and senior management personnel within the profession, while researchers and educators can gain more insights into the behavioural aspects of accounting. For example, if auditors are uncertain about the level of professional scepticism that they should adopt and not maintain proper moral conduct, then the question will be how they are performing their work. This study provides a basis on which to develop guidelines to help increase auditors' sceptical behaviour. Moreover, the results contribute to the literature in terms of providing an understanding of this topic for the wellbeing of the general public as well as the business environment.

## **1.8 Structure of the Thesis**



The thesis is structured in the following manner (also see Figure 1.1). Chapters two, three and four comprise the literature review. Chapter two reviews the literature on professional scepticism, and moral reasoning literature and chapter three considers how the two concepts are viewed by both regulators and practitioners.



**Figure 1.1**The thesis structure

Chapter four sets out the research methodology. This chapter includes a discussion of the research philosophy and the choice of research methods selected for addressing the research questions. Hence, it justifies the design of the methodology.

Chapters five and six present and discuss the results of the quantitative analysis of the research data. Chapter five focuses on the quantitative analysis of Hurtt’s professional scepticism scale. Chapter six present and discuss the results of the quantitative analysis of the moral reasoning measurement including testing for an association between the

two scales. These chapters also discuss the statistical methods applied in the quantitative analysis.

Chapter seven explores the views of audit practitioners and regulators regarding professional scepticism and moral reasoning. Thus, this chapter provides a qualitative analysis of the interviews conducted. The perspectives of the interviewees provide insights into professional scepticism that are useful not only in furthering understanding of the concept of professional scepticism but also in interpreting the results presented in the previous two chapters.

Finally, chapter eight briefly summarises prior chapters, sets out the conclusions and makes appropriate recommendations.

# Chapter 2

## **2 Professional Scepticism and Moral Reasoning: Literature Review**

### **2.1 Introduction**

The first part of this chapter reviews the literature on professional scepticism in previous auditing research. It is focused on studies that explore the concept of professional scepticism and identifies certain research gaps that this study aims to fill. The literature reviewed includes academic, professional and regulatory literature on professional scepticism. The chapter details the range of approaches that academics and regulators have adopted in respect of the concept of professional scepticism and the similarities and differences between their approaches. Moreover, this chapter discusses the latest approaches. What is evident from this literature review is that professional scepticism is of great importance in the auditing process and that there are complexities attached to understanding the concept as reflected in the range of different approaches.

The second part of the chapter reviews the literature on moral reasoning. This includes reviewing the literature which forms the basis for discussions of moral reasoning. Thus, there are discussions of Kohlberg's Cognitive Moral Development (CMD) theory and Rest's Defining Issues Test (DIT (Rest, 1979; 1986) as this form the basis for Thorne's (2000) development of the Accounting Ethical Dilemma Instrument (AEDI).

The structure of the chapter is as follows. Section 2.2 provides a brief background on the term 'auditing' and the profession. In section 2.3, the importance of professional scepticism is discussed. Section 2.4 discusses defining professional scepticism and section 2.5 explains the different approaches considered in respect of professional scepticism. Section 2.6 discusses relevant academic literature and section 2.7 discusses the regulator's perspective on professional scepticism. The two types of professional scepticism and whether it is a trait or state are discussed in section 2.8.

Section 2.9 then commences the review of moral reasoning literature and introduces this concept. Section 2.10 specifically considers morality in the context of audit. Section 2.11 reviews Kohlberg's Cognitive Moral Development (CMD) theory and then in section 2.12 critiques of Kohlberg are considered. Rest's Defining Issues Test (DIT) (Rest, 1979; 1986) and Thorne's (2000) development of the Accounting Ethical Dilemma Instrument (AEDI) are reviewed in sections 2.13 and 2.14 respectively. Section 2.15 then discusses prior studies on morality and audit. Section 2.16 concludes the chapter.

## **2.2 Professional Scepticism in Audit**

Before discussing the concept of professional scepticism in audit it is useful to consider 'audit' as a term and how it started as an industry. The word audit is originally from the Latin 'auditus' and means 'hearing' as it is defined in the Oxford English Dictionary. It is derived from 'audire' or 'hear' in Latin (Anon., 2016). Auditing is defined as a systematic process of objectively obtaining and evaluating evidence regarding economic actions claims and events (Humphrey, 2009). The audit process aims to ascertain the degree of correspondence between the auditees' assertions and their communication of the results to different stakeholders. This process is not a mechanical but a set of activities that requires auditors' thought, awareness, and ingenuity (Humphrey, 2009).

Additionally, the audit is promoted as a trust-creating technology to persuade the public that the management and the organisation accounts are without misstatements and no fraud exists (Power, 1997). The primary objective of an audit has been concerned with the prevention of fraud since the time of the Roman Empire (Brown, 1962) and it continued to be the primary objective of auditing until the early 20<sup>th</sup> century (Power 1997).

The main role of auditing had changed by 1940, to mainly the provision of an opinion on financial statements (Brown, 1962; Lee, 1986). In addition, the extensive appearance of the term "client" instead of "auditee" serves to weaken the independence and public interest focus of auditors (Glascock, 2002). The term "auditee" is more objective, neutral and descriptive and does not contradict the audit profession obligations. Moreover, today auditing has developed into a new process that builds on

a business risk perspective of the auditees (Porter et al. , 2014). This has raised concerns regarding the expectations of an audit and initiated an expectation gap between auditors and the public.

Auditing is unique in that ‘the public’ is the primary beneficiary of the profession and the service of auditors, not necessarily the contracting auditee (Shaub and Braun, 2014, p.5). Being professional means that the auditors follow a duty of care to serve the public even if they are not paid directly by them. For instance, doctors and lawyers serve the public with a concept of duty of care. Most studies agree on three characteristics of the profession: 1) development of knowledge and intellectual skills, 2) adherence to shared values mentioned in the code of conduct, and 3) responsibility to serve the public interest (Shaub and Braun, 2014, p.4). Among the three characteristics, serving the public is the one that contains the greatest controversy and challenge. Public interest is defined by the IFAC as “the net benefits derived for, and procedural rigor employed on behalf of, all society in relation to any action, decision or policy” (IFAC, 2012a). However, the role of the audit is not only to assess and balance different stakeholder expectations and determine that they have been met (ICAEW, 2008, p 13). Auditors also have to consider duties that restrain behaviours that would maximise benefits, either personal or of total benefit to all. This is supported by Shaub (1996) and Fogarty (2014) who assert that the job assigned to the auditor by society is not to maximise benefits but to minimise harm. In their rethinking on professionalism Terrell and Wildman (1992) observed that professionals tend to moralise without examining their own morals. Therefore, auditors need to fulfil their “call of duty” by enhancing their understanding and implementing the concept of duty within a moral context.

Unlike other professions where the public interest is an outcome, in an audit it is the reason that the profession is essential in today’s business environment. Therefore, auditors are the representatives of public interest and a green light from an auditor means that the company’s accounting practices are approved by a professional (Sikka, 2009). Accordingly, auditors should be sensitive to the changing expectation of the stakeholder groups while at the same time containing these expectations within the constraints of what is possible (Flint, 1988). In reality, performing audit after audit without encountering a material irregularity does not make auditors so satisfied that they fail to recognise one when it is encountered. In other words, auditors must ‘battle’ to maintain

a sense of scepticism in light of economic pressures and natural tendencies to the contrary (Shaub, 1996).

### **2.3 The Importance of Professional Scepticism**

The 2018 UK government review of audit led by Sir Donald Brydon (the Brydon Review was published in 2019) was initiated because of anxieties that audit quality had declined to such an extent that significant reform was imperative. The prominent failure of companies including BHS, Patisserie Valerie and Carillion was cited evidence as audit was in crisis and public trust in audit had fallen significantly (Parliament, 2019). The government's contention was that the collapse of these large organizations indicated a wider crisis of trust in audit industry (Parliament, 2019, p.2)

The decline in trust in the audit profession had been occurring over a number of years. The Kingman review of the Financial Reporting Council (FRC) in 2018. also signalled the government's great concerns regarding audit as this review was reconsidering how best to regulate the audit profession in the UK and the 2000s saw a range of professional bodies, regulators and governments becoming increasingly worried that the conduct of audits was not as they would wish and that audit quality was insufficient (Glascock, 2002; Windsor and Warming-Rasmussen, 2009).

One aspect of the audit process that has frequently been a matter of concern when audit failures have arisen is that the auditors have demonstrated an inadequate level of professional scepticism (see, for example, Brydon Review, 2019; IFIAR, 2014; Hurtt et al., 2008). For example, after the recent 2007-8 banking crisis and the following collapse of many institutes like the London Scottish Bank and Northern Rock in the UK, and Lehman Brothers, Washington Mutual and IndyMac Banks in the US (Humphrey et al., 2011; Sikka, 2009) a lack of professional scepticism has been noted as a prominent issue (Carpenter and Reimers, 2013; European Commission, 2010; Hurtt et al., 2013) and the lack of professional scepticism is highlighted in most of the enforcement actions (Messier et al., 2010).

Increasing business complexity has been highlighted by academics (Yankova, 2014; Barac et al., 2016) as well as regulators (FRC, 2015; ICAS, 2016) as adding to the pressure on auditors to exercise the right level of professional scepticism in recent years. These pressures can be traced back further too. The shift from a professional logic to a

commercial logic commencing in the mid-1960s has been examined in prior research (see, for example, Hanlon, 1996; Zeff, 2003; Spence and Carter, 2014; Guo, 2016). This prior research explains how the auditee became central affecting the behaviours of auditors; making it more problematic for auditors to question auditees during audits. Professional scepticism enhances audit practice by encouraging the appropriate exercise of professional judgment and action and improves the effectiveness of audit procedures. Furthermore, the International Audit and Assurance Standards Boards' (IAASB) Professional Scepticism Guidelines explain that appropriate employment of professional scepticism is associated with the reduction of misapplied audit procedures and the misinterpretation of audit results (IAASB, 2012).

The International Forum of Independent Audit Regulators (IFIAR) defines the lack of professional scepticism as a situation where two elements jointly occur; not acquiring sufficient evidence and failing to address material misstatements (IFIAR, 2014 p.1). Furthermore, the chairman of the PCAOB asserted that the foundation of a public accounting audit is independence and professional scepticism (Toba, 2011). Therefore, creating a better understanding of professional scepticism is becoming an essential need for all stakeholders and a critical demand to enhance auditors' skills (Mcknight & Wright, 2011; Heath and Staggs, 2015; Glover and Prawitt, 2014). Previous studies found that there is a need to identify the relation between an auditor's professional scepticism and other individual dispositional characteristics like moral reasoning in order to reach a better understanding of the concept of professional scepticism (Yankova, 2014; Hurtt et al., 2013; Nelson, 2009). There are many reasons to consider morals in today's business environment where moral dilemmas are frequently appearing in the day-to-day audit functions.

#### **2.4 Defining Professional Scepticism**

Professional scepticism is defined in the International Standard on Auditing as an "attitude that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence". Similarly, the International Forum of Independent Audit Regulators (IFIAR) defines the lack of professional scepticism as a situation where two elements jointly occur; not acquiring sufficient evidence and failing to address material

misstatements (IFIAR, 2014 p.1). Auditors are responsible for protecting the public interest (Flint, 1988; Satava et al., 2006) and, consequently, audits and auditors need to be seen as trustworthy. Inevitably, auditors must make multiple judgments during any audit as they evaluate the evidence they collect (Ashton and Ashton, 1995) and, therefore, the application of professional scepticism is fundamental to the audit process.

Professional scepticism is a multidimensional construct in accounting literature where it has been studied with different definitions adopted. It is considered as a principle component in high-quality audit (IAASB, 2015; FRC, 2010) since auditors are required to seek persuasive evidence in order to be satisfied with auditee management representations (Toba, 2011). Therefore, failure to exercise professional scepticism is highlighted as one of the top three most important factors for audit deficiencies according to the US Securities and Exchange Commission (SEC)'s fraud related cases report after not collecting sufficient evidence and not exercising the required due professional care (Beasley et al., 2001). Additionally, other oversight boards like the IAASB (2015) and FRC (2018) reported their concern about auditors not exercising a sufficient level of professional scepticism that is reflected in the audit quality.

## **2.5 Approaches to Professional Scepticism**

Professional scepticism is rightly considered important and frequently emphasised by regulators as well as researchers. Furthermore, the regulators consider a lack of professional scepticism to be a common audit deficiency and have noted there are inconsistent understandings of the concept (Glover and Prawitt, 2014; Fei Gong et al., 2014; Beasley et al., 2001; Messier et al., 2010).

This section highlights the various approaches to auditors' professional scepticism that academics and regulators have discussed in their efforts to understand the concept among auditors. By reviewing the previous studies on professional scepticism within the audit context many approaches to professional scepticism are identified such as a conservatism bias (McMillan and White, 1993), the opposite of trust (Shaub, 1996), fraud detection (Choo & Tan, 2000), and independence equivalent (Kadous, 2000). However, the two main approaches, which have been widely identified and debated are neutral and presumptive doubt professional scepticism.



### **2.5.1 Neutral Approach**

Neutrality refers to a perspective in which the auditor assumes no bias in management's representations (Nelson, 2009). Scepticism in the neutral position is defined as "*the propensity of an individual to defer concluding until the evidence provides sufficient support for one alternative/explanation over others.*" (Hurt, 2010, p.151). Moreover, neutrality is the traditional basic perspective on professional scepticism that underlies most of the auditing standards and is adopted by most regulators (Nelson, 2009 and PCAOB, AU 230, 1997). In the AU Section 230.7, neutral professional scepticism means that auditors approach the audit engagement and evaluate evidence without a pre-perception of the honesty of the auditee management (AICPA, 1997). According to PCAOB, professional scepticism is when the "*auditor neither assumes that management is dishonest nor assumes unquestioned honesty*" (PCAOB, 2010). This indicates that regulatory bodies are encouraging auditors to approach the audit with a neutral state of mind which enables them to evaluate evidence critically and objectively without having pre-judgments on the auditee. one of the previous studies that took the neutral perspective is Cushing (2000) which explicitly states that sceptical belief is an unbiased belief. A neutral view of scepticism involves an open-minded attitude and the presumption that the auditee management is neither totally honest nor totally dishonest and it is encouraged in the auditing literature (Nelson, 2009). however, another approach presents a shift from that approach and it is called presumptive doubt scepticism (Bell et al., 2005).

### **2.5.2 Presumptive Doubt**

The second approach is the presumptive doubt that auditors begin with an understanding that fraud might exist regardless of the honesty and long relationship with the auditee. In this case, presumptive doubt mainly refers to the possibility of the existence of carelessness by the management. Presumptive doubt represents an auditor's attitude in which some level of dishonesty or bias by management is assumed, unless evidence indicates otherwise (Bell et al., 2005; POB, 2000). Additionally, in the American Institute for Certified Public Accountants (AICPA) standards, the "auditor neither assumes that management is dishonest nor assumes unquestioned honesty" (AU Section 230.09) as well as the wording of the standard ISA 200.15 explicitly states that it is important to presume the existence of fraud in order to have effective professional

scepticism (AICPA, 1997). Furthermore, FRC in the UK states that auditors should look for risks of material misstatement while assessing the management assertions (FRC 2012b).

Presumptive doubt is to be biased towards negative evidence. Toba (2011) proposed that auditors increased bias towards negative propositions and evidence can increase the auditors' interest in exercising professional scepticism. Additionally, the audit risk approach is becoming the common basis of conducting the audit procedure and it fits more with the presumptive doubt (Toba, 2011). Presumptive doubt perspective means that auditors should conduct an audit engagement recognising the possibility of a material misstatement due to fraud (Nelson, 2009).

Regulators considered this approach, especially after the financial crisis since 2002, (i.e. Enron, WorldCom and Arthur Andersen) and they encouraged its implementation by audit practitioners (Humphrey et al., 2011; Glover and Prawitt, 2013). They started to take a more '*presumptive doubt*' perspective as they referred to professional scepticism as something that was missing when an audit failure occurred (Glover and Prawitt, 2013). For instance, the Statement on Auditing standards SAS 99 'Consideration of Fraud in a Financial Statement Audit' states that "*the auditor should conduct the engagement with a mindset that recognises the possibility that a material misstatement due to fraud could be present, regardless of any past experience with the entity and regardless of the auditor's belief about management's honesty and integrity*" (AICPA, 2003).

Standards relating to fraud appear to draw on the non-neutral, presumptive doubt perspective, and adopting this perspective may result in excessive scepticism and inefficiency (Shaub and Lawrence, 2002; Bell, Peecher and Thomas, 2005; Nelson, 2009).

In presumptive doubt the sceptic is an open minded individual who considers possible conclusions, searches for evidence, considers bias and aggressively questions aggressively until they arrive at a conclusion (Nelson, 2009). After discussing the two most common and debated approaches, there is a new view of professional scepticism that combines these two approaches.

### 2.5.3 Professional Scepticism Continuum

The ICAEW, in their reply on the IAASB's (2016) Invitation to Comment on their paper "Enhancing Audit Quality in the Public Interest – A focus on Professional Scepticism, Quality Control and Group Audits", points to inconsistencies in understanding auditors' initial mindset since some support the neutral attitude to trust in management while at the same time anticipating misstatements.

Other regulators support a presumptive doubt attitude in which the auditor demonstrates a heightened awareness of the risk that organisation accounts might be affected by errors or dishonesty, but it also receives a negative reaction since it can imply an extreme attitude of distrust that may not be justified. Moreover, a neutral attitude is not consistent with the professional scepticism definition since it is a questioning mind attitude and remains alert to misstatement conditions regardless of the auditor's past experience of the auditee's honesty.

The third approach is the professional scepticism continuum, which has neutral and presumptive doubt approaches at each end. According to Power (1997, p. 13) the audit is never purely neutral in its operations and in the IAASB Professional Scepticism Guidance (2012) the implication of professional scepticism is relevant and necessary throughout the auditing process. The Auditing Practices Board (APB 2010, p.5) discussion paper '*Auditors Scepticism: Rising the Bar*' states that:

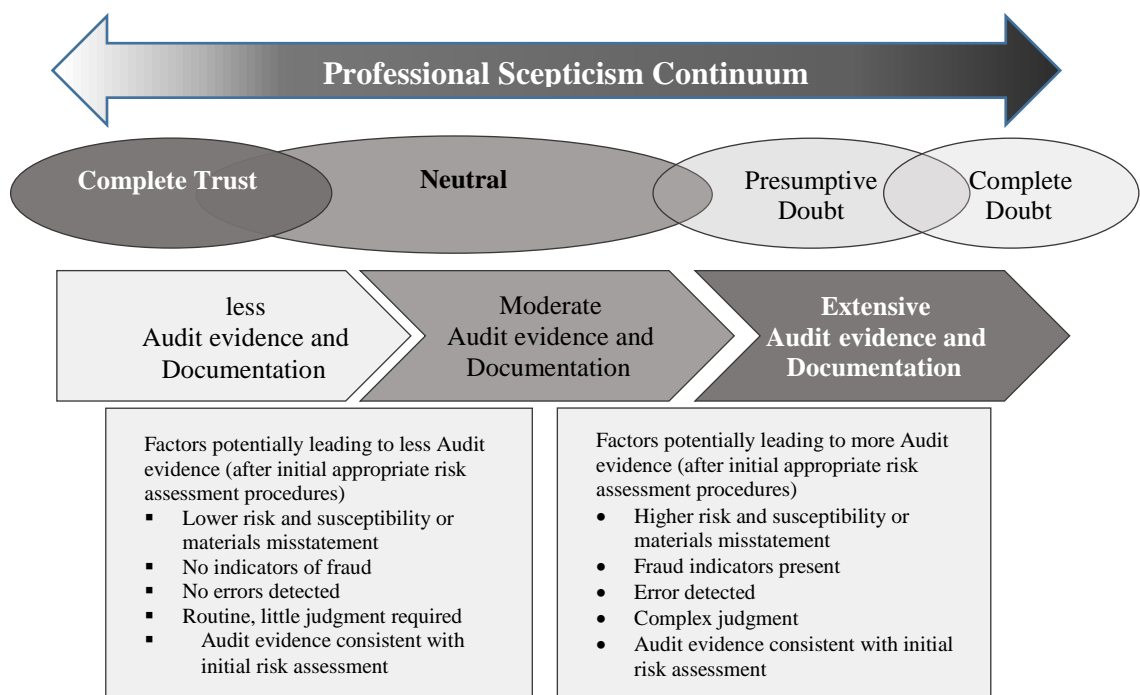
*'To understand the practical application of scepticism it may therefore be helpful to view it as being applied by auditors on a 'sliding scale' where the intensity of their scrutiny and challenge reflects both the auditor's initial mindset and their response to audit findings.'*

It distinguishes the initial mindset from the reaction to audit findings and it suggests a sliding scale that involves an initial mindset and then a reaction to findings. In the same context, Glover and Prawitt (2014) state that the right level of professional scepticism to be applied by auditors depends on the risk characteristics of the audit task. They argue that by applying this approach auditors will reach a balance between effectiveness and efficiency.

Figure 2.1 illustrates that professional scepticism is moving between neutral and presumptive doubt based on the level of trust. Complete trust is not included in the

continuum as well as the complete doubt since the auditor then moves to the forensic mindset (Glover and Prawitt 2014, p.3).

Auditor's moving from one type of professional scepticism to another depends on the materiality of risk, error and misstatement (Glover and Prawitt, 2014). This is consistent with Nelson's (2009) argument that high professional scepticism will not end in a balance of effectiveness and efficiency in an audit and therefore the professional scepticism continuum might be the way to reach an optimal balance between auditors' effectiveness and efficiency as Glover and Prawitt (2013) claim. However, according to them, auditors should not reach beyond the presumptive doubt, the complete doubt stage, since it requires forensic auditing. Forensic auditing is when the occurrence of fraud is suspected and the aim is then to detect it. Forensic means suitability to be used in court (Sunday and Manukaji, 2016).



**Figure 2.1 Professional Scepticism Continuum (Glover and Prawitt, 2014)**

Professional scepticism depends on the risk characteristics of the particular account and assertion being audited (Carpenter et al., 2011). It increases according to the complexity of business transactions, wide use of projected values, subjective estimates and generalization of accounting standers. Moreover, it increases when fraud indicators exist. In order to create a deeper understanding to this approach, there is a need to

synthesise professional scepticism components and recognise what is the relationship between various factors and ways to enhance them in order to increase the professional scepticism level.

## **2.6 Professional Scepticism: Academics' Perspective**

There is no consensus on one definition for professional scepticism within academia. Competing perspectives on professional scepticism can be found in both the academic literature and auditing standards (Nelson, 2009). Consequently, various approaches to professional scepticism appeared by which academics try to achieve an understanding of the concept. In accounting research, there are various views on scepticism. Some studies view scepticism as independence (Shaub and Lawrence, 1996), others view it as objectivity (Heninger, 2001; Copeland, 1996), or suspicion (Copeland, 1996; Shaub and Lawrence, 1996b), and even as the opposite of trust (Shaub, 1996; Quadackers et al., 2014; Harding et al., 2015). In order to develop an effective system of continuous professional scepticism practice, there should be a clear understanding of the factors that affect or deter auditors' professional scepticism.

Furthermore, some studies describe the application of professional scepticism by referring to outcomes such as auditors assessing certain accounts as more susceptible to risk, obtaining more evidence or explicitly searching for inconsistent evidence, challenging management's judgments, or investigating differences between management and auditor's judgments.

However academics define professional scepticism within various aspects and in different ways, scepticism can be traced back to its origin from 'skeptikos' or 'skepsis' in Late Latin, which means 'thoughtful' and 'inquiring'. A sceptic is someone who questions the validity or originality of something. In reference to the Oxford English Dictionary, scepticism is "doubt or incredulity as to the truth of some assertion or supposed fact..." (Anon., 2016). Moreover, a sceptic is a person who can suspend his judgment (Annas & Barnes, 1985), and who does not accept claims of others easily (McGinn, 1989, p 6), and have the ability to recognise contradictions and falsifications in the claims presented to them by others (Kurtz, 1992, p 22).

In academia, professional scepticism may be defined in terms of different characteristics of sceptics. For instance, Hurtt (2010) defines scepticism as a combination of six traits: a questioning mind, search for knowledge, suspension of judgment, interpersonal understanding, self-esteem and anatomy. These traits focus on having and pursuing doubt rather than on a particular direction of doubt. Other scholars consider professional scepticism to be how auditors update their beliefs in light of new evidence, and how they have a neutral weighting within their professional framework (Bamber et al., 1997). Others define sceptics as individuals who are continuously trying to be accurate in their risk assessments, as opposed to auditors who are predictably biased by being fully trusting or suspicious (Cushing, 2000).

Definitions of professional scepticism have changed over time and thus academics use the most effective type they consider influential to the audit industry. Copeland (1996) states that professional scepticism is an analytical state of mind that only accepts independently verified things. Additionally, Shaub and Lawrence (1996) consider professional scepticism to be suspicion or the opposite of trust. According to Nelson (2009), professional scepticism is "indicated by auditors judgments and decisions that reflect a heightened assessment of the risks that an assertion is incorrect". Table 2.1 Development of professional scepticism definitions by academics gives a chronological summary for the evaluation of a professional scepticism definition. The concept starts as a conservative bias where auditors focus more on error-related evidence rather than focusing on evidence that confirms their initial assessments which can lead to a premature closure on a hypothesis (McMillan and White, 1993). Shaub and Lawrence (1996) define professional scepticism as the opposite of trust and base their argument on the model of trust and suspicion of Kee and Knox (1970). Other research also considers professional scepticism as a distrust of auditees (for example see (Quadackers, 2007; Shaub, 1996; Choo & Tan, 2000; Cushing, 2000). According to AICPA standards, the "auditor neither assumes that management is dishonest nor assumes unquestioned honesty" (AU Section 230.09) (AICPA, 1997). Although there are various definitions of the concept of professional scepticism, they all implicitly consider it as one of the cornerstones of auditing (Chow et al., 2013).

**Table 2.1 Development of professional scepticism definitions by academics**

<b>Professional Scepticism Definition</b>	<b>Author(s)</b>	<b>Year</b>
Conservatism bias	Mcmillan and White	1993
Opposite of trust	Shaub and Lawrance	1996
Neutral approach	AICPA (AU 230.09)	1997
Presumptive doubt	Bell, Peecher and Solomon	2005
	Nelson	2009
A Sliding Scale	Auditing Practice Board	2010
A Continuum	Glover and Prawitt	2013

By the beginning of this century, scholars like Bell et al. (2005) predicted a shift from a ‘‘neutral’’ to a ‘‘presumptive doubt’’ perspective on professional scepticism. Presumptive doubt is when the sceptic’s behaviour indicates relatively more doubt about the validity of some assertion (Nelson, 2009, p.4), consequently this will increase the minimum levels of evidence necessary to justify an audit opinion. There is a move from considering professional scepticism as a mindset that auditor adopts along the audit process (Table 2.1) to a more dynamic concept like a sliding scale in which the auditor inspection and challenges vary in accordance to their response to audit findings (APB, 2010, p.5). This will be discussed further in section 2.3. Moreover, Glover and Prawitt (2013, 2014) define professional scepticism as a continuum that combines the two approaches of professional scepticism mindsets at each end; neutral and presumptive doubt. Noticeably, these definitions represent a current shift in the understanding of scepticism.

It means that the strength of auditors' inspections and their scepticism is challenged by factors around the audit process that they reflect and react to besides their personal and behavioural characteristics. Glover and Prawitt (2013, 2014) state that it is a continuum in which the appropriate application of professional scepticism will depend on contextual factors like the risk characteristics of the accounts and management assertions. This indicates that a dynamic and changing mindset is required from auditors according to the inputs and environmental effects. Therefore, a sceptical mindset is a constantly changing level of scepticism in response to emerging issues within the audit process. Therefore, a variance in practice exists from the difference in

concepts of professional scepticism applied caused by individual opinions and the absence of a practical guide that helps developing a unified and comprehensive, single guide (Harding & Trotman, 2014; Olsen et al., 2015). This makes audit professional scepticism the focus of many debates not only by academics but regulators as well. The implication of adopting one professional scepticism definition is critical to audit efficiency and effectiveness. It will facilitate the identification and clarification of behaviours that constitute professional scepticism in order to create effective training and educational programs (Nickell, 2012).

### **2.6.1 Professional scepticism determinants**

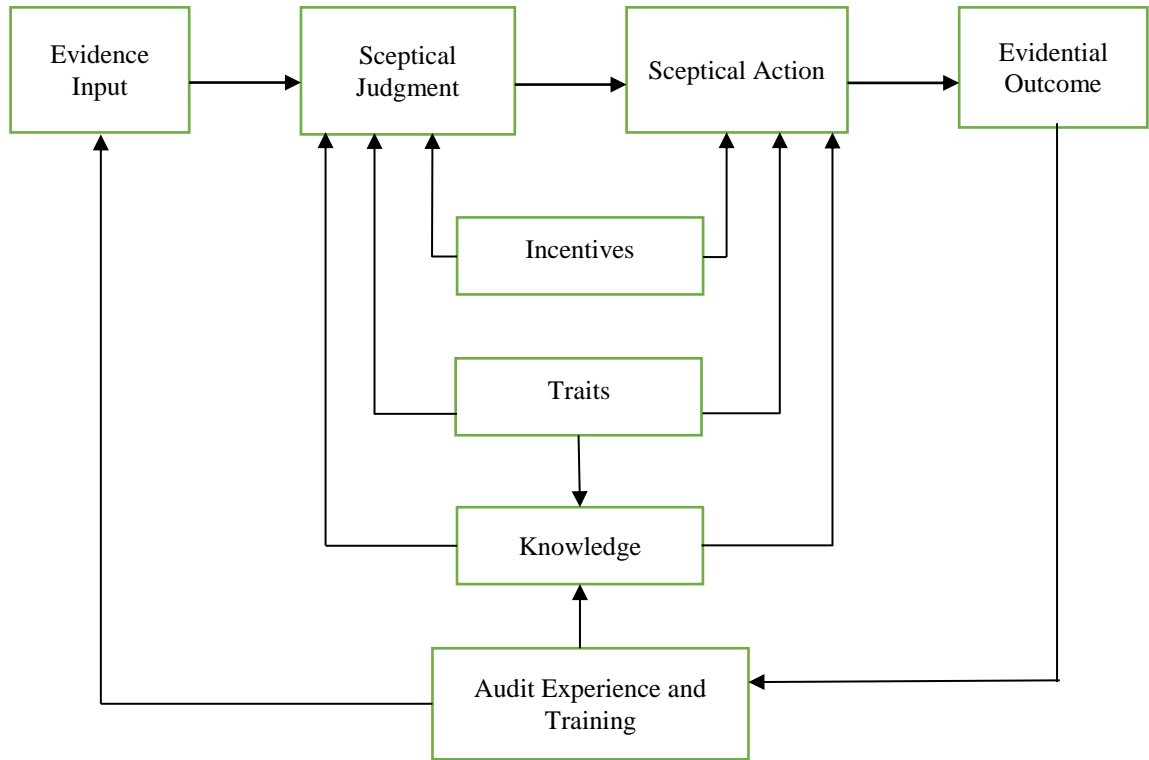
Nelson (2009) provides a comprehensive model that illustrates the factors that affect professional scepticism (See Figure 2.2). It indicates and allows the interaction between individual characteristics like knowledge, traits and abilities, and environmental characteristics like incentives, and then combines them with audit evidence characteristics in order to produce a professional scepticism judgment and action (Nelson 2009; Hurtt et al. 2013).

Nelson's Model (see Figure 2.2) combines all factors such as knowledge, traits, incentives, judgments and actions and links them to illustrate the interaction that exists within those factors (Christensen, Glover, Omer, & Shelley, 2014; Hurtt et al., 2013). Nelson (2009) views the neutral approach and presumptive doubts as consistent with each other since a sceptic has an open mind and questions possible conclusions, searching for evidence, considering any bias and aggressively questioning until they arrive at a conclusion. Thus, a logical evolution of the professional concept is to link the two approaches and this is what Glover and Prawitt (2013, 2014) have done in their professional scepticism continuum model (further discussed in section 2.5).

Academics have argued that a lack of scepticism can either be the result of a failure in problem recognition (lack of sceptical judgment training, moral reasoning and critical thinking) or a failure to act on a recognised problem (lack of sceptical action related to audit environment) (Nelson, 2010, Hurtt et al., 2013). Therefore, professional scepticism needs to be developed and enhanced by audit practitioners and regulators for its importance in enhancing audit quality. Auditors' professional scepticism cannot be overstated since it is an important attitude that increases the ability to identify and react



to situations of misstatement or possible fraud (IAASB, 2012). It is a combination of auditor knowledge, traits, and incentives (Nelson, 2009; Glover & Prawitt, 2014). Therefore, it is crucial to reach a clear understanding of the concept in order to facilitate its practical enhancement.



**Figure 2.2 Determinants of professional skepticism in Audit performance (Nelson, 2009)**

### 2.7 Professional Skepticism: Regulators' Perspective

After discussing the academic prospective on professional skepticism, this section highlights the regulators' and standard-setters' points of view. Professional skepticism influences the whole audit process. It affects the audit's scope of work and assists the auditor in evaluating audit findings and determining if the audit efficiency is sufficient to obtain a "true and fair" opinion on the auditee financial statements (APB, 2006). It also illustrates how practitioners are being informed to enforce professional skepticism in their practice.

The FRC reported a list of specific audit quality issues that they identified through their 2017 inspections. The first of these was lack of professional scepticism and challenge of management as well as other reasons like bank audits, group audit oversight, audit of pension balances and lack of consistency (FRC, 2018). Regarding the lack of scepticism, the FRC noted problems with the implication of professional scepticism and challenge of management especially key judgment tasks like goodwill impairment and long-term contracts. Audit teams failed to adequately challenge management's assumptions in relation to contract costs to complete, environmental provisions and cash flow forecasts. Another related issue is the absence of appropriate group oversight and direction of the work of component auditors. The group audit partner is supported by the audit team and responsible for the direction and supervision of the group audit and needs to show sufficient involvement throughout the audit process.

Scepticism is defined by the Auditing Practices Board, APB (2012) as a systematic form of continual informed questioning. Auditors need to develop a good understanding of the auditee business, have a questioning mind and be willing to challenge management assertions and assess critically the information and explanations obtained in the course of their work. They also need to seek to understand management motivations for possible misstatement of the financial statements, investigate the nature and cause of deviations or misstatements previously identified and avoid jumping to conclusions without appropriate audit evidence, be alert for inconsistent evidence and have the confidence to challenge management and the persistence to follow things through to a conclusion.

The International Auditing and Assurance Standards Board's (IAASB's) International Standard on Auditing (ISA), for example, defines professional scepticism as "*an attitude that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence*" (IAASB, 2000).

Another factor affecting auditors' implication of professional scepticism is time. Professional scepticism is a cognitively demanding and time-consuming process. Two recent studies examined the effect of workload on auditors' professional scepticism; Brazel et al, 2015 found that workload and time pressure do affect professional scepticism. In Persellin et al's (2018) study auditors indicate that workload often exceeds

the point which they believe audit quality starts to suffer mainly because of deadlines and staffing shortage which affect an auditor's judgment and consequently reduces their professional scepticism.

As noted earlier in the chapter regulators and standard-setters have acknowledged the importance of professional scepticism to audit quality after a set of business scandals. For instance, following the collapse of one of the big five global audit companies, Arthur Andersen in 2001, the financial banking crisis in 2007-2008 (Francis, 2004; Sikka, 2009) and more recent business failures such as BHS which led to the reprimand of PwC by the FRC in 2018. If auditing standards are considered then there is some degree of inconsistency in defining professional scepticism but there is almost always an agreement on two main components, a questioning mindset and critical assessment of evidence. For example, the International Standard Audit (ISA200.13) for UK and Ireland defines professional scepticism as "*an attitude that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence*" (ISA 200, 2009). Similarly, the AU Section 230 ('*Professional Skepticism*' 230:0.7-0.9) defines professional scepticism as "*... an attitude that includes a questioning mind and a critical assessment of audit evidence*" (PCAOB, 2010). The regulators' definitions are consistent with the definition of the presumptive doubt approach in the academic literature where auditors approach the audit engagement not neglecting the fact that misstatement and fraud might exist (Nelson, 2009).

Regulators and standard setters share the same concept of professional scepticism. According to audit standards, professional scepticism "requires an ongoing questioning" (AU Section 316.13) and a sceptical auditor is the one who "*neither assumes that management is dishonest nor assumes unquestioned honesty*" (AU Section 230.09) (AICPA 1997, p.1614). The International Audit and Assurance Board (IAASB) defines professional scepticism as

*"an attitude that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence"* (IAASB 2012, p.3).

Furthermore, standards of due professional care define professional scepticism as "an attitude that includes a questioning mind and a critical assessment of audit evidence"

(AU 230.07) (AICPA, 1997). Although there is some disagreement among regulators, practitioners and academics on how professional scepticism should be exercised in practice, they agree that it is a requisite ingredient in applying due professional care (Nickell, 2012).

In the UK the regulators' attention to professional scepticism was clear through the efforts of the Financial Reporting Council (FRC) in response to concerns regarding the application and reinforcement of professional scepticism in auditing. In 2010, the FRC released a discussion paper titled "Auditor Scepticism: Raising the Bar". This paper was followed by a feedback paper which summarised the comments received on their paper and was published in March 2011. In that paper it was highlighted that the Audit Practices Board (APB) states that they do not accept that the auditor's role is limited to ensuring that management have appropriate evidence to support its assertions which eliminate the neutral approach to professional scepticism completely and the term "inquiring mind" appeared. Subsequent to this, the FRC published a paper in March 2012 on 'Professional Scepticism: Establishing a Common Understanding and Reaffirming its Central Role in Delivering Audit Quality 'Briefing paper'.

Regulators emphasise the application of professional scepticism within certain aspects of the organisation's finance. The Financial Services Authority (FSA) and the Financial Reporting Council (FRC) issued a discussion paper in 2010 which questions whether the auditor has been sufficiently sceptical and has paid sufficient attention to indicators of management bias, particularly when examining key areas of financial accounting that depend on management judgement (APB, 2010; European Commission, 2010; FRC, 2010).

Moreover, the Auditing Practices Board, (2010) discussion paper 'Auditors Scepticism: Rising the Bar' states that 'to understand the practical application of scepticism it may therefore be helpful to view it as being applied by auditors on a 'sliding scale' where the intensity of their scrutiny and challenge reflects both the auditor's initial mindset and their response to audit findings' (APB, 2010, p. 5). According to the FRC, the concept of professional scepticism has two elements: an initial mindset of the auditor, and a 'sliding scale' of auditors' professional scepticism action in response to audit findings. The feedback paper on the (Auditor Scepticism: Raising the Bar in 2010) defined some actions that the FRC want to consider and one of the key actions was to

establish a consistent understanding of the nature of professional scepticism and its role in the conduct of an audit.

Recently there were updates on the International Auditing Standards that reflect a more presumptive doubt approach to professional scepticism. For instance, the International Standard on Auditing ISA (UK and Ireland) 200 states *‘The auditor shall plan and perform an audit with professional skepticism recognising that circumstances may exist that cause the financial statements to be materially misstated’* (FRC, 2009a, p.8). This statement was reinforced by ISA (UK and Ireland) 240 that states *“the auditor shall maintain professional skepticism throughout the audit, recognising the possibility that a material misstatement due to fraud could exist, notwithstanding the auditor’s past experience of the honesty and integrity of the entity’s management and those charged with governance”* (FRC, 2009b, p.159). It is clear that the standards enforce a more presumptive doubt approach knowing that the previous experiences that the auditor has with the auditee’s management cannot be neglected, but shall not affect the auditor’s initial mindset.

Recently there has been a shift in regulators approach to professional scepticism by requesting auditors to actively challenge management from a stakeholder perspective in order exercise professional scepticism (European Commission, 2010) rather than approaching audit with previous presumptions about the management and their reliability (PCAOB, 2010). For instance, the FRC (2016, p. 15), in their response to the IAASB invitation to comment, “Enhancing Audit Quality in the Public Interest: A Focus on Professional Scepticism, Quality Control and Group Audits”, suggests that the definition of professional scepticism must be expanded to include indicators for the robustness of the auditors evaluation of management assertions, not only a questioning mind. In addition, auditors should be “open minded, probing and proactive” about the potential misstatements. Besides being critical of the evidence that the auditee presents, auditors need to robustly challenge them through comparison with other evidence.

## **2.8 Professional Scepticism: Trait, State or Both**

In order to understand what influences professional scepticism and how auditors’ levels of professional scepticism may be improved upon, scholars suggest that sceptical behaviour is influenced by both individual personality traits, as well as situational

“state” factors (Hurtt, 2010; Nelson, 2009; Robinson, 2011; Bryman and Bell, 2015). The following section illustrates the previous research on professional scepticism traits and states in order to create a better understanding of the concept.

There are conflicting views of whether professional scepticism is the opposite of trust or not. Hurtt et al. (2013) developed an input/output model of professional scepticism in which they rely on a more neutral view than the Nelson (2009) presumptive doubt perspective. This multifaceted view of professional scepticism builds on the assumption that auditors’ professional scepticism consists of two components first, scepticism as a trait of the individual auditor and, second, scepticism due to the situation (Hurtt, 2010).

Professional scepticism has been examined both as a personality trait that is established before the formal audit experience and training have commenced, and also as a situationally induced aspect (Popova, 2012). It is suggested that individuals differ in trait scepticism as a result of their personal life experiences, attitudes and personality traits. Similar suggestions are made by both the psychology and accounting literature (Kee and Knox, 1970; Kramer, 1999; Libby and Luft, 1993; Nelson, 2009; Hurtt, 2010). Trait professional scepticism is a concept that is influenced by a variety of personal, task and situational factors. However, trait scepticism is the enduring personal characteristic that is unaffected by a firm’s environment (Hurtt, 2010, Elias and Farag, 2015). It is an enduring aspect of individual psychology Hurtt (2010) distinguished between ‘trait’ and ‘state’ professional scepticism where the former is an enduring psychological characteristic that is typically stable, while the latter is a temporary condition that changes depending on various circumstances during the audit (Farag and Elias, 2012).

In psychology literature there are two perspectives on behaviour influences: dispositional (trait) view and situational (state) view (Robinson et al., 2013). Professional scepticism is a concept that is related to human behaviour and consists of both traits and states. Professional scepticism has been always measured by some components like trust (Choo & Tan 2000), independence (Kadous, 2000) or suspicion (Shaub and Lawrence 1996). In most studies, those tools are borrowed from other disciplines like psychology. However, there are very few that have been developed in an experimental setting (e.g., (McMillan and White, 1993; Robertson, 2010). Prior to Hurtt’s (2010) scale, all studies measured professional scepticism without the identification of trait or state scepticism. Hurtt’s (2010) development of a scale (Hurtt's

Professional Scepticism Scale, or (HPSS) helps in developing a better understanding of the various components of trait scepticism and then relates it to state factors.

### **Trait**

Traits are the 'core of personality' (McCrae et al., 1996; Church, 2000; Buss et al., 1989) and consist of individual differences in thoughts, feelings, and behaviour. Traits are stable personality characteristics, where states are temporary and context-dependent. They develop slowly over time and can be difficult to change (McCrae et al., 1996; Church, 2000; Robinson et al., 2013). Hammersley (2011) argues that individual differences and personality traits are critical predictors of performance, especially during unstructured fraud-related tasks. According to scholars, auditors' personal characteristics are considered the key determinants of audit quality (Griffith et al., 2012).

Hurt (2010) explains that professional scepticism based on auditing standards and psychology, and according to the audit work environment, is a set of traits. Traits are defined as an auditor's non-knowledge attributes that can influence professional scepticism (Nelson, 2009) like a questioning mind, suspension of judgment, searching for knowledge, interpersonal understanding, self-determination and self-confidence (Hurt, 2010; Glover and Prawitt, 2013). Consistent with Libby and Luft (1993), Nelson views traits as individual characteristics that are stable by the time an auditor commences audit training and practice.

According to Nelson's (2009) model of professional scepticism (Figure 2.2), traits constitute an important set of determinants of sceptical judgments and actions, along with incentives, knowledge, and audit experience and training. He defines three categories of traits related to professional scepticism: problem-solving ability, ethics/moral reasoning, and scepticism. Prior research in psychology has found that dispositional characteristics, or traits, influence judgments and decisions (Quadackers et al., 2014).

Hurt (2010) focuses on six traits that she extracted from previous literature and audit standards. Those traits are a questioning mind, suspension of judgment, searching for knowledge, interpersonal understanding, self-determination, and self-confidence (see

Table 2.2). Hurtt categorises them into three groups, with the first three traits related to the way an auditor examines evidence. These are a questioning mind, suspension of judgment and search for knowledge. The fourth characteristic is the interpersonal understanding which is related to the human side of the evidence evaluation. The final two traits are self-esteem and autonomy related to the auditor's reaction to information found. Each of these traits is discussed in detail in the following paragraph. The first trait is a questioning mind which refers to the attitude of an individual in relation to curiosity and interest (Hurtt, 2010), suspension of judgment, searching for knowledge, interpersonal understanding, self-determination, and self-confidence.

According to Nelson (2009), there are three categories of traits: problem-solving ability, moral reasoning (a decision process that is employed by individuals to judge which course of action is ethically or morally appropriate) and scepticism scale traits like HPSS. Glover and Prawitt (2014) characterised professional scepticism by questioning, careful observation, problem reflection, looking beyond the obvious and suspension of belief. However, having a certain level of traits does not mean that an individual will behave in exactly the same manner across a variety of situations (Hurtt and Thomas, 2008).

**Table 2.2 Professional Scepticism Traits**

<b>Professional Scepticism Traits</b>	<b>Nelson (2009)</b>	<b>Hurtt (2010)</b>	<b>Glover and Prawitt (2013)</b>
<i>Questioning mind</i>		✓	✓
<i>Searching for knowledge</i>		✓	✓
<i>Self-Esteem</i>		✓	✓
<i>Suspension of judgment</i>		✓	✓
<i>Self-determining (confidence)</i>	✓		✓
<i>Interpersonal understanding</i>		✓	✓
<i>Ethical predisposition</i>	✓		✓
<i>Ability to analyses and critically evaluate</i>			✓
<i>moral reasoning</i>			✓
<i>Autonomy</i>		✓	✓
<i>Problem-solving ability</i>	✓		✓
<i>Tendency to doubt</i>	✓		



The existing literature suggests that professional scepticism is a multifaceted aspect that combines both traits and state. However, the relation between the two aspects is not clear yet and needs further study (Robinson, 2011).

### **Hurtt Professional Scepticism Scale (HPSS)**

Based on traits, Hurtt (2010) developed a professional scepticism scale (Hereafter, HPSS) that consists of thirty items that measure the level of professional scepticism of an individual. The thirty items are based on the characteristics of individuals derived from auditing standards and psychological research (see: Appendix 1). Hurtt (2010) conducted experiments to build a rigorous and iterative scale validation process using students and professional auditors. The traits indicate the willingness of an auditor to search for sufficient audit evidence and to examine the evidence before making any decision (Hurtt and Thomas, 2008; Hurtt ,2010).

**Table 2.3 HPSS Analysed Traits (Sources: APB, 2010; Hurtt et al., 2013)**

<i>Factor</i>	<i>Underlying characteristics</i>
<i>Examination of evidence characteristics</i>	<ul style="list-style-type: none"> <li>• <i>Questioning mind – a sceptic questions everything even their own judgements.</i></li> <li>• <i>Suspension of judgement – sceptics want to see evidence before making conclusions; they are slow to form a judgement.</i></li> <li>• <i>Search for knowledge / curiosity - sceptics seek knowledge for its own sake.</i></li> </ul>
<i>Understanding evidence providers</i>	<ul style="list-style-type: none"> <li>• <i>Interpersonal understanding – understanding people's motivation and behaviour is a fundamental requirement in scepticism.</i></li> </ul>
<i>Characteristics to act on the information</i>	<ul style="list-style-type: none"> <li>• <i>Self-confidence – the propensity to challenge assumptions.</i></li> <li>• <i>Self-determination – an auditor must individually decide when a sufficient level of information is obtained.</i></li> </ul>

HPSS focuses on traits of scepticism and identifies professional scepticism as a set of six traits: a questioning mind (probing and active questioning), suspension of judgment (keeping an open mind until evidence collected), search for knowledge (general curiosity), interpersonal understanding (considering auditee motivation, incentives, and attitudes), self-esteem (self-determination, convinced about the evidence), and autonomy (self-confidence, professional courage). The scale construction started with

220 questions in which she tested, piloted and carried out reliability tests to finally reach a short list of only thirty items. The scale aims to measure the level of scepticism by answering thirty items according to a six-degree scale. The scores can vary from 180 to 30 degrees (Nelson, 2009, Hurtt, 2010, Hurtt et.al, 2013 and Alwee et al., 2015).

Hurtt and others examined the scale in an online audit work paper review task and they found that the professional scepticism score was positively associated with the number of information search queries (Hurtt et al., 2008). Hurtt's professional scepticism trait theory and model was also applied in some European countries. For instance it was applied in the Netherlands by Quadackers et al. (2014) who tested it on 376 of the Big Four participants. They found it the highest explanatory power in predicting sceptical behaviour. Another study conducted by Germany by Yankova (2014) also validated the scale.

Moreover, this model have been applied to explore auditor behaviour and found that while less sceptical auditors may be better at identify factual errors, more sceptical auditors are better at identifying situations containing contradictory information and adopting a holistic view of evidence (Hurtt and Thomas, 2008). Acknowledging that both skills are valuable assumes that while less sceptical auditors focus on the details more, sceptical auditors are better at developing a coherent conceptualisation of evidence taken as a whole (Hurtt and Thomas, 2008). However the HPSS is a relatively new tool, but the number of analyses of students and professional subjects indicates that this scale has inter-item consistency and test-retest reliability (Quadackers et al., 2009).

## **State**

Previous research debated professional scepticism around whether it is a state or a trait. According to IAASB (2012) professional scepticism is fundamentally a mindset or an attitude that drives auditor behaviour to adopt a questioning approach when considering information and forming conclusions. In that regard, Robinson et al. (2013) states that behaviour represents an interaction between an individual's personality and the situations they are in and even core personality characteristics may change if situational influences are strong enough. Moreover, psychological literature suggests that judgments and decisions will be related to situational characteristics (Kee and Knox, 1970; Quadackers et al., 2014). Thus, the environmental and situational factors state is

a temporary condition that is stimulated by situational variables (Hurtt, 2010). Others see professional scepticism as a response to the audit circumstances with respect to the auditors-auditee relationship (Glover and Prawitt, 2014; Robinson et al., 2018).

States are temporal conditions that are created by situational circumstances and have substantially more impact on behaviour than traits (Nisbett, R. and Ross, 1991; Curtis and Taylor, 2009). Taking into consideration that situational factors impact state professional scepticism (Nelson, 2009) and the recommendation to have a state professional scepticism measure (Hurtt, 2010), there have been few attempts to measure state professional scepticism (see: Robinson, 2011; Robinson et al., 2013).

Robinson carried out a study to measure state professional scepticism and analyses some factors of the situational changes that auditors face like time pressure and goal framing. Studies like this examine the relationship between trait and state through some forms of auditor sceptical behaviour such as expanding audit testing, additional budget hours used and detecting contradictions in auditee provided evidence. Therefore, they might not be generalizable findings or measurements. However, Hurtt (2010) states that the understanding of professional scepticism will remain incomplete until issues of state professional scepticism and sceptical behaviours are addressed.

Although the concept of the trait has dominated personality research from the time of its origins, the concept of states was introduced in personality research some 30 years later (Steyer et al., 1999). In contrast to relatively stable and enduring personality traits, states are temporary conditions that can be influenced by situational or contextual circumstances. Latent state-trait theory (LST) offers a useful methodological tool for testing relationships between traits and states and posits that behaviour is dependent upon traits, situational context, and the interactions between persons and situations (Steyer et al., 1999).

Therefore, professional scepticism is a complexity of both traits and states where both regulators and practitioners need to understand and analyse those factors in order to be able to enhance professional scepticism. There are scholars who believe professional scepticism is a combination of both (see: Glover and Prawitt, 2013; Harding et al., 2015; Magdy and Rafik, 2016). Glover and Prawitt (2013, 2014) consider the ongoing

discussion is best served by considering professional scepticism as a combination of personal traits, knowledge, and skill.

After discussing the concept of professional scepticism and its components, there is a need to understand how it is incorporated in the auditor's decision-making process. The following section focuses on professional decision-making and scepticism in the audit context.

Professional scepticism has been under the spotlight for long time, particularly since the global financial crisis of 2008. There is an ongoing discussion on the concept in international accounting agencies like the IAASB where auditors' professional scepticism is under scrutiny. From the literature there is still no consensus on the approach or type of scepticism that auditors need to apply. Additionally, previous scholars investigated the concept in order to reach a common understanding. In doing so, various tools were applied and one of the most common and accepted instruments is Hurtt's (2010) HPSS. It proved to be a reliable tool in measuring trait professional scepticism and has been adopted by various researchers (see (Olsen et al., 2015; Quadackers et al., 2014).

## **2.9 Moral Reasoning**

In today's business environment, moral reasoning is an important topic that is continuously debated. Auditors are always challenged by ethical dilemmas and this may continue since 'current and future business leaders are products of business schools, which often teaches that money always comes before ethics' (Koestenbaum et al., 2005). Therefore, auditors should be individuals with special characteristics and personal traits that help them to face the challenge of moral dilemmas and dealing with situations that require higher professional scepticism.

A significant number of major financial scandals – for example, Enron, Arthur Andersen and WorldCom in the early 2000s, the 2008-banking crisis, followed by major recent scandals in the UK including Carillion Group and Patisserie Valerie - have raised fundamental questions about the role of auditors. Accusations of violations of public trust have led to regulators interventions and the issuing of new regulations; for example, Sarbanes-Oxley in 2002 or guidance contained within the FRC's (2008) report

‘Audit Quality Framework’ designed to restore the public trust in auditing (Riel and Tano, 2014). Researchers have concluded that in many of these well-publicised cases individual auditor misconduct in some form is central (Chawla et al., 2015). Thus, there are increasing claims that it is reasonable to think auditors are caught in an ethical crisis. It is therefore important to have a deeper understanding of auditors’ ethics and moral reasoning.

The following sections review previous moral reasoning research within the audit field and also reviews theoretical aspects of moral reasoning. Section 2.10 provides a contextual discussion of morality and audit. One of the principal theories in moral development is Kohlberg’s Cognitive Moral Development (CMD) theory and this is discussed in section 2.11. In section 2.12 Kohlberg's theory is critiqued and, section 2.13 sets out Rest’s developments to Kohlberg’s theory including Rest’s (1979) Defining Issues Test (DIT) for measuring moral development. Thorne (2000) further developed Rest’s DIT to ensure its suitability for use in an auditing context. It is a key auditing-moral reasoning study and section 2.14 focuses on this and the AEDI scale. Section 2.15 reviews prior studies on moral reasoning in auditing that have drawn almost exclusively on Kohlberg and Rest, and section 2.16 summarises and concludes the chapter.

## **2.10 Morality in Audit**

Morality as a concept arises from the social conditions that surround the individual. People live within groups; therefore, what one person does can affect others. Thus, reflecting on the audit industry, auditors are there to protect the public interest and avoid misconduct and they need to create a cooperative and coordinated activity that helps them act ethically and avoid unwanted situations (Rest, 1986b).

Rest (1986b) defines morality as the function to provide basic guidance in order to increase the mutual benefits and settle any conflicts of interest among a group of people. It provides the first principle of social organisation and offers guidelines for defining how to distribute the benefits and burdens of cooperative living. A moral system is the function when all participants in a society know what governs their interaction, their interests are taken into consideration and they are supporting the system, since it is optimizing the benefits of living together (Rest, 1986b, p. 2).

Moral decision-making depends on interactions between personal characteristics and situational factors like incentives (Trevino, 1986). It is critical for auditors to align their mindsets and behaviours with morals because a lack of integrity and objectivity can expose the audit quality and lead to considerable reputational damage for the whole profession as in the incident of Arthur Andersen (Yankova, 2014) and the recent crisis of Patisserie Valerie. However, the audit environment is complex as auditors have to interact with various stakeholders such as individuals, entities and organisations and work to fulfil their expectations in carrying out auditing practices (Chan and Leung, 2006).

Most of the accounting moral development studies has been built on the work of Kohlberg, Rest and Thorne (Money, 2019). Kohlberg established a moral cognitive development theory which states that moral development has six stages that are grouped under three main categories, pre-conventional, conventional, and post-conventional. Individuals at the pre-conventional stage respond to moral dilemmas based on self-interest. At the conventional stage, they respond based on maintained social norms compared to the post-conventional stage where they respond based on their own developed moral compass and internalised difference between right and wrong. According to Kohlberg, the movement of the individual from one stage to another depends on their maturity. It is based on their experiences, cognitive dissonance with the dilemma and their current level of moral reasoning. Kohlberg is reviewed fully in the next section.

### **2.11 Kohlberg's Cognitive Moral Development (CMD)**

Kohlberg's Cognitive Moral Development theory (CMD) is a well-known and widely accepted and tested theory of moral reasoning. It is among the most cited works in contemporary behavioural science (Fleming et al., 2009; Shaub, 1996, 1989; Thorne, 2000; Trevino et al., 1992, 2006). His CMD theory is a prominent theory that brought morality into focus in psychology (Snarey and Samuelson, 2015). An important feature of Kohlberg's model is that it focuses on the process of moral reasoning rather than the outcome (Tully and Ponemon, 1990). Piaget (1932) was the first who articulated the concept of moral development in his monograph "The Moral Judgment of a Child" (Mintchik and Farmer, 2009). However, the modern theory of CMD bears the name of

Lawrence Kohlberg (Kohlberg and Armon, 1984), who expanded Piaget's idea into adolescent and adult reasoning. It is known for the three aspects of moral formation: moral stages, types and atmosphere, and its three methods of moral education: moral examples, dilemma discussions and Just Community Schools.

Cognitive moral development (CMD) is one of the most frequently used frameworks in business ethics research (Mintchik and Farmer, 2009). Moral judgment is contingent on an individual's beliefs in the existence of universal moral rules and in the ability to forecast outcomes of certain actions (Davis et al., 2001; Forsyth et al., 1980). When we categorise people according to their moral philosophies, we evaluate their conscious attitude toward ethical behaviour. Kohlberg's CMD (Cognitive moral Development) operates on the deeper, subconscious level of human psyche. An ethical value system considers ethical judgment along with ethical behaviour. CMD focuses on the moral thought process, assessing how individuals think about an ethical dilemma. There are other moral development models within psychology (Gilligan, 1982; Modgil and Modgil, 1985) but Kohlberg clearly dominates in organisational settings (Thorne, 2000) and it is the most popular approach in accounting research on ethics (Gaudine and Thorne, 2001, Thorne 2000, Thorne and Hartwick, 2001, Thorne et al, 2003, Tsui and Gul, 1996).

Moral reasoning is complicated by the difficulties in recognising its influential factors and its various measurements used among research and theoretical models (Hurt et al., 2013) but Kohlberg's theory provides the most common and applicable concept in moral development studies. Kohlberg's work was motivated by and built upon the work of Jean Piaget who is famous for his work on cognitive development. Kohlberg's theory comprised of both cognitive and developmental arguments where the cognitive argument is that morality stems from moral reasoning structures or the rationale individuals generate to motivate their moral or immoral actions (Reynolds et al., 2014). On the development side, Kohlberg's theory provides a moral reasoning structure where an individual's rationale progresses and rises in an irreversible sequence to a higher and preferable stage of judgment (Kohlberg, 1973, p. 630). According to Kohlberg (1969) the essential structure of morality that outlines each stage is 'justice'. Justice represents the distribution of rights and duties, and it is this concept that raises each stage of the

CMD model above the other. In other words, the higher the moral reasoning level, the more equitable or fair the solutions offered to the ethical dilemma (Rest, 1986a).

The CMD theory defines six stages in which individuals develop their morality and then groups them into three levels of moral reasoning (Table 3.1). The three levels of the CMD are first, the 'pre-conventional', when ethical judgments are based on consequences. Moral reasoning and behaviour at this level are guided by the consequent immediate costs (punishment) or benefits (self-interest) at issue. Then, the 'conventional' level where ethical judgments are based on others' expectations and dictated by rules and laws. The striving for approval, establishment of stable relationships, and obeying of established societal norms are the driving forces behind moral reasoning and action at this level. Third is the post-conventional, where the overriding ethical principles are the base of ethical judgment (Kohlberg, 1976). At this level, moral reasoning and behaviour are guided by individual principles of conscience and idealism rather than *de facto* norms (Kohlberg and Gilligan, 1971; Rest and Narvaez, 1994) (see Table 2.4).

**Table 2.4 Kohlberg's Six Stages of Moral Reasoning (Source: Trevino, 1986, p. 605)**

<b>Stage</b>		<b>What is considered to be right</b>
<b>Pre-Conventional</b>		
Level 1: Pre-Conventional	Stage 1: Obedience and punishment orientation	Sticking to rules to avoid physical punishment. Obedience for its own sake.
	Stage 2: Instrumental purpose and exchange	Following rules only when it is in one's interest. Right is an equal exchange, a fair deal.
<b>Conventional</b>		
Level 2: Conventional	Stage 3: Interpersonal accord, conformity, mutual expectations	Stereotypical 'good' behaviour. Living up what is expected by people close to you.
	Stage 4: Social accord and system maintenance.	Fulfilling duties and obligations to which you have agreed. Upholding laws except in extreme cases where they conflict with fixed social duties. Contributing to the society, group.
<b>Post-Conventional</b>		
Level 3: Post- Conventional	Stage 5: Social Contract and individual rights	Being aware that people hold a variety of values; that rules are relative to the group. Upholding rules because they are the social contact. Upholding nonrelative values and rights regardless of majority opinion.
	Stage 6: Universal ethical principles	Following self-chosen ethical principles. When laws violate these principles, act in accord with principles.



At the pre-conventional levels, individuals do right by focusing only on the self without regard for others. For individuals at the conventional level, the focus is on one's personal relationship to others in society. At the post-conventional level of ethical development, an individual follows their own self-chosen principles to guide judgment in order to be morally right (Kohlberg, 1969, Rest 1986). According to this model, an individual formulates ethical judgments depending on which stage they are at with respect to the different levels of socio-moral development.

Over a lifetime, individuals proceed upwardly along those levels, but not every person reaches the highest dimensions of moral development. According to Modgil and Modgil (1985, p. 422) stages 1 to 4 are developmental stages while stages 5 and 6 are viewed as a second-order thinking on morality. These two stages represent a meta-moral thinking mode that is only possible through higher education. It was relabelled by Gibbs as a "theory-defining level of discourse" (Modgil and Modgil, 1985, p. 423). Auditors' ethics are only internalised at this stage.

The differentiation in moral reasoning and complexity of the concerns and argument increases in this progressive development (Yankova, 2014). Thus, in confronting a conflict situation that requires ethical judgments, individuals would usually invoke their basic conceptions of social cooperation and notions of fairness in judging what is right or wrong (Tsui, 1996).

In the methodological aspect of the theory, Kohlberg used moral dilemma interviews as his research tool in which he discussed nine dilemmas with participants to study their responses to the dilemmas (Colby and Kohlberg, 1987; Kohlberg, 1976). Kohlberg's model of moral stage development illustrates an evolution in moral reasoning to a greater complexity and adequacy. Those stages represent actual cognitive-development stages in an evolving structure of the social-moral brain rather than virtual models of reasoning or moral ideals (Snarey and Samuelson, 2015, p. 65). His findings support the proposition that there are differences among individuals in the degree that they look within themselves or the situation to determine appropriate behaviour (Elm and Nichols, 1993).

According to Kohlberg's (1976a) cognitive-development approach, moral reasoning develops through the stages with age and higher education levels, at least to a certain

point in the development process. Kohlberg (1976a, p. 32) states “there is a parallelism between an individual's logical stage and his moral stage”. This means that the individual must progress to a certain logical stage in order to progress to a corresponding moral stage. For instance, people that are logically in the concrete operational stage cannot be expected to have progressed past the pre-conventional level of moral development. However, people who are logically formally operational may potentially be only conventional in their moral reasoning (Shaub, 1989, p. 34). Therefore, the core of Kohlberg's approach is that an individual needs to progress to a certain level of logic in order to advance to an equivalent moral stage (Kohlberg, 1976).

The operational stage, according to (Kohlberg, 1976, pp. 31–32), occurs in adolescence where “many but not all individuals enter the stage of formal operations, at which level they can reason abstractly. Formal operational thinking can consider all possibilities, consider the relations between elements in a system, form hypotheses, deduce implications from the hypotheses, and test them against reality. Many adolescents and adults only partially attain the stage of formal operations; they consider all the actual relations of one thing to another at the same time, but do not consider all possibilities and do not form abstract hypotheses.”

Additionally, Kohlberg states that individuals have identifiable cognitive skill levels that they use to resolve moral reasoning. Those skills are developed over time as a result of their education and social exposure through their maturing from childhood to adulthood (Kohlberg and Hersh, 1977; Rest, 1979). Although Kohlberg's theory is very commonly cited, there is some criticism that is explored in the following section.

## 2.12 Kohlberg Critiques

Although Kohlberg is identified as the founder of moral psychology (Snarey and Samuelson, 2015), there are other scholars who have critiqued Kohlberg's work. Kohlberg is accused of not having a fully comprehensive theory of morality or moral development, and for “*focusing on justice; using a few unrepresentative hypothetical dilemmas; claiming universality on the basis of studying a very limited sector of humanity*” (Rest et al., 2000, p. 384). His theory has been criticised on both theoretical and methodological grounds (see: Gilligan, 1982; Lyons, 1983; Trevino et al., 1992). Specific criticisms range from challenges of normative-ethical, cross-cultural claims to

arguments that the theory and method are gender-biased and fail to adequately describe and document a theoretically complete conception of the moral domain.

One of the more controversial points in Kohlberg theory is gender. Gilligan (1982) was the first to suggest that Kohlberg's moral development model was biased on a more masculine-oriented justice morality at the expense of a more feminine moral perspective that is characterised by a morality of care and responsibility. Previous scholars (Garmon et al., 1996; Jaffe and Hyde, 2000) contend that women tend to apply more care-related concerns in their moral justifications. Gilligan (1982) identifies that a moral orientation of care is qualitatively different from the orientation of justice that dominates Kohlberg's model, and concluded that care was reducible to justice in his model.

Those claims were rejected by Walker's (1984) critical review in which he identified only few inconsistent sex differences in childhood and adolescence in previous studies. Few studies found evidence of higher moral development in males but the sex differences were compounded with other differences in education level and occupation. Walker (1984) used a meta-analysis that supports his conclusion of insignificant sex differences in moral reasoning. In addition to that, there are other studies which found that any developmental differences are more situational rather than reflecting a gender bias (Thoma, 1986). There are also studies that found that there is no substantial bias against women (Brabeck and Shore, 2002).

Furthermore, Kohlberg identified a morality developmental pattern, but he did not elaborate on the connection between his conceptualisation of moral development and an understanding of relationships as in Gilligan's theory (Lyons, 1983). Moreover, Kohlberg's coding scheme focuses on analysing moral judgment and not the construction, resolution, and evaluation of moral choices, or considerations other than judgments in the resolution of conflict. Additionally, it does not deal with real-life data and focuses on hypothetical moral dilemma data (Lyons, 1983).

Another limitation of Kohlberg's model that its test of moral judgment is limited to cognitions rather than behaviour. It focuses more on "how individuals think about moral dilemmas" not on "what they would actually do in a particular decision situation" (Trevino, 1986, p. 609). Research indicates that there is a moderate relationship between thought and action. Moral judgment is a necessary but not sufficient condition

for moral behaviour such as honesty, altruism, and resistance to temptation (Trevino, 1986). Additionally, Blasi's (1980) critical review on moral cognition and moral action literature found that: (a) moral reasoning is important but does not explain delinquent behaviour; (b) less support for the higher stage individuals being more honest and altruistic; and (c) weak support for post-conventional level individuals being more likely to resist social pressure to adapt their moral action.

Moreover, scholars critique Kohlberg for his method of scoring the interviews. Many found it difficult to score the reasoning of the interview participants and some participants blindly score in stages 4 or 5 and they suggest it might be culturally sensitive (Snarey, 1985). Therefore, the mechanism of scoring is complex and challenging (Modgil and Modgil, 1985). It is biased towards reasoning with an individualistic rather than collectivist content.

Kohlberg and other scholars' reply to the claims is that there is no sexual, cross-cultural, or ideological bias to the CMD theory. They emphasise that Kohlberg's model reflects the potential evolution of moral reasoning into complexity and adequacy. It represents a cognitive-development of morality in the evolving structure of the social-moral brain (Kohlberg et al., 1983). Snarey and Samuelson (2015) state that Kohlberg believed that an enculturation approach leaves one open to ethical relativity and he did not want to base his approach on socially relative virtues.

In addition, a great number of studies tested Kohlberg's model and the results validated its use in assessing individual moral reasoning (see: Rest and Deemer, 1986; Rest, 1979; Thoma, 1986). Moreover, several published research studies support stage validity (see: Colby and Kohlberg, 1987; Dawson, 2002), cross-cultural universality (see: Snarey, 1985), moral action applicability (see: Blasi, 1980), gender inclusiveness and care not being reducible to justice (see: Walker, 1984) (Snarey and Samuelson, 2015). Additionally, Bailey et al. (2010) found that the methodological concerns on Kohlberg's study are resolved by its implications and its measurement tool, the Defining Issues Test (DIT), developed by Rest (1979) (Rest and Narvaez, 1986). The increasing use of the DIT and its validation and consistence with the theory is confirming its objectiveness in measuring moral reasoning (Further illustrated in section 2.13.1).

### 2.13 Rest's Moral Action Model

Rest based his work on Kohlberg's CMD theory and came up with a model of ethical action that depends on the cognitive-development perspective where morality is an individual's cognitive conception of what is good or right (Thorne and Saunders, 2002). Rest's model (1986) is an often cited model of ethical decision-making (Bobek et al., 2015; Hurtt et al., 2013; Mcdevitt et al., 2007; Trevino et al., 2006; Tsui, 1996) which proposes that the psychology of morality is comprised of four component processes called the Moral Action Model stages as illustrated in (Table 2.5).

According to Rest's (1986) model of moral action there are four components to examine the development of individual moral thought processes and behaviour. He posited that to behave morally, an individual must have performed beforehand at least four basic psychological processes: (1) moral sensitivity, where the individual interprets the situation to understanding the situation or dilemma effects the wellbeing of others; (2) moral judgment, after identifying the dilemma the person evaluates the expected outcomes and reaches an ethical judgment, where they judge which action is morally right or wrong. Then, (3) moral motivation, where the prioritising of moral values in relation to other values take place and intentions are clear; and finally, (4) moral action by having courage, persisting, overcoming distractions, in order to carry out the moral action (Chan and Leung, 2006).

**Table 2.5 Rest's Moral Action Model**

Stage	Description
1. Moral Sensitivity	The ability to identify if the situation is moral and the various actions possible to be taken and how they affect the person and others.
2. Moral judgment	Represents the ability to judge which available action is most moral.
3. Moral Motivation	To put the moral course of action first regardless of the action impact, and the career pressures and influence on existing relationships.
4. Moral action	Implementing the chosen moral action.

According to Rest (1986), the four components are not in a temporal order of occurrence, but rather they comprise a logical analysis of what is needed to behave morally. Therefore, an individual's way of defining what is morally right in the moral

judgment phase may affect that individual's interpretation of the situation (moral sensitivity).

As noted by Jones (1991), most studies are concentrated on either the second or fourth component (judgment or action), or the interaction between the two. Originally, Rest's model was conceived to explain the behaviour of students. Subsequent researchers (like Jones, 1991 and Cohen et al., 2007) have built on Rest's model to incorporate other factors that can affect moral judgment or action in professional settings. Jones (1991) states that moral judgments made in the cognitions stage are moderated by individual or situational factors. Individual factors such as ego strength, field dependence, locus of control (Jones, 1991a), knowledge, values, attitudes, intentions (Ferrell and Gresham, 1985) and individual's innate sense of fairness (Cohen et al., 2007), as well as situational factors like organisational culture, characteristics of the work, significant others and opportunity (Ferrell and Gresham, 1985).

In Rest model, ethical behaviour can succeed or fail at any time because each stage is distinct. There is a fundamental weakness in the Rest model in the effects of moral intensity on all stages of the model, especially in the first two. Moral intensity is defined as "*a construct that captures the extent of issue related moral imperative in a situation*" (Chawla et al., 2015).

### **Defining Issues Test (DIT)**

DIT (Rest, 1979) is reported to be an exceptionally well validated and reliable measure of moral reasoning. Rest incorporated the main ideas of Kohlberg's moral judgment methodology into an instrument called the Defining Issues Test (DIT) (Rest, 1979) that assesses moral reasoning that an individual is capable of on a sophisticated level which is called cognitive moral capacity according to Thorne (2000). Rest's DIT is used to measure the moral reasoning of participants and can be administered and scored relatively easy (Jones, 1991a). The result of the DIT was used for the development of research suggesting that there is a positive relationship between cognitive moral development and ethical decision-making. The stage of moral development can be used to predict or explain an individual's behaviour (Thorne, 1997, Rest, 1986).

DIT uses humanitarian dilemmas in which the participants choose their preferred resolution from twelve suggestions and then rank four of them. Four suggestions are

related to the post-conventional level of moral reasoning and called “principle items for consideration”. The individual score then depends on the number of principled items the individual picked from the list and the assigned rank of importance they give to them.

DIT is a popular instrument in business and accounting ethics since it is easy to use. Thorne (2000) states that DIT assesses cognitive moral capacity rather than actual moral reasoning. Jones 1991 demonstrates that ethical judgment is context-specific and therefore high cognitive moral capacity does not transform automatically into high moral reasoning on actual ethical dilemmas in professional settings (Thorne, 2000). Most researchers agree that accounting-specific instruments can mitigate potential political influences (Sweeney, J.T. and Fisher, 1999, p. 71). Thorne 2000 developed an instrument that is uses the same scoring principle as DIT but with accounting-specific dilemmas for the decision-making context his is discussed later in the chapter (section 2.14).

The DIT is a standardised, validated psychometric test that intends to provide quantitative scores for the moral judgment of participants. Rest (1986) developed two versions of the DIT, a six dilemmas version and a short form of the DIT that includes three moral dilemmas. The full version of the DIT instrument consists of six scenarios on general ethical dilemmas, some that were used by Kohlberg in his interviews (Rest, 1986a). Each scenario is followed by 12 questions designed for identifying different schemes of fairness. The participants choose an action, rank twelve issues according to the importance in determining their choice of action, and then select four issues from the twelve that have the greatest influence on their decision. However, the most used in the literature is the three dilemmas for its convenience and the time it needs to be completed.

Rest’s (1979) DIT is the most widely used assessment technique for studying moral judgment (Trevino et al., 1992). The DIT is a recognition task rather than a production task. It does not require the subject to produce responses to open-ended questions but rather presents the subject with six hypothetical moral dilemmas and, for each dilemma, a list of considerations for determining what is right. Participants rank the four most important considerations, and these are used to create a P-score. The measure shows how a participant approaches a moral dilemma by indicating the issues the subject

perceives as most important for decision-making. A high P-score indicates that the subject give more importance to principled considerations. A p-score is generated from the DIT according to the answers a participant gives. The DIT score is the most recognised and widely used measure of moral development and has been validated over 15 years (Abdolmohammadi and Sultan, 2002; Lord and DeZoort, 2001; Louwers et al., 1997). The p-score in the DIT is the sum of the responses related to the highest level of moral development (i.e., post-conventional level). The higher an individual's P-score, the higher the level of their moral development.

The reliability and validity of Rest's (1986) DIT is believed to be the evidence for the strength of the moral development cognitive theory. One of the fundamental validity traits in Kohlberg's theory was that numerous studies had shown stage-progression was age-related. Similarly, early research of the DIT supported its ability to measure moral development as a factor of cognitive maturation. Rest states that "*if a person remains skeptical on the point that there are age trends in moral judgment, it is doubtful that any finding in all of social science will be acceptable*" (Rest, 1986b, p. 29). Around 30 to 50 percent of the variance in DIT scores were accounted to age and education which supports the general theory of a cognitive basis for moral development (Rest, 1986, p. 176). Rest's Defining Issues Test overcomes the methodological criticism of Kohlberg's theory. Its scorings system indicated a very minor but stable gender effect that consistently favours women (Thoma, 1986). Early accounting ethical judgment studies used mainly Rest's (1986) Defining Issues Test (DIT) (Bernardi, 1994; Ponemon and Gabhart, 1994; Shaub, 1996; Tsui, 1996). The result is a DIT P-score that measures the importance of stages five and six of moral reasoning.

In summary, the DIT remains a strong and valid instrument, but it must also be recognised for its weakness as it assesses an individual's moral attitudes, which are not necessarily an indication of his or her competence in making a moral judgment (Desplaces et al., 2007; T. M. Jones, 1991). Additionally, it uses general social and humanitarian cases which led Thorne (2001) to develop an Accounting-Specific instrument.

#### **2.14 Accounting Ethical Dilemma Instrument (AEDI)**



There is mixed research evidence relating DIT scores to auditor decisions (Shaub and Lawrence, 1996; Lord and DeZoort, 2001). Auditors were found to display lower levels of DIT p-values than others who were similarly educated. They were found to be more conventional than post-conventional, but that might be due to the political bias of the DIT and auditors tending to be rules-oriented (Jones et al. 2003). Auditors' moral reasoning scores increase when assessed using a more auditing-specific instrument (Massey, 2002). In addition, there are other studies that identify an inverse relation between auditors' experience and moral development as measured by p-values (e.g., Ponemon 1988; 1992). However, later work found evidence that these results are caused by the research design, and instead auditors' moral development increases with time and firms tend to retain auditors with higher levels of moral development (Bernardi and Arnold, 2004).

Most moral development studies in auditing, found that auditors at higher stages of moral development are more sensitive to information on auditee competency and integrity (Ponemon, 1993; Ponemon and Gabhart, 1993). Moreover, auditors with high moral development are better at identifying potential inappropriate behaviour (Bernardi, 1994) and are unlikely to engage in one of those behaviours (Ponemon and Gabhart, 1993).

Much research in accounting uses the DIT in order to explore the moral reasoning of participants (Hurt and Thomas, 2008). Despite criticism, some researchers have found that the DIT does seem to measure changes in students' moral reasoning after taking ethics courses. Armstrong (1993) used DIT scores to measure changes in students' moral reasoning after they took an undergraduate course in ethics. She found that the DIT scores of students who had ethical training in addition to a single undergraduate course increased more than those who had taken only the single course. Early and Kelly (2004) used Thorne's (2000) AEDI and Rest et al.'s (1999) DIT to measure changes in students' moral reasoning after exposure to several different ethical educational projects and cases, and they found that these interventions appeared to have a positive impact.

According to researchers, moral reasoning is distinguished within an accounting framework from general moral reasoning (Billiot et al., 2012) therefore the general context scenarios of Rest's (DIT) are inadequate to measure auditors moral reasoning. Thus, Thorne (2000) recognised the need for an Accounting-Specific tool and developed

an Accounting Ethical Dilemma Instrument (AEDI) for assessing moral reasoning in audit-specific ethical dilemmas. Thorne (2000) generated both a four-scenario and a six-scenario version of the AEDI, and by testing them on large samples, both had comparable validity and reliability to the DIT. The four cases in the AEDI address audit-based ethical principles in the AICPA Code of Professional Conduct (AICPA, 2007), such as conflicts of interest, objectivity, due care, integrity, and confidentiality. The instrument contains nonsense items (“M” items) for each scenario used to check the internal validity of participant responses. Responses with M-Scores greater than 5 are considered to have insufficient internal validity which is within the typical 5 to 15 percent of subjects that fail the internal validity check in Rest’s (1979) DIT (Fleming et al., 2009).

Thorne built upon Rest’s and Kohlberg’s work and developed the Accounting Ethical Dilemma Instrument (AEDI). This instrument was developed by applying insights from cognitive developmental theory to moral issues (Kohlberg, 1979; Kohlberg and Armon, 1984; Kohlberg et al., 1983). It is used to measure moral reasoning using accounting scenarios. The results of Thorne’s work has been used in various studies to improve ethics education (Thorne, 1997, Early and Kelley, 2004). This instrument helped in measuring and enhancing the cognitive capability of accounting students. The implication of the results of the AEDI was that most students operated at the pre-conventional and conventional levels when making ethical decision (Thorne, 2001).

Thorne (2000) developed two versions of the AEDI for the two types of moral reasoning that Rest (1986, 1994) identified: prescriptive and deliberative moral reasoning. Perspective reasoning refers to a professional accountant's judgment formulation of their best resolution to an ethical dilemma. On the other hand, deliberate moral reasoning is analogous to an accountant's intention to exercise professional judgment to resolve an ethical dilemma. Each version of the instrument is identical to the other, except that each version prompts one particular aspect of accounting students’ moral decision processes. The prescriptive version of the accounting-specific DIT asks subjects to consider how the described accounting dilemmas ideally should be resolved while the deliberative version of the test asks subjects to consider how an accountant intends to act upon the dilemma (Thorne, 2001). Moreover, after testing the method it was found that the reliability and validity of the accounting-specific instrument equals or exceeds

the reliability and validity of the Defining Issues Test (DIT) of similar length (Thorne, 2000).

In a study conducted by Earley and Kelly (2004), auditing students were exposed to multiple educational interventions and two different instruments were used to measure moral reasoning. The results indicate that the educational interventions were effective at improving students' accounting-context moral reasoning when measured by Thorne's (2000) Accounting Ethical Dilemma Instrument (AEDI) (Billiot et al., 2012). In contrast, there was no increase in the DIT scores which measure general moral reasoning.

Massey and Magnan, in collaboration with Thorne (Thorne et al., 2003), investigated audit-specific ethical reasoning of Canadian and U.S. auditors. They found that the U.S. CPAs had significantly higher deliberative ethical reasoning than their Canadian counterparts. Fleming et al. (2009) compared U.S. accounting students' deliberative ethical reasoning scores on the AEDI to a version of the instrument adapted for the management accounting context, and found deliberative ethical reasoning to be higher in the audit context. Of special significance to the current study, Ge and Thomas (2008) also found that Canadian accounting students exhibited higher audit-specific deliberative ethical reasoning than Chinese accountants (Fleming et al., 2010). This all supports the validity and reliability of the method in previous research.

Fleming et al.'s (2010) study tested three audit-specific dilemmas (Thorne's, 2000) in order to assess the moral reasoning level between Chinese accounting students and experienced auditors. An American sample of accounting students was used for comparison from the work of Shaub (1996). The study found that Chinese accounting students' level of moral reasoning is lower than those of American students' in two cases with cultural attributes where it is slightly higher in the control case. Moreover, the Chinese auditors' level of moral reasoning is even lower than the Chinese students. Therefore, there are cross-national differences in levels of moral reasoning that depend on the nature of the ethical dilemma.

Taking into consideration that this research is using two instruments and will be used in lecture time to conduct the questionnaire, an instrument of three scenarios is used. By referring to the statistical principle that AEDI is based on Rest DIT (three scenarios),

these methods are usually affected by the shortening of the test which generally lowers the reliability and power of validity trends. However, Thorne (2001, p149) states that based on her testing of the instrument, “[t]here was no significant difference between subjects' instrument scores on the selected combination of four cases, as compared with the six case accounting-specific instrument for subjects assigned to either prescriptive or deliberative mode”. Additionally, there are studies that used the Rest DIT three scenarios version who found it feasible to reach the desired results (Song et al., 2014). This has been verified by other empirical research on moral judgment which attempted to use the longer version and ended up with 50% of their forms not fully completed due to the length and lack of time. (e.g., Desplaces et al., 2007).

Both instruments of Rest’s Defining Issues Test (DIT) and Thorne’s Accounting Ethical Dilemma Instrument (AEDI) have been subjected to criticism. According to Billiot et al. (2012), research reveals that past studies indicate the DIT only measures moral reasoning capability and not propensity toward actual ethical behaviour. This is a normal consequence that the AEDI is suffering from, and the same basic limitations of the DIT (Billiot et al., 2012).

The AEDI is unlike the DIT, which consists of universal humanitarian dilemmas and measures cognitive moral capacity, Thorne's instrument is context-specific and assesses accountants' moral reasoning by evaluating their responses to accounting related ethical issues. Thorne introduced two different versions of the instrument (prescriptive reasoning and deliberative reasoning) and provided evidence that the psychometric properties of her instrument are comparable or better than those of the DIT with the same number of cases.

Moral development is related to, but distinct from, perspective and deliberative reasoning (Rest, 1994). Moral development describes the most sophisticated cognitive moral structure an individual is capable of utilising and is not, theoretically, influenced by contextual factors (Rest, 1994). Perspective and deliberative reasoning describe the cognitive moral structure one individual applies to the resolution of a particular moral dilemma. According to Rest 1994, perspective reasoning involves considering what should ideally be done to resolve a particular moral dilemma, whereas deliberative reasoning involves formulating an intention to act on a particular moral dilemma

(Thorne et al., 2003). A more detailed explanation for this instrument is provided in chapter 4 section 4.3.

## **2.15 Previous Studies on Moral Reasoning and Audit**

Several studies have examined the accounting profession and the levels of moral reasoning and ethical developments of its professionals (see: Tull, 1982, Armstrong, 1984 and 1987, Ponemon, 1988 and 1990, Shaub 1989, Ponemon and Gabhart 1990, Ponemon and Glazer, 1990). Most of these studies report that professional accountants do not develop moral capacities in the same way compared with other individuals who have similar socioeconomic and educational backgrounds. For instance, Armstrong (1987) found that the CPA participants appear to have reached the moral maturation level of adults in general instead of maturing even to the level of college students and much less to the level of college graduates. In other words, their college education may not have raised their moral growth (Armstrong, 1987, p. 33).

Kohlberg's theory essentially measures the cognitive process of moral reasoning where it focuses on the cognitive decision-making process as to the reasons why individuals justify a particular ethical choice (Chang and Yen, 2007). Although moral dilemmas in business are complex (Gaa, 1992; Lampe and Finn, 1992; Rest, 1986b), prior research does suggest that individuals' moral reasoning may affect their decision-making in business settings (Ponemon, 1992; Ponemon and Gabhart, 1990; Tsui and Gul, 1996).

In auditing, most studies (see: Ponemon, 1992, Ponemon and Gabhart, 1990, Tsui, 1994) are concerned with either component (2) or (4) of Rest's framework, either on the judgment and action, or the interaction between these two components. Other researchers like Jones (1991) have built on Rest's model to incorporate other factors that might have an impact on moral judgment or action in professional settings, like the intensity of the ethical situation (Jones 1991), and the individual's intrinsic sense of fairness (Cohen et al., 2007). According to Shaub and Lawrence (1996), auditors' moral reasoning might affect various professional abilities like professional scepticism and their judgments on audit errors materiality (Ponemon and Gabhart, 1993).

There have been many studies conducted to explore auditors' moral reasoning (see Table 2.6) and most are based on Rest (1986). For instance, Shaub and Lawrence (1996) presented participants with audit situations of different risk levels and failed to find any relationship between ethical ideology and professional scepticism. Professional scepticism is considered as a function of “*ethical disposition, experience and situational factors*” (Shaub and Lawrence, 1996, p. 124). Professional scepticism was not specifically defined as a personality trait and therefore their results may not hold true in considering professional scepticism as a trait (Farag and Elias, 2012, p. 190). Ponemon (1988, 1990) studied accountants' morality at various position levels in public firms. His studies revealed a marked negative association between accountants' position level within the firm and their level of moral reasoning.

**Table 2.6 Previous Studies on Auditors' Moral Reasoning**

<b>Tsui,1996</b>	Auditors' Moral reasoning and ethical behaviour in US and Hong Kong using the DIT.
<b>Shaub and Lawrence, 1996</b>	<p>- Created a professional scepticism model that is based on three components assuming that auditors demonstrate greater professional scepticism when:</p> <p>1) Ethical Disposition:(greater idealism- lower relativism (Forsyth's 1980 Ethical Position Questionnaire)- greater concern with professional ethics (Shaub's 1989 five item measure with concern with professional ethics) and higher level of moral reasoning (Rest's 1986; DIT three-story version)</p> <p>2) greater previous accounting experience (years of public accounting- CPA certification)</p> <p>3) Encounter situational factors in which: there is high risk of irregularities occurring- auditee personnel trusted is a male</p> <p>Situational factors are 4 types:</p> <p>a- Opportunity ( Examined by measuring scepticism in five different situational scenarios: 1) Related party transaction-2)Close personal auditor-audited friendship 3)Auditee is important for the audit office 4)auditee has fees significant or power over the audit firm 5) short auditor-audited relationship</p> <p>b- Motivation measure scepticism in a situation where the audit is under financial distress as a result of unsound prior business decision that indicates going concern problems.</p> <p>c- attitude: two different situations used to measure auditors scepticism: 1)historical inaccuracies in the auditee's inventory. 2)auditee- auditor communication is poor</p> <p>d- Gender: accounting context indicates that women are more ethical</p>
<b>Thorne, 2000</b>	<p>Developed measurements for accountants two types of moral reasoning (Rest):</p> <p>1- Prescriptive moral reasoning: refers to an accountant's formulating their professional judgment of the ideal resolution to an ethical dilemma.</p> <p>2- Deliberative moral reasoning: means accountants intention to exercise professional judgement to solve an ethical dilemma.</p> <p>Used DIT and found that accountants do not use their cognitive moral capacity therefore an Accounting-Specific measures of moral reasoning are recommended. She created the Accounting Ethical Dilemma Instrument which is a scenario based questionnaire.</p> <p>DIT (consists of universal humanitarian dilemmas and measures cognitive moral capacity) and AEDI is different since it is context specific and assesses accountants moral reasoning using accounting related ethical issues.</p>
<b>Jones, Massey and Thorne, 2003</b>	Prepared a paper that synthesizes empirical researches on auditors' moral reasoning within a framework that considers cognitive development, individual characteristics and contextual factors.

<b>Mintchik and Farmer, 2009</b>	Looks for the associations between Epistemological Beliefs (Schommer 1990 questionnaire that request subjects to evaluate 63 statements about the nature of knowledge and learning using a five-point scale from one (strongly agree) to five (strongly disagree) and Moral Reasoning: Evidence from Accounting. Uses (Thorne 2000) Thorne Ethical Dilemma (four case version of AEDI). Used a sample of 46+53 students in an auditing course during two semesters and other 58 students in a senior cost- accounting course.
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Ponemon (1990, p. 209) writes, "*This work suggests that differences in ethical behaviour are likely to reflect differences in socialization; thus different positions in a firm's hierarchy are likely to engender different ethical proclivities*". To test the influence of college education on an accountant's moral development, Ponemon and Glazer (1990) examined accounting students and alumni from a small liberal arts college and large state university. Using the DIT, they found that only accounting students and alumni of the liberal arts college progressed to levels of moral reasoning comparable to DIT norms published by Rest (1986). That is, the average DIT score of accounting seniors and alumni of the liberal arts college was 47.8; the average DIT score of accounting seniors and alumni of the state university was 37.6.

Moreover, Ponemon (1990) and Ponemon and Gabhart (1990) found that on average partners' and managers' moral reasoning levels may not represent the highest levels in Kohlberg's stage sequence model in different socio-economic environments. Ponemon (1990) reported a negative relationship between accountants' positions or ranks in the firm and their levels of moral reasoning. The higher the accountants' ranks, the lower the levels of moral reasoning. Moreover, Ponemon and Gabhart (1990) investigated the influence of moral reasoning on auditors' independent judgments, again using the DIT. The results indicate that auditors at lower levels of moral reasoning were sensitive to factors relating to penalty or personal harm resulting from misconduct when forming an independent judgment. Auditors at higher levels of moral reasoning, however, were sensitive to affiliation (harm to others) when framing their judgment. Another study by Ponemon (1992) found that auditors with lower p-values underreported their chargeable time much more severely than those with higher p-values.

Additionally, Tsui's (1996) study examines the relationship between different levels of moral reasoning and ethical behaviour of auditors in Hong Kong and the US. It investigated the effect of moral reasoning on auditors' responses in acceding to auditee request within an audit conflict situation and cross-cultural explorations for the moral reasoning using the Defining Issues Test (DIT) with a linear regression analysis. Taking

respondents from the Big Six firms in Hong Kong 50 auditors and the USA 127 auditors from the sample of Shaub's (1996) study. The findings supported Ponemon (1990) and Ponemon and Gabhart (1990) in that moral reasoning is a main factor that interprets the changes in auditors' responses in conflict audit situations. Moreover, the P-score found in a non-western context is lower than the American sample which might be caused by cultural dimensions. The lower P-score might suggest that cultural differences could affect levels of ethical reasoning. This might help multinational accounting companies to be aware of cultural differences and ensure that any reward and compensation system is consistent with that and the individual ethical behaviour (Cohen et al., 1993).

After the financial crisis ethics of auditors are under scrutiny. Steps are recommended to enhance auditors' morals and many studies have been done in this regard. These studies state that auditors are caught in a moral crisis and the solution to such a large-scale problem is not easy (Chawla et al., 2015). Therefore, teaching auditors' ethics specifically via stand-alone ethics courses as part of a multiple model approach can be part of the solution. They need to know the basic concepts of good ethics and to be able to internalise those concepts in order to understand what it means to have a high level of moral reasoning.

Levels of ethical thinking and decision-making should be high in the day-to-day practice and minds of auditors. Today, organisations have ethical codes of conduct that guide their employees and ensure a high level of professional conduct and clearly define what is expected from them. Additionally, most of these audit firms provide moral development training and ethics courses to auditors as part of their professional development.

Previous studies suggest the considerations of the audit context when studying their decision-making and ethics are one context in which decisions are made (Enofe and Ogbomo, 2015). Dezoort et al., (2006) found that accounting ethics increase when auditors apply due diligence and professional scepticism. Ethics make auditors more cautious and consequently more sceptical (Morton and Felix, 1991). Auditors make conservative decisions when they act in line with ethical standards (Peecher, 1996). From the previous literature, it is understood that enforcing ethics is expected to increase professional scepticism since auditors increase cognitive effort and act cautiously.



In addition, Fan et al. (2017) used Rest's (1986) DIT model on the student sample and found that teaching codes of ethics improves accounting students' awareness of audit independence issues and their ethical judgments and intentions. The objective of a code of ethics for accounting professionals is to promote adherence to high-quality professional standards, for example the IFAC (International Federation of Accountants Code).

## **2.16 Conclusion**

This chapter has provided a review of the literature of professional scepticism and moral reasoning (ethics) specifically in respect of auditing. Both professional scepticism and ethics are of great significance in auditing and both are under scrutiny as there is a current crisis of trust in auditing.

The concepts of professional scepticism and ethics-moral reasoning have many facets, and these have been drawn out in the chapter. Discussion of both concepts has been necessary as this thesis aims to measure and analyse levels of professional scepticism, to measure and analyse levels of moral reasoning, and to investigate if there is a relation between professional scepticism and moral reasoning. For, despite there having been extensive discussions of the two concepts, there is still a need for greater understanding of the concepts individually and of the possible relationship between the two concepts.

# Chapter 3

## 3. Professional Scepticism and Moral Development

### 3.1 Introduction

The previous chapter has considered professional scepticism and moral reasoning independently in reviewing the respective literature on the two concepts. This chapter is bringing together the two concepts for two reasons. First, it is important because the thesis is seeking to ascertain if there is a relationship between the two concepts. Second, it is useful to discuss the two concepts together prior to setting out the research methodology.

The increasing commercialisation of audit resulted in a number of financial scandals like those of Enron and WorldCom in 2001-2, but the passing of more regulations still could not prevent a financial crisis and associated audit problems from occurring again in 2007-8. According to Wyatt (2004) professionalism of the audit can be restored by auditors acting assertively and ensuring they do not “prevent their [auditees] from providing top-quality financial statements and disclosures about their operations and conditions” (Wyatt, 2004, p.53). To realise this, auditors need to possess certain qualities that will help them fulfil their role and meet the challenges they are presented with.

Additionally, morality in the context of audit is not a new topic considering the responsibility auditors have to serve and protect the public interest. Therefore, auditors’ mindset and behaviour need to be aligned with the ethical compass because the lack of ethical principles like objectivity and integrity can risk the audit quality.

This chapter discuss the potential link between professional scepticism and moral reasoning and is structured as follows. Section 3.2 discusses ethical judgment and decision-making. In section 3.3 discusses the audit profession changes and commercialisation. Then, section 3.4 is focused on professional scepticism and moral reasoning and, finally, section 3.5 is the conclusion.

### 3.2 Ethical Judgment and Decision-Making

Carlson et al. (2002) define ethical decision-making as a process that depends on the individual's moral when evaluating any questionable behaviour. According to Rest (1986) it is a four-step process that comprises awareness, judgment, intention and behaviour. The awareness of ethical issues concerns individuals' understandings of audit independence in fact and in appearance. Ethical judgment concerns an individual's judgment of any questionable aspects of an auditing engagement. Ethical intention tests an individual's willingness to act on their judgments and which then leads on to their behaviours.

This ethical decision-making outcome is affected by internal and external factors; internal factors like the individual's personal values and external factors like the organisation resources (Lehnert et al., 2015). Many studies have been conducted to explain the individual-level factors that affect their ethical decision-making and one of the theories widely used is Kohlberg's (1969) moral development theory.

Moral development has been identified as another personal characteristic that has a significant impact on auditor's behaviour and decision-making. It determines how a person resolve conflicts dilemmas and problems in everyday life. It frames the individual reasoning and attitude towards rights, responsibilities, justice and fairness.

Furthermore, the previous auditing research found a positive association between auditors' level of moral development and their propensity to moral judgments and behaviour in situations of moral conflicts (Yankova, 2014). Research found that higher levels of moral development have been associated with more ethically judgments and behaviours (see; Brabeck, 1984; Ponemon, 1992; Trevino and Youngblood, 1990). Previous studies found that less sceptical auditors are less able to detect misstatements (Bernardi, 1994) and therefore, less able to work within environments that requires the ability to handle moral dilemmas (Mapuasari 2017). Moreover, the higher the moral reasoning levels lead to less possibilities to disobey audit code of ethics (Bernardi 1994).

In practice, auditors have to make decisions in high-pressure circumstances that can pose threats to professional scepticism. The causes of financial scandals was related to unethical conducts by auditors by not collecting sufficient evidence that consequently led to their failure to make right decision (Mapuasari, 2017; Sikka, 2015). Thus scepticism is a crucial aspect of audit code of ethics and according to Mapuasari (2017) auditors with higher moral reasoning are more sceptic. There are various threats to professional scepticism and some are on an individual level (Nelson, 2009; Glover and Prawitt, 2013). Glover and Prawitt (2013) state that judgment traps and biases are one of these threats besides the lack of knowledge, deadline pressure, inherited preference and expectations, auditor character; and personal and cultural attributes and performance and compensation metrics and incentives that do not appropriately encourage professional scepticism. In addition to that, changes over the financial sector and audit industry commercialisation imposed pressures and different risks to the industry that the following section discusses.

### **3.3 Audit Changes and Commercialisation**

Audit is one of the professions that went through huge changes during the last decade. These changes were caused by various reasons especially political reasons and the appearance of neo-liberalisation doctrine. There were changes in the surrounding environment that consequently resulted in various development that affected audit firm and auditor's mindset. These changes can be divided in two stages pre- and post-World War II.

#### **3.3.1 Pre-World War II**

Fairness and justice are fundamental to society's need for auditor independence (Mautz and Sharaf, 1969), hence auditors must balance the interests of various stakeholders to ensure credible corporate transparency of corporate reporting in the public interest (IFAC, 2005). Auditors became crucial to regain confidence in the integrity and credibility of the capital markets shortly after the massive corporate collapses that triggered the 1929 Wall Street Crash.

After the massive financial collapse that triggered the 1929 Wall Street Crash, auditors became crucial to regain confidence in the integrity and credibility of the capital

markets. The crash brought misery to millions of people who lost their savings, their jobs and their dignity. These social, economic and psychological effects of the crash were felt worldwide. Following the crash, the Great Depression damaged the financial systems of several countries, in turn fermenting social unrest and disappointment that culminated on World War II (Berg-Schlusser, 1998).

In order to protect the interest of the public government took actions such as in the United States the Securities and Exchange Acts, 1933 and 1934 were signed to maintain the society's financial security and political stability. These acts mandated listed companies' financial reports to be independently audited in the public interest (Zeff 2003).

Influential accountants successfully opposed proposals for the U.S. government to oversee business directly or conduct audits of public companies. Instead, accountants in private practice were given the monopoly franchise to perform company audits on the condition that they abide by a code of ethical conduct mandating auditor independence (see Zeff, 2003a for more discussion). Thus, the practice of audit has always been associated with ethics and ethical codes. This regulatory arrangement had an inherent critical flaw identified by Mautz and Sharaf (1961). They questioned the ability of professional auditors to maintain an independent mind to 'present fairly' in the judicial sense (Reiter and Williams, 2004) when they are economically dependent on the auditee management. This regulatory defect predisposes conflicts of interests because auditors have to negotiate compensation and employment conditions with the regulated, the auditee company (Windsor and Warming-Rasmussen, 2009).

### **3.3.2 Post-World War II**

For several decades, the profession dealt with minor scandals until the 1970s when capitalism emerged in the United States and the neo-liberalism gathered to radicalize government policies (Zeff, 2003). These policies changed social relationships and institutions, including the auditing profession and auditor independence declined gradually. Specifically, the commercialization of audit has intensified the inherent regulatory fault of the auditor economically depending upon the auditee company and its management. Many research provided empirical evidence on the effect of auditee economic considerations on practicing auditors' independence judgments in an era of

regulatory capitalism (Windsor and Warming-Rasmussen, 2009; Cassell et al., 2014; Buchheit and Buslepp, 2014).

Main financial strategies accompanied the political changes are privatisation and deregulation of the public sector (Crenson and Ginsberg, 2004). Additionally, free-market policies have been introduced by reducing reliance on the state through the competitive 'free-market' capitalist mechanisms such as competition and free trade. It also promotes the related principles of competition and deregulation to commercialise professions like the accounting profession and audit in specific (Windsor and Warming-Rasmussen, 2009).

This change was accompanied with the promotion of corporate transformation ethos and the concepts of innovation, efficiency, competition, and flexibility (Clarke, 2004). All of this led to a displacing notion of fairness, equality and justice that were essential to the superseded welfare state system (Kersbergen and Waarden, 2004).

Regulatory capitalism was directed and advanced by states' intervention policies such as competition policy (Levi-Faur, 2005). According to neo-liberal doctrine, the state enforced reforms that blur the boundaries between the state, markets and society. Furthermore, the neo-liberal politics and ideology affect the delivery of professional services and transform the way accountants and auditors performed their work and even their independence. The neo-liberal economic strategies changed not only the auditing profession but even the auditee firms into a transnational network of professional services organisations that promotes regulatory capitalism worldwide (Windsor and Warming-Rasmussen, 2009).

The commercial goals in audit firms started since the 1960s onwards. However, major financial crisis highlighted audit commercialism and focused the public attention on it. Profitability became a dominant goal in audit seniors' actions (Sweeney and McGarry, 2011). Moreover, the goal of audit firms in particular is complex since it is difficult to measure audit quality and the conflict between audit cost and audit quality (commercial and professional goals). Additionally, conflicts can arise between the audit partners personal goals and audit firms' goals. Thus, a shift in the balance between commercial and professional goals would be expected after huge crisis like Enron and the collapse of Arthur Andersen that signalled an ethics reminder.

Regulatory capitalism was a main cause in reinventing audit as a commodity that is driven by economic consideration of the auditee 'client' and its management. It turned the profession into an "industry" where audit is no longer independent (Jeppesen, 1998; Power, 1997). Audit firms expanded into consulting and became multi-disciplinary businesses selling everything from legal and management advisory services to the installation of computerised information systems. Auditors bringing in large auditee fees were practically rewarded and promoted to the detriment of their independence and professionalism (Zeff, 2003; Mautz, 1988).

This transformation is facilitated by certain acts and regulations like the Sarbanes-Oxley Act and regulatory bodies like the PCAOB in the US and the FRC in the UK that provide interconnection with other powerful private regulators such as the IFAC and the IAASB. Moreover, accountancy firms remain riddled with conflicts of interests. The most basic is that they are responsible for auditing managements that pay them to do so (Windsor & Warming-Rasmussen 2009).

As stated by Windsor & Warming-Rasmussen (2009) an experiment aimed to reveals auditors' ethical predisposition to provide consistently high-quality independence judgments required by IFAC's code of ethics. Majority of the sample auditors was not consistently independent in the context of auditee economic factors, indicating that the code of ethics' appeal to auditors' altruistic behaviour has failed. Moreover, the transformed profession has become the transformer but at a price, the loss of public confidence and the decline of auditor independence. Conflicts of interests still abound.

Today, it is internationally promoted that self-regulation of the accounting profession is the future and having professional bodies separated from governments mean faster reaction and more flexibility compared with other government agency. Thus, granting the profession strength by providing it self-regulatory powers assists them gaining the necessary expertise (Windsor and Warming-Rasmussen, 2009).

The auditing profession is more than ever economically dependent on their auditee. Windsor and Warming-Rasmussen (2009) found that personality factors significantly affect auditors' independence. This finding suggests an ethical inconsistency in response to auditee management since auditors have varying ethical predispositions in response to the same hypothetical audit conflict. In reality, auditors have been

successfully sued for malpractice (Cloyd et al., 1996) and are currently facing multi-billion-dollar lawsuits that highlight major inconsistencies in auditors' judgments, that contravening IFAC (2005, p. 2) "to put public interest first".

Consequently, motivating personal auditors' ethical conduct is complex and requires more than a professional ethics code. Auditors are human beings with a range of different predispositions and personality traits that may or may not provide the moral resilience to resist powerful influences such as the auditee economic factors.

### **3.4 Professional Scepticism and Moral Reasoning**

Audit is a decision-making practice and according to Trevino (1986) the decision-making process depends on interactions between personal characteristics and situational factors like incentives. In the process of making decisions, auditors are affected by accounting ethics, which is found to improve their professional scepticism. Enofe and Ogbomo (2015) by studying the Nigerian audit context find relations between audit tenure, audit fee, accounting ethics, auditor experience and the auditor professional scepticism. They found positive relation between ethics and professional scepticism with a survey they designed and applied on the Nigerian audit context.

Many research was done to understand auditors' personal factors impact on their judgment and decision-making. There are some personal features that have been frequently discussed and found to have the greatest capacity to influence auditors' information processing. These factors are knowledge, ability, risk attitude, confidence, tolerance for ambiguity, cognitive style, moral development and cultural dilemma (Yankova, 2014). Moral reasoning is an important factor that affect the auditors' decision-making.

Auditor judgment is a combination of various elements. It is the results of both automatic and elaborative cognitive processes combined which are influenced by individual characteristics and interaction effects of task specific, environmental and personal factors (Yankova, 2014, p.88). One of the main theories that has been applied in accounting and audit research is Kohlberg's cognitive moral development theory. Since accounting decisions tend to lend themselves to situations where actions that will enhance wealth are desirable and doesn't have an immediate threat (Chawla et al., 2015).



Therefore, the immediate wellbeing and gain is significantly outweighing the drawbacks, thus, accounting fraud is simply a matter of rational and immediate convenience.

The topic of morals in accounting practice has received considerable attention from several studies ( see Jones et al., 2003; Kung and Huang, 2013; Pramitasari et al., 2017) and these studies are necessary since morals requires individuals to perform tasks to an acceptable standard (Fan-Hua Kung and Cheng Li Huang, 2013).

Accounting research on decision-making suggests that cognitive studies need to consider the context in which accounting judgments are made (Fuller and Kaplan, 2004). One context under which such decisions are made is accounting ethics. The auditing literature reports that when auditors perform their roles in line with the ethics of the profession, it has a significant impact on their decisions. For instance, De Zoort et al., (2006) propose that accounting ethics increases the auditor's effort in applying due diligence and professional scepticisms during the conduct of their duties. Moreover, accounting ethics makes auditors more cautious or possibly increase their scepticism (Morton & Felix, 1991). Peecher (1996) found that auditors made more decisions that are conservative when they act in line with ethical standards. Similarly, Nieschwietz et al. (2000) found that accounting ethics would increase the effectiveness of the audit because it increases the objectivity of the auditors. The results of the above studies suggest that the enforcement of accounting ethics is likely to increase professional scepticism because auditors will increase cognitive effort that makes them more cautious.

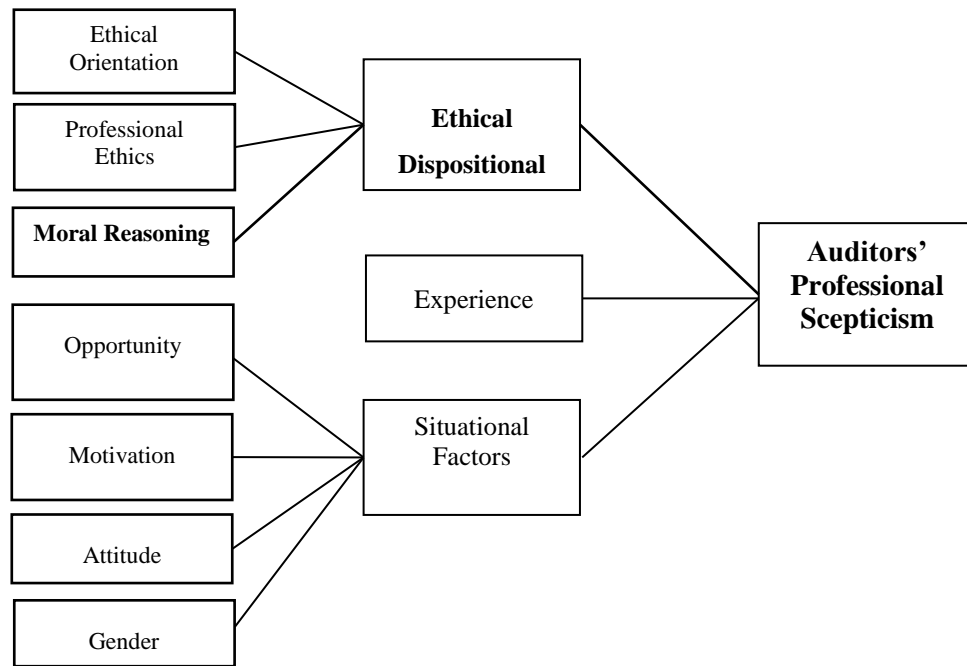
The accounting profession has struggled with a wave of corporate scandals in the last decade (Farag and Elias, 2012). The frequency of such fraud discoveries in the early 2000s led to the passage of the Sarbanes Oxley Act (SOX) of 2002 and the establishment of the Public Company Accounting Oversight Board (PCAOB). Significant research has shown that major reasons for such fraudulent actions were management's desire to manipulate financial statements and the auditors' unwillingness to stop them (Nelson, 2009).

The audit profession requires auditors to have strong personal traits. Hammersley (2011) states that auditors' performance during fraud planning tasks is based on their personal traits and based on those they are motivation to obtain a deep understanding of

the issue at hand. Professional scepticism is one of the essential traits that auditors choose in order “to fulfil their professional duty and prevent or reduce the harmful consequences of another person’s behaviour” (Shaub and Lawrence, 1996a, p.126). Thus, in order to have auditors who can perform a high-quality audit, there is a need to understand the needed personal traits especially their professional scepticism.

Shaub & Lawrence (1996) developed a professional scepticism model where they define professional scepticism as a function of ethical disposition factors, prior experience and situational factors. By focusing on lack of trust, they constitute their measure of professional scepticism into three behavioural categories: suspicious thought, additional testing and confrontational action. They assume that auditors demonstrate greater professional scepticism when the ethical disposition elements such as greater idealism, lower relativism and greater professional ethics concern exist. According to Shaub and Lawrence (1996) professional scepticism is considered a function of the auditor’s ethical predispositions. Additionally, they identify three separate factors related to auditors’ ethical dispositions: ethical orientation, professional ethics and moral reasoning. Moreover, Shaub and Lawrence (1996) define idealism as the belief that desirable consequences can be achieved without the violation of moral guidance. Professional ethics can be measured using Shaub’s (1989) five items measure and the level of moral reasoning as identified using Rest’s (1986) Defining Issue Test (DIT) the three-story version. Shaub and Lawrence (1996) in their findings expect that the level of moral reasoning affect the auditors' propensity to believe the auditees by assuming that high level of moral reasoning results in greater professional scepticism.

In addition, Shaub and Lawrence (1996) define situational factors as the factors that indicate risks of irregularities and fraud, and are categorized into four types: opportunity, motivation, attitude and gender. This model was the first model that illustrates the components of auditors’ professional scepticism and considers it as a function of auditors’ ethical disposition.



**Figure 3.1 Model of Auditors' Professional Scepticism (Adapted from Shaub and Lawrance, 1996)**

Thus, this study concentrates on professional scepticism considering it as a function of the individual ethical disposition which is affected by moral reasoning as an element of the ethical disposition (Figure 3.1). Investigating this relationship is better done with new auditors since it is expected to be obvious with new auditors and reflected in their behavioural aspects before any acquiring of audit experience or them being under the pressure of contextual factors within the audit environment.

Previous studies partially identify a link may exist between professional scepticism and moral reasoning but no research has yet been conducted that is directly aimed at studying whether there is a connection between the two concepts so far. For example, Nelson (2009) in his auditing professional scepticism model relates auditors' moral reasoning to the link between incentives and judgment (see section 2.6.1, Figure 2.2). Nelson (2009) considers ethical development or "moral reasoning" as a trait that specifies the extent to which auditors' judgments and actions, in relation to professional scepticism, are affected by their incentives (Nelson, 2009). On the other hand, Hurtt (2010) identifies six characteristics that professional scepticism comprises: a questioning mind, a suspension of judgment, a search for knowledge, interpersonal understanding, self-esteem, and autonomy where she defines autonomy as self-

direction and moral independence. Hence, Nelson (2009) suggests future research is required to investigate individual elements from his model to understand the extent to which various traits might affect different dimensions of professional scepticism individually and in interaction with other elements. Consequently, the research in this thesis aims to build upon this work and relate moral reasoning literature in the audit context to professional scepticism in order to reach a deeper comprehension of both concepts in respect of audit.

It is important to mention that before Hurtt (2010) introduced the HPSS there was no specific instrument to measure professional scepticism. Previous scholars borrowed instruments from other disciplines like psychology and linked the concept to another characteristics like trust (see; Shaub and Lawrence, 1996b; Shaub, 1989; McMillan and White, 1993).

Moral reasoning comprises four components which are: recognition of moral subject, making the moral judgment, establishing moral intent and acting on moral concerns (Jones et al., 2003). Research has found that people with lower levels of moral reasoning behave differently to those with higher levels of moral reasoning when faced with an ethical dilemma (Liyanarachchi and Newdick, 2009; Shaub and Lawrence, 1996b). Moreover, there is a positive correlation posited between professional ethics and professional scepticism (Shaub, 1994). It is understandable, therefore, regulators and standard setters have recently given importance to the issue with, for example, the FRC releasing their proposal for “Revisions to the Ethical Standard”, Auditing Standards-UK, in September 2015 (FRC, 2015).

Professional scepticism is also judged to be tightly linked to the fundamental ethical principles of objectivity and auditor independence (IAASB, 2012). Professional scepticism means that audit procedures are exercised regardless of the auditors' previous experience with the auditee. Therefore, the auditor should maintain an attitude of scepticism throughout the audit work, regardless of the auditors' experience with the entity in the past and the honesty and integrity of the management (European Commission, 2010; Financial Reporting Council, 2015; IAASB, 2015). There are very few studies that seek to link moral reasoning indirectly with sceptical judgment and one attempt was by Kerler and Killough (2009) to study “the effects of satisfaction with a auditee's management during a prior audit engagement, trust, and moral reasoning on

auditors' perceived risk". They hypothesise that the decision to trust an auditee is a conscious one by the auditor that is shaped by moral behaviour. Based on their experiment on 89 professional auditors they find that auditors were able to maintain their professional scepticism regardless of their beliefs about the auditee honesty. However, their results did not indicate a relation between moral reasoning and trust in auditee's management.

A study conducted by Farag and Elias (2012) finds that more sceptical auditors have a stricter view of earnings management, which they consider as an ethical perception. Additionally, Bobek et al. (2015) examine the impact of moral intensity on the judgment of audit and tax professionals in an audit versus a tax setting, and find that auditors are more likely to recommend conceding to a contentious auditee in a low moral intensity. Moral intensity as defined by (Jones, 1991, p.371) is a characteristic of a situation and the higher the degree of moral intensity the more likely a situation is recognised as containing an moral dilemma.

Moral dilemmas and conflicts are found in every phase of the audit process and auditors need to have the right mindset and behaviour to respond to them as they occur (Chow et al., 2013). Therefore, auditors' moral behaviour needs to be developed as early as possible through the education system by incorporating it throughout the accounting curriculum. As stated by Wyatt (2004, p. 53) "an ethical code is really a personal mindset and not a recitation of a series of 'thou shalt nots'". Academics need to make potential auditors aware of the interpersonal challenges they can face dealing with auditees and even with audit firm internal policies. At universities and business schools student are at their "peak of idealism" and need to consider cases with moral dilemmas in order to them to prepare their moral system readiness for what is expected of them should they join the audit profession (Wyatt, 2004).

Previous studies have considered a psychological framework for the moral reasoning process in order to define factors that make auditors more or less moral (Shaub, 1989; Ponemon, 1990; Ponemon and Gabhart, 1993). Several early cross-sectional studies examined auditors' moral reasoning and found a negative relation between moral reasoning and auditors' work experience (for instance, see: Ponemon, 1992; Ponemon and Gabhart, 1993; Shaub, 1994 and Thorne et al., 2003). However, some longitudinal studies (Bernardi and Arnold, 2004) and some cross-sectional studies (Scofield et al.,

2004) provide evidence that auditors' DIT p-values do not decrease with experience. Additionally, several studies have examined the relationship between DIT p-values and ethical behaviour. Gul et al.'s (2003) China-based study found that Chinese auditors' DIT p-values were negatively associated with the possibility of engaging in unethical behaviour. Moreover, Trevino (1986) recommended that the individual differences variable, such as personality and locus of control (Rotter, 1966), could interact with moral reasoning in affecting individual behaviour during an ethical dilemma.

Although there have been prior studies linking moral reasoning and decision-making in the audit context (see, for example, Chen et al., 2012; Eynon et al., 1996; Jones, 1991b; Lincoln and Holmes, 2011; Shaub, 1994; Trevino et al., 1992), there are fewer studies that indirectly link moral reasoning, or moral behaviour, to sceptical judgments. There are empirical studies of professional scepticism that employ the trust-based view (e.g., Quadackers, 2007; Shaub, 1996; Shaub and Lawrence, 1996).

Consequently, recommendations are made by Hurtt et al. (2013), Nelson (2009) and, Yankova (2014) for research to be undertaken that directly examines moral reasoning and the possible to professional scepticism by expanding upon Rest's (1986) model (Hurtt et al., 2013). Therefore, this research is investigating the relationship between moral reasoning and auditors' professional scepticism to understand the relationship between the two concepts in auditors' decision-making process. This study uses mixed method approach to reach a deeper understanding on the concepts of professional sceptic.

### **3.5 Conclusion**

This chapter has reviewed the literature on the two concepts of professional scepticism and moral reasoning in the accounting and audit literature. From the discussion above, this study explores the interrelation between professional scepticism and another important individual dispositional characteristic like moral reasoning. It is important to understand whether and under what circumstances professional scepticism and moral reasoning reinforce or counter act each other and how this interaction influences the audit quality. The following chapter discusses the methodology applied in this study and justifies the tools adopted to collect the data and undertake the analysis of the data.

# Chapter 4

## 4. Research Methodology

### 4.1 Introduction

This chapter describes the research methodologies adopted in the study to answer the research questions. The literature on research methodology is particularly rich, especially in the field of social science (Bryman and Bell, 2015; Creswell, 2013; and Saunders et al., 2009). There are authors who discuss methodologies in general (see, for example, Bryman and Bell, 2015; Creswell, 2013; Saunders et al., 2009) and others who focus on certain specific research methods (see for example, Frechtling, 1997; Malina et al., 2011; Maxwell and Loomis, 2003). In this chapter, the research methods chosen are justified and explanations are provided regarding the data analysis tools employed.

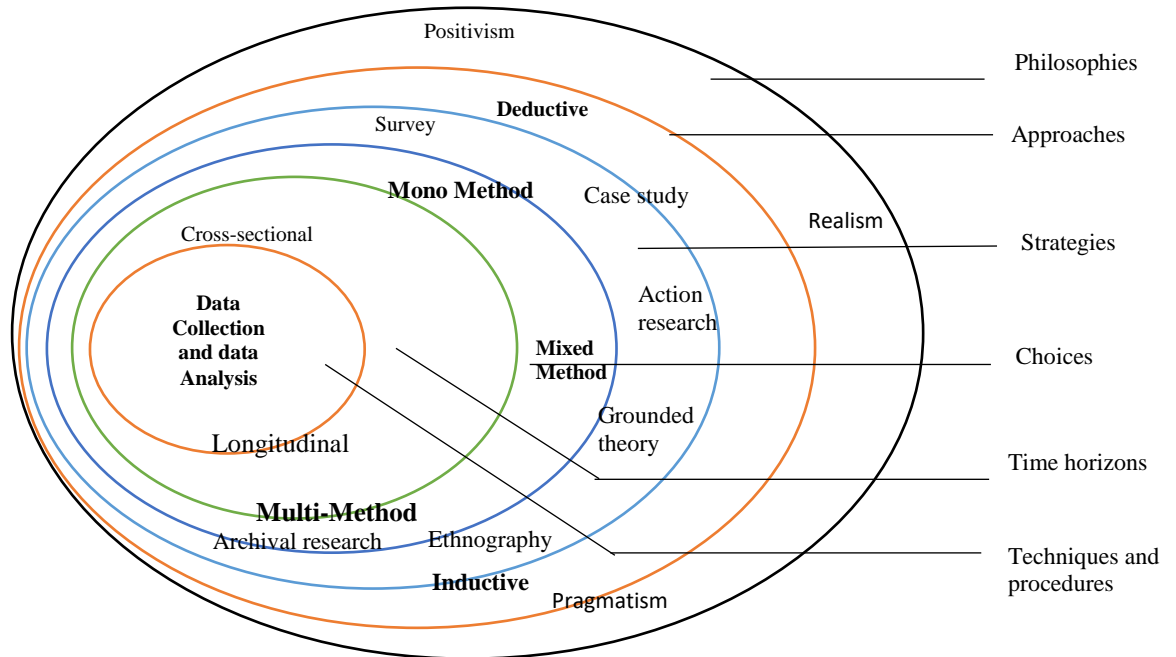
This is a mixed methods study that combines quantitative and qualitative methods by using both questionnaires and semi-structured interviews. This is in order to fulfil the aim of this research which is to ascertain if there is a relationship between auditors' professional scepticism and moral reasoning. The mixed method approach is used to acquire a deeper analysis on the topic and to avoid the limitations of a single method. To answer the following research questions the researcher is using questionnaires and semi-structured interviews:

1. How do the levels of professional scepticism in the UK context compare to levels of professional scepticism in non-UK contexts?
2. How do the levels of moral reasoning in the UK context compare to levels of moral reasoning in non-UK contexts?
3. Is there an association between the level of professional scepticism and moral reasoning?

The chapter is structured in the following way. Section 4.2 discusses the research design and philosophical positioning of the research. This section also contains a detailed discussion on the research approach and planning. In section 4.3, the techniques

employed and procedures selected for conducting the research are discussed. Following that, ethical risks and ethics approvals are discussed in section 4.4. Then, section 4.5 addresses the data analysis approaches. Finally, section 4.6 discusses the limitations associated with the research design.

## 4.2 Research Philosophical Position



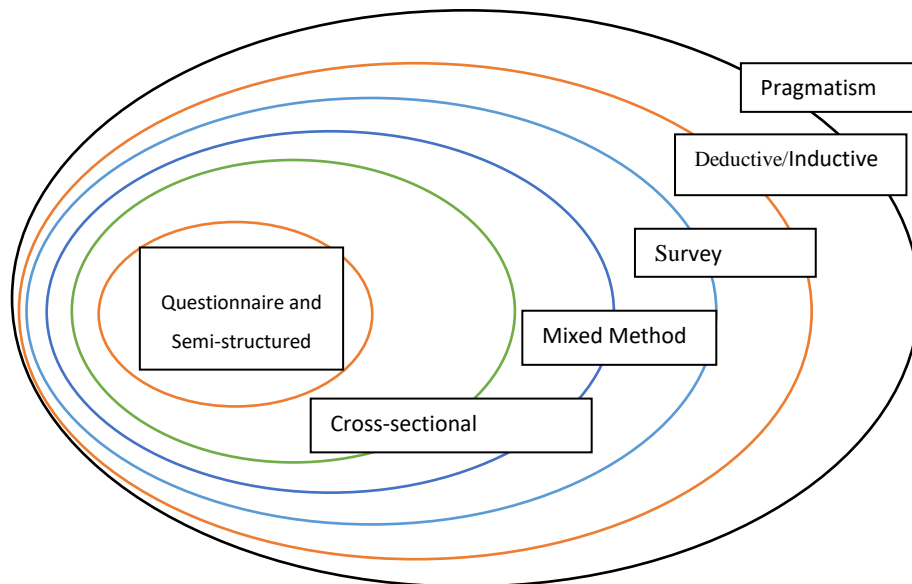
**Figure 4.1 The Research Onion (Saunders et al., 2009, p.108)**

Philosophy of research is the overall term that relates knowledge development with the nature of knowledge (Saunders et al., 2009). It is the first layer in approaching a research project and is where the researcher builds assumptions and positions about the social world (Greene and Caracelli, 1997). Saunders et al. (2009) illustrate the research stages in the form of layers, presented in Figure 4.1. Starting from the outside, the first layer encountered when embarking on the research project is the philosophical approach. Subsequent layers are then the approaches, strategies, choices and time horizons, whilst at the core is the data collection and analysis. This research stages as applied to this thesis are summarised in Figure 4.2.



There are three major philosophical aspects that the researcher needs to clarify regarding their research; ontology, epistemology and axiology. Each one has its own significance in affecting the research process. Ontology is how the researcher views the nature of reality or being (Saunders et al., 2009, p. 119). It concerns how reality is constructed and it is concerned with the researcher’s assumptions on how the world operates. There are two aspects of ontology, objectivism and subjectivism. Saunders et al. (2011) define objectivism as the position of social entities in reality as external to the social actors concerned with it. On the other hand, subjectivism means:

*“... that social phenomena are created from the perceptions and consequent actions of those social actors concerned with their existence”* (Saunders et al., 2011, p.110).

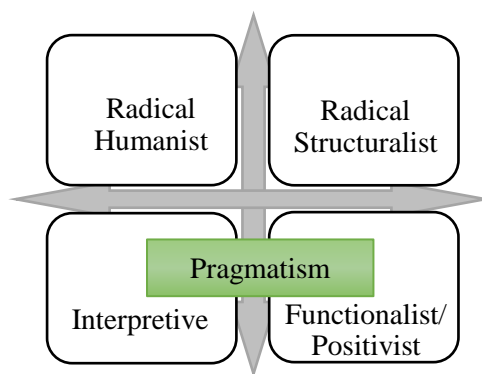


**Figure 4.2 The Research Stages in the context of this thesis (Based on Saunders et al. (2009, p.108)**

Epistemology is acquiring knowledge that is accepted in a discipline (Bryman and Bell, 2015). It is related to both deductive and inductive research strategies and it constitutes the acceptable knowledge in the field of study (Saunders et al., 2009, p. 112). It is about the ways of knowing and learning about the field and concerned with questions such as “how do we know?”, and “what is the basis of our knowledge?” (Ritchie and Lewis, 2003, p.13). For instance, the epistemology of natural science is positivism.

Additionally, axiology is related to how values need to be honoured and stated. It is also related to procedures and through what approach they are derived. For instance, inductive, bottom-up approaches can be contrasted with deductive, top-down approaches (Creswell and Clark, 2011, p. 279). Furthermore, the researcher must choose a paradigm as part of their philosophical approach. A paradigm defines different views of the social world depending on various meta-theoretical assumptions on the nature of science and society (Pansiri, 2005, p. 192). Paradigms reflect the researcher's assumptions about organisations and how to approach them. There are four paradigms for understanding the epistemological and ontological aspects of research in business (Bryman and Bell, 2015, p. 35) and they are positivism, constructivism, advocacy, and pragmatism (Creswell and Clark, 2011). The paradigms are formed according to a matrix of two axes, the horizontal axis consisting of the objectivist and subjectivist positions and the vertical axis with radical and regulator (Figure 4.3). The conjunction of the two axes produces the following four paradigms: functionalist, interpretative, radical humanist and radical structuralist (see Figure 4.3). Each paradigm is used for different organisational problems and contexts.

In line with Creswell and Clark (2011), mixed method researchers need to choose a paradigm that makes the most sense considering the researcher's beliefs and the audience for the research. To be located in a specific paradigm means that the researcher views the world in a particular way (Burrell and Morgan, 1979). They suggest for research using convergent mixed methods research the overarching orientation paradigm to be used is pragmatism (Creswell and Clark, 2011; Tashakkori and Teddue, 2003). Although they also advise the paradigm selection be used is according to its fit for the research design they declare that it is also possible for the worldview to change during a project.



**Figure 4.3 Paradigms of Social Theory Analysis (Adapted: Saunders et al., 2009, p. 120)**

This chapter illustrates the research stages and philosophy based on onion layers. Starting from the outer layer, there is the philosophical approach that the researcher adopts containing the main assumptions and worldviews. This selection was affected by practical considerations, particularly the view of the relationship between knowledge and its development process. The research approaches, choices, time horizon and the techniques and procedures were subsequently selected.

#### **4.2.1 Pragmatism**

Researchers need to study what is of interest to them and what is of value to them in order to be able to use the results later in ways that bring positive consequences within their value system (Tashakkori and Teddlie, 1998, p. 30). Therefore, Tashakkori and Teddlie (1998) suggest that it is more appropriate for the researcher in a particular study to think of the philosophy adopted as a continuum rather than a position.

Pragmatism originates from the word, pragma, in Greek, which means action, from which the words ‘practice’ and ‘practical’ came (James, 2000). Sekaran and Bougie (2016, p. 395) define pragmatism as:

*“ [a] viewpoint in research that does not take a particular position on what makes good research. The pragmatist feels that research on both objective, observable phenomena and subjective meanings can produce useful knowledge, depending on the research questions of the study.”*

In pragmatism, the most important factor in choosing the research epistemology, ontology and axiology is the research question (Saunders et al., 2009). Additionally, pragmatism gives a paradigm that philosophically embraces the application of mixed method designs (Tashakkori and Teddlie, 1998). In pragmatism, the ontology is external, multiple and chosen to best answer the research question. Pragmatics consider that knowledge consists of either or both observable phenomena and subjective meanings depending on the research question. Moreover, they focus on practical applied research by integrating different perspectives in order to interpret data.

Pragmatism has been addressed as the foundation of mixed methods in social science and is adopted to achieve better outcomes (Pansiri, 2005). Tashakkori and Teddlie (1998, p. 21) state that pragmatists consider the research question more important than the method since they apply what works. That is, a pragmatic approach applies methods that are most appropriate to the research problem. Thus, researchers are free to use methods or techniques associated with qualitative or quantitative approaches since they recognise that each method has its limitations and the use of another method might complement the other (see: Creswell, 2015; Creswell and Clark, 2011; Howe, 1988; Tashakkori and Creswell, 2007).

As stated by Creswell (2013), pragmatism is not limited to any philosophical system or reality. Therefore, researchers are free to choose the methods, techniques and procedures that best help them in answering their research questions. Thus, pragmatics are characterised by being flexible, promoting collaboration, being able to combine empirical and descriptive precision, and to combine micro and macro levels of research (Onwuegbuzie and Leech, 2005, p. 383-384).

Pragmatism does not suggest a unified rule with set principles shared by all members, and differences were present even among the founding philosophers (Pansiri, 2005). For examples, Menand states that the founder philosophers:

*“all believed that ideas are not “out there” waiting to be discovered, but are tools—like forks and knives and microchips—that people devise to cope with the world in which they find themselves. They believed that ideas are produced not by individuals, but by groups of individuals—that ideas are social. They believed that ideas do not develop according to some inner logic of their own, but are entirely dependent, like germs, on their human carriers and the*

*environment. And they believed that since ideas are provisional responses to particular and unreproducible circumstances, their survival depends not on their immutability but on their adaptability.” (pp. xi–xii). (Menand, cited by Snarey and Olson, 2003, p. 92)*

The pragmatist paradigm rejects positivism, since no theory can fully satisfy its demands of objectivity, falsifiability and the crucial experiments. It also rejects the anti-positivism and the creative role of active and subjective participants since any theory would satisfy its demands. Pragmatism suggests to re-orienting theories assessment around a third criterion besides truth and reality, which is its ability to solve human problems (Powell, 2001, p. 882).

This research is driven by its questions and how it is aiming to explore behavioural aspects connected to moral reasoning and professional scepticism rather than figures only. As the majority of studies in the topic of auditors' behaviour and decision-making tend to use the pragmatist approach (see: Grenier, 2010; Hurtt et al., 2008; Hurtt, 2010; Robinson et al., 2013; Trevino et al., 1992), thus, pragmatism seems to be a more suitable approach to adopt.

#### **4.2.2 Research Design**

The present investigation was dealt with using the descriptive correlational design. According to Creswell (2013) descriptive research uses survey questionnaires to gather pertinent information from sources called respondents. This information is called primary or first hand information (data) which are elicited using a survey questionnaire or an instrument.

In this study, the primary data that were collected to get the level of professional scepticism and moral reasoning of novice auditors. The correlation aspect in the descriptive design was an extension method that further explores whether the two variables have a significant relationship. Malina et al. (2011) state that the relationship between variables can be determined through a mathematical tool called inferential statistics.

Further, this research also utilised the interview guide or semi-structured interview schedule by which a survey instrument or survey questionnaire is employed to elicit primary data and which, therefore, can still be considered to fall under the descriptive design. Although, the design is descriptive in nature, the use of two methods can be

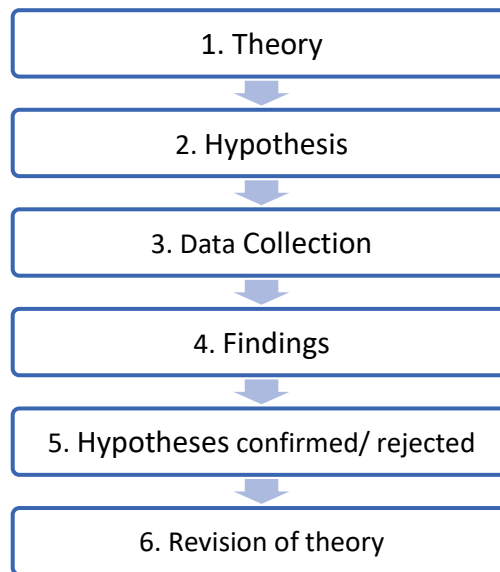
explained through the approaches used to analyse the collected data which will be discussed in the succeeding section.

### **4.2.3 Research Approach and Strategy**

There are research approaches traditionally related to specific research philosophies; for example, the deductive approach is traditionally associated with positivism whereas the inductive approach is traditionally associated with interpretivism. However, Saunders et al. (2009, p. 124) believe that labelling the approach according to its philosophy can be misleading.

A deductive approach is typically associated with a positivist position and is a common approach for viewing the relationship between theory and research (Bryman and Bell, 2015, pp. 31, 35). The deductive approach may be considered a scientific research approach since it employs hypotheses built on existing theories and, then, the research is designed to test the hypothesis (Figure 4.4). There are five stages that such an approach progresses through. First, deducing a hypothesis from the theory, and then expressing the hypothesis in operational terms. Following that, the operational hypothesis will be tested and the outcomes examined. Finally, the theory will be modified according to the findings with either a falsification or verification of existing theory (Saunders et al., 2009). A deductive approach is common in business-related research and it is the approach used to answer some of this study's research questions (Bryman and Bell, 2015; Saunders et al., 2009).

On the other hand, an inductive approach starts by gathering information on a phenomenon to create a deeper understanding and formulate a theory. An inductive approach enables the researcher to have study a cause-effect link between variables by understanding the way in which humans interpreted their social world (Saunders et al., 2009).



**Figure 4.4 The Deductive Approach (source: Bryman & Bell, 2015; p. 23)**

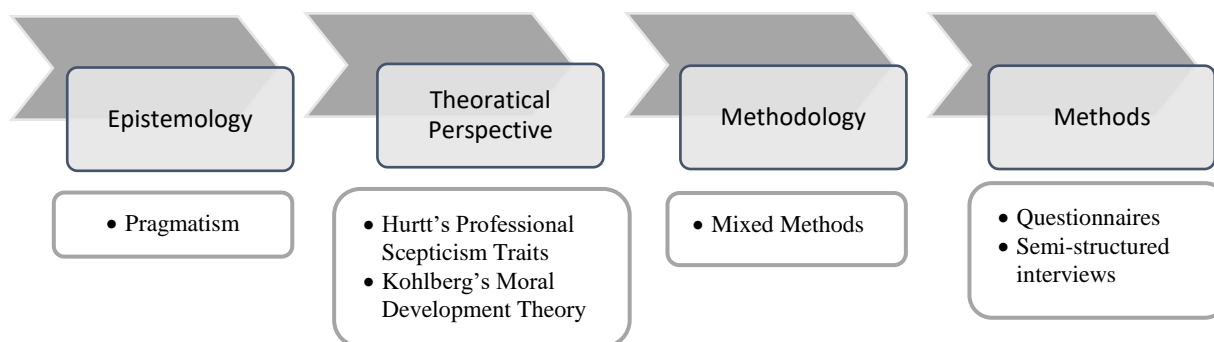
There is no one research strategy that is superior to another (Saunders et al., 2009, p. 141). The process of strategy selection should be guided by the research questions and meeting their objectives, existing knowledge, the resources available and the supporting philosophy. There are different strategies that the research can adopt; for example, experiment, survey, case study, action research, grounded theory, ethnography and archival research. In this study, a survey method was employed which is common among researchers that utilized descriptive design. Logically speaking, Bryman and Bell (2015) state that the research design is the generic term that guides the researcher as to what approach can be used.

This research is using a primary source of data deriving from the questionnaire survey to address the research questions which is a common strategy in business and management research and used to answer who, what, where and how many questions (Saunders et al., 2009). This strategy allows for the collection of large amounts of data.

#### **4.2.4 Mixed Method**

This section gives an overall view of the methods applied in this study and the reasons for choosing them. Moreover, it discusses the data collection process and the participants for this study.

Method is the technique or procedure that the researcher uses for gathering or analysing data such as questionnaires, interviews and archival records (Bryman and Bell, 2015; Saunders et al., 2009, p. 3). In this research both quantitative and qualitative approaches are used through questionnaires and semi-structured interviews (Figure 4.5).



**Figure 4.5 Research Design Adapted in the thesis**

In the past scholars used to link paradigms with specific research methods (see: Guba and Lincoln 1994). However, researchers like Howe (1988) and Brewer and Hunter (1989) were against this idea in that they think it limits researchers' abilities and prohibits them from targeting research problems with a variety of methods. For example, Brewer and Hunter (1989) state that a multimethod approach gives the researcher a chance to target research problems with methods that do not have overlapping weaknesses but rather complementary strengths. Mixed methods research has its own philosophical worldview, pragmatism, where pragmatists believe in using particular procedures that work for the particular research problem (Creswell, 2015).

*Multiple methods contribute to the depth and breadth of your analysis, interpretation of findings, and theorizing about the implications of your study. (Galletta, 2013, p. 120).*

Mixed-method research is a dynamic option for expanding the scope and improving the analytic power of studies. In mixed method research, the researcher collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches in a single study or a program of inquiry (Tashakkori & Creswel 2007; p. 4). When done well, mixed-method studies dramatize the artfulness and versatility of research design. Mixed-method research operationally includes an almost limitless array of combinations of sampling, and data collection and analysis techniques



(Sandelowski, 2000). Since the beginning of this century, there has been a substantial rise in mixed method research (Ivankova and Kawamura, 2010).

Mixed method research design is a procedure for collecting, analysing, and “mixing” both quantitative and qualitative methods in a single study or a series of studies to understand a research problem. It involves “merging, integrating, linking and embedding the two “strands.” of qualitative and quantitative data (Creswell, 2015). A mixed method approach is used when there are two types of data and the use of both will provide a better understanding of the research problem. By combining both quantitative and qualitative data, the researcher can have a powerful mix that helps in developing a complex picture of the phenomenon. Therefore, using mixed methods has its advantages in allowing triangulation which involves, for instance, use of a variety of sources, involving different researchers and applying various methods to investigate a research problem.

Over the years mixed methods researchers have provided evidence for its advantages. For example, applying a mixed methods approach by combining qualitative and quantitative methods means using the strength of one approach to make up for the weaknesses of the other (Creswell and Clark, 2011). Additionally, mixed methods encourage the use of multiple worldviews, or paradigms, rather than the classical paradigms associated with qualitative and quantitative approaches. It encourages the thinking about a paradigm that encompasses both quantitative and qualitative research, like pragmatism. A mixed methods approach is practical in the sense that the researcher is free to use all methods possible to address the research problem. Moreover, researchers tend to solve problems by combining both inductive and deductive thinking, hence, employing a mixed method approach is a preferable mode to understand the world. In addition, using multiple sources of data provides more evidence for studying the research problem (Creswell and Clark, 2011).

#### **4.2.4.1 Mixed Method types**

According to Creswell (2015) there are six types of mixed methods research designs; convergent, explanatory, exploratory, embedded, transformative and multi-phases designs. First, the convergent design or parallel design, requires the researcher to collect both quantitative and qualitative types of data simultaneously, and then merge them.

This design is applied so that the data collection design strengths are used to offset the other's weaknesses. Furthermore, the use of two data methods can achieve a more complete understanding (Creswell, 2015, p. 570). In this design, both quantitative and qualitative data sources are given equal priorities. The interviews are as important as the data gathered from the questionnaires and the results are equally important.

Second, explanatory sequential design or the two-phase model is when the researcher collects quantitative and qualitative data in two phases where one type of data informs the collection of the other. It starts by collecting the quantitative data then qualitative information to help explain or elaborate on the quantitative results. The first set of data is the primary one. This design clearly identifies the quantitative and qualitative parts of the study and there is no need to converge or integrate the two data sets. On the other hand, this design is challenging since the researcher needs to determine the aspects from the first data to be followed up, the sample of participants and questions to be asked. This design needs time and expertise to collect and analyse both datasets.

Third, the exploratory sequential design, which is similar to explanatory design, but it starts with qualitative data. The aim of this design is to explore a phenomenon using qualitative data and then collect quantitative data that explains the relationships found in the first dataset. In this design, researchers identify measures from the data they collected and explore views through qualitative methods without predetermined variables. The disadvantages are that this design needs extensive time and data collection. The testing of the instrument of the second phase adds to the time required for its implementation. Moreover, the researchers need to determine the way to use their qualitative data (for example, themes, quotes or codes) in the follow-up quantitative part of the study.

Fourth, the embedded design that can be parallel or sequential. It aims to collect qualitative and quantitative data simultaneously or sequentially. However, the second dataset is collected to augment or support the primary data. The supportive data can be qualitative or quantitative but "mostly qualitative added to quantitative" (Creswell, 2015, p. 574). The supportive data targets another question than that posed by primary data (Creswell, 2015, p. 575). The advantage of this design is that it combines the benefits of both qualitative and quantitative data. However, the two sets are not easy to compare since they address different questions. There is also the possibility that

collecting qualitative data during the experiment can influence the outcomes. Additionally, it is similar to convergent design where the simultaneous collection of both qualitative and quantitative datasets is labour intensive.

Fifth, transformative design is to take one of the previously mentioned designs (convergent, explanatory, exploratory, or embedded) and uses it within a transformative lens (Creswell and Clark, 2011). This provides an informative framework (e.g. feminist, racial, ethnic or disability perspectives) that includes the overall aim of the study, the research questions, data collection and outcome. The framework aims to handle a social issue with an unrepresented sample and bring change. The strength of this design is that it is value-based and ideological. The real challenge with a transformative mixed method is how best to integrate the framework into a mixed method study.

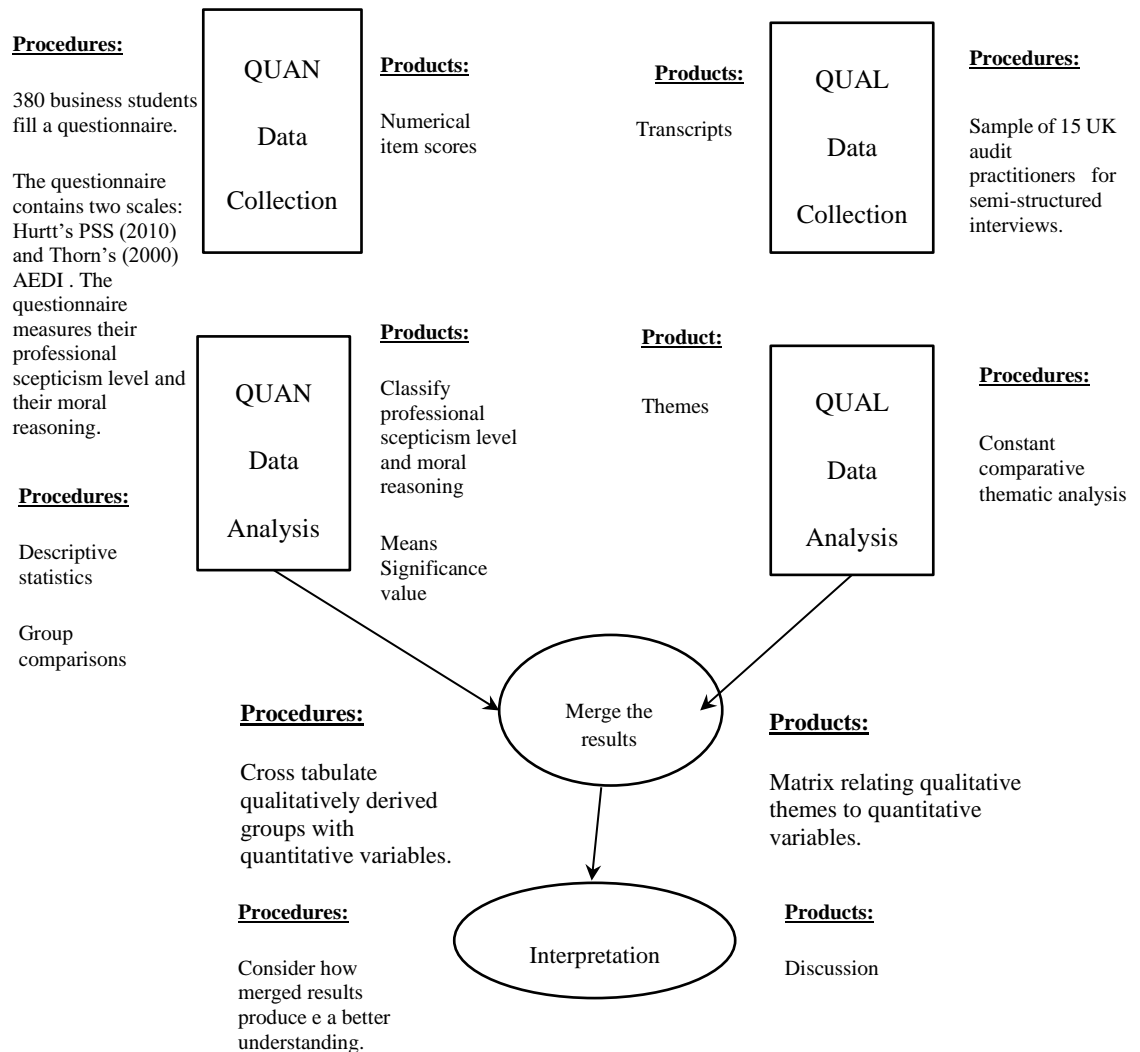
Finally, multiphase design is a complex design that builds on the basic four designs (convergent, explanatory, exploratory, or embedded) explained previously, where the researcher examines a phenomenon through a series of phases or separate studies. Within these phases, the aim is to answer incremental questions by applying a combination of concurrent or sequential designs which all fulfil a common programmatic objective. This design is common in large-scale health research and evaluation studies. Advantages are in the use of multiple studies to best understand the overall program objective. The main strength of this approach is in its emphasis on the links between philosophical concerns and the nature of knowledge where the methods used to generate that knowledge (Bryman and Bell, 2015; Tashakkori and Creswell, 2007). The challenge is to form a team that can work together with diverse method orientations and make sure that the research phases are linked together and meet the overall objective.

#### *4.2.4.2 Why Mixed Method?*

This research explores the relationship between two concepts in relation to auditors, professional scepticism and moral reasoning. This is performed through the use of a questionnaire that has two scales that have been validated, and used separately to one another, in previous research studies; however, they have not been combined in one instrument before. The first part of the questionnaire is adopting Hurtt's professional scepticism scale (HPSS) (Hurtt, 2010) to measure professional scepticism traits. The

second part of the questionnaire uses a modified version of the Accounting-Specific ethical dilemma (AEDI) developed by (Thorne, 2000) and measures the participants' moral reasoning through a set of scenarios related to the accounting context. Thus, the first part of the questionnaire (HPSS) addresses the first research question: How do the levels of professional scepticism in the UK context compare to levels of professional scepticism in non-UK contexts? The second part of the questionnaire (AEDI) addresses the second research question: How do the levels of moral reasoning professional scepticism in the UK context compare to levels of professional scepticism in non-UK contexts? The third research question is addressed through ascertaining whether there is any association between the results of the first and second parts of the questionnaire. The third question is: Is there an association between levels of moral reasoning and professional scepticism? Interviews were then conducted with audit practitioners and regulators to further address the third research question and to gain a deeper understanding regarding the concepts of professional scepticism and moral reasoning and how they may (or may not) be associated. This study applied simultaneous collection of quantitative and qualitative data where both quantitative and qualitative data were collected concurrently but separately.

Mixed methods analysis has three main purposes, illustration, convergent validation or triangulation, and analytical density or richness (Fielding, 2012). Triangulation is the integration of data from qualitative and quantitative sources. Triangulation means that the researcher collects and converges (or integrates) different data on the same phenomena in order to improve their inquiry (Creswell, 2015).



**Figure 4.6 Convergent Mixed Method Research Diagram based on Creswell and Clark (2011, p. 118)**

This study implements a convergent mixed method design (see figure 4.6) where two methods are used in the form of a questionnaire and semi-structured interviews are implemented in order to answer the research questions effectively and reach a deeper analysis on the aspects of professional scepticism and moral reasoning. There is a previously stated need for research methods to be employed in auditing research to create a deeper understanding of audit and this mixed methods approach could be advantageous for achieving this (Jones et al., 2003). Thus, this research uses two parallel methods, a questionnaire and semi-structured interviews.

#### **4.2.5 Time Horizons**

Saunders et al. (2009) mention that there are two main time horizons, cross-sectional and longitudinal. These time horizons are independent of the research strategy and method. Longitudinal studies are applied to study change and development, which means conducting the study and repeating it over different points in time. In contrast, cross-sectional research is when a certain phenomenon is studied at a particular time. It is a snapshot study that usually applies survey strategy to describe a specific phenomenon. This research applies a cross-sectional time horizon where it explores the understanding and implication of the concepts of professional scepticism and moral reasoning within the audit context at the current point in time.

### **4.3 Techniques and Procedures**

This section discusses the techniques and procedures selected by the researcher to collect data for this research. There are various procedures for both types of research, qualitative or quantitative, that are discussed. First, the questionnaire design, procedures and sample collected are detailed. Then, the semi-structured interview procedures and content are discussed.

#### **4.3.1 Sampling Technique**

This study employed purposive sampling. According to Creswell (2013) purposive sampling is a non-probability sampling technique that is used to elicit information from a specific group of respondents specifically chosen because of their knowledge, competence, and eligibility to give reliable responses to a particular topic or issue raised. Purposive sampling can however raise the possibility of biases, but in some aspect, it also permits a more reliable result because of the qualification of the informants.

Thus, this research uses students as proxy for entry-level auditors and it is consistent with prior studies such as (Farag & Elias 2012; Fleming et al. 2010; Kwock et al. 2014). The rational for using undergraduate students as participants is that they are candidates to be future auditors who have to understand the basic accounting for the audit judgments. Additionally, their level of scepticism is not yet influenced by other factors like the experience of auditing or pressure from supervisors that may cause bias.

### 4.3.2 Respondents of the Study

Students were chosen as respondents in the study for two reasons. Firstly, they represent a population of potential auditors who have not yet received any audit training, and, therefore, trait professional scepticism can be correctly measured (Ashton and Ashton, 1995; Farag and Elias, 2012). They are expected to understand the influence of scepticism as a trait and unaffected by audit experience. Secondly, accounting, and indeed non-accounting, students close to graduation have almost completed their preparation to enter the profession. In this respect it is important to recognise that the accounting firms recruit significant numbers of students from across *all* types of degree programme. Additionally, students were chosen as respondents in this study since it is extremely difficult to get audit practitioners to participate especially if attempting to get a statistically valid sample for this research design. This is due to the busy schedules auditors have in their professional lives and this was evidenced by the researcher in this study in respect of getting them to respond to the interview invitations.

Using students, rather than auditors working in accounting firms, to test auditors' professional scepticism can be further justified. According to Houghton and Hronsky (1993), university accounting students have similar cognitive structures to practicing auditors or accountants. Therefore, the use of accounting students is judged appropriate since a sceptical attitude is not a concept solely confined to auditing. Furthermore, the knowledge gained during the undergraduate programmes at universities is associated with semantic memory, which relates to concept meanings and relations (Libby, 1995). The thirty items in the HPSS used to measure scepticism relate to the general concept of professional scepticism and is derived from the psychological perspective (Hurtt, 2010). Therefore, the items in the HPSS instrument are not technical accounting items but, instead, ask respondents questions which concern traits. Further, and the items are easily understood and fully comprehensible to the students (Hussin and Iskandar, 2013, p. 14). It has been argued students are not always an adequate surrogate for auditing professionals in respect of complex audit tasks (Lehmann and Strand Norman, 2006), but they can act as a surrogate for auditors in less complex tasks (see: Ashton and Ashton, 1995; Ashton and Krame, 1980; Mortensen et al., 2012; Peecher and Solomon, 2001; Robertson, 2010). Therefore, they are deemed suitable for this study where the

HPSS and AEDI tasks are not complex, and they represent the population of available entry-level auditors.

It is also important to state that behavioural research scholars in the accounting field regularly utilise students as proxies for auditors with, for example, Mortensen et al. (2012) providing evidence to support the suitability of using accounting students as surrogates for audit practitioners (see also, for example, Ashton and Kramer, 1980). Therefore, the use of final year accounting students is appropriate as the scales used relate to general concepts. For example, professional scepticism derived from the psychological perspective is measured with thirty items that are not technical and understood by accounting students (Hurtt, 2010).

Ciolek and Emerling (2019) explain that when hiring new trainees "audit firms require graduates who start to work as audit assistants to (already have a) ... level of (professional) scepticism" ( p. 4) and this implies that students will already possess traits relevant to scepticism. Hence, because scepticism is trait-based it can be understood as intrinsic to any individual regardless of whether they are an auditor or not; although this is not to imply that an individual's level of scepticism cannot be further developed if relevant training occurs. Further, when reviewing the literature on using students as surrogates in behavioural accounting research Ashton and Krame (1980) state that research involving decision-making supports it is appropriate to use of students as proxies as "the available evidence suggests that real-world decision makers possess information-processing characteristics and biases that are extremely similar to their student counterparts" (p. 3).

This study gathered the HPSS and AEDI data from 218 respondents as shown in table 4.1. The potential number of participants was 616 but attendance at the session and participation in the research was not compulsory for students. The data collection was undertaken over five sessions. A total of 218 questionnaires were completed and the sample size is sufficient for the validity of the research.



**Table 4.1 Population of the Questionnaire Sample**

Categories	Potential Maximum Number of Attendees	Actual Attendance	Percentage
TYMS Year 1	100	65	63%
TYMS Year 2	176	50	49%
TYMS Year 3	110	23	21%
TYMS Year 4	180	38	21%
NBS Year 3	50	42	84%
<b>Total</b>	<b>616</b>	<b>218</b>	

Table 4.2 shows the sample demographics of the respondents. There are almost equal numbers of female and male participants (male; n=103, female; n=104) and 11 participants selected not to state their gender with one missing answer. The age ranges from 17-39 years with an average age of 20 years. Regarding nationality, 71% of the participants are British (n= 154), 16.5% are Chinese (n=36) and 9 from other nationalities.

**Table 4.2 Demographics of Student Participants**

		Male n= 103	Female n= 104	Not stated= 11	Total n= 218
<b>Experience in Accounting</b>	Yes	31 (30.1%)	22 (21.2%)	5 (50%)	58 (26.6%)
	Mean	1.699	1.789	1.500	1.734
	Standard Deviation	0.461	0.4104	0.527	0.443
<b>Age</b>	Max.-Min.	(18-23)	(17-39)	(19-26)	(17-39)
	Range	5	22	7	22
	Mean	19.85	20.17	21.5	20.04
	Standard Deviation	1.319	2.55	2.321	2.063
<b>Year of Degree</b>	1 <sup>st</sup>	35 (34%)	29 (27.9%)	-	64 (29.4%)
	2 <sup>nd</sup>	25 (24.3%)	39 (37.5%)	4 (40%)	68 (31.2%)
	3 <sup>rd</sup>	24 (23.3%)	27 (26%)	-	51 (23.4%)
	4 <sup>th</sup>	19 (18.4%)	8 (7.7%)	6 (60%)	33 (15.1%)
<b>Nationality</b>	British	86 (56%)	60 (39%)	8 (10%)	154 (70.6%)
	China	8 (22%)	27 (75%)	1 (3%)	36 (16.5%)
	European	3 (33%)	6 (67%)	0 (0%)	9 (4%)
	Other	6 (33%)	11 (61%)	1(5.5 %)	18 (8%)

### 4.3.3 Questionnaires

Questionnaire distribution is a method that is typically implemented to collect large quantities of data. In this research the questionnaires are designed to measure two concepts; professional scepticism and moral reasoning. This is done using two scales (HPSS and AEDI) that have been applied separately in previous studies (table 4.3). However, this is the first study that has administered the two instruments concurrently in order to test for an association between the two concepts of moral reasoning and professional scepticism.

**Table 4.3 Scales Implementations in Previous Studies**

Author/s	Research Instrument	Respondents	Number of responses
Hurtt,(2010)	HPSS	Auditors	200
Hussin and Iskandar, (2013, 2015)	HPSS	Students, 2 <sup>nd</sup> year, Advanced Auditing and Investigation course	95
Olsen et al (2015)	HPSS	Accounting students	14
Qadackers et al. (2014)	HPSS	Professional Auditors, Big 4 companies	96
Farag and Elias (2012)	HPSS	Senior Accounting undergraduate students- after the completion of auditing course (two Universities)	278
Eutsler et al (2017)	HPSS	Professional Auditors	94
Fatmawati (2018)	HPSS	final year accounting students	227
Thorne(2000)	AEDI	Accounting students 4 <sup>th</sup> year (average 26 years old- 64% male)	119
Ge and Thomas, (2008)	AEDI	Chinese Accounting undergraduate Students- Final year	123
		Canadian Accounting undergraduate Students- Final year	111
Fleming et al. (2009)	AEDI	US- Accounting undergraduate Students- Final year	115
Fleming et al. (2010)	AEDI	Chinese Accounting undergraduate Students- Final year	221
		US- Accounting undergraduate Students- Final year	133
Abdelhak et al. (2019)	AEDI	Egyptian Auditors	178

The choice was made to select predesigned scales that have already been validated and used by previous scholars in order to build upon, and extend, previous research to make

a contribution. The overarching aim being to deepen our understanding of aspects pertaining to the auditing profession.

This questionnaire administered contains two scales: Hurtt's (2010) Professional Scepticism Scale (HPSS) and Thorne's (2000) Accounting Ethical Dilemma Instrument (AEDI).

The sample for this research consisted of undergraduate students from two universities in the UK. As detailed above, previous studies support the conjecture that students are satisfactory surrogates for auditing professionals and it is common for studies in audit to use students as surrogates (Table 4.3). It can be noted that in table 4.3 three of the HPSS studies have been conducted with auditors and four of the HPSS studies have been conducted with students as participants. The HPSS scale tests traits and, therefore, the participants can be either auditors or students.

The questionnaire design was developed such that, in addition to the inclusion of the HPSS and AEDI scales, students' demographic information was also collected. Students were asked to complete the forms voluntarily, no rewards were offered, and the anonymity of participants was guaranteed.

The questionnaire had three main parts. First, the HPSS scale is used to measure the professional scepticism of the participants. HPSS contains thirty questions to test six traits that according to Hurtt (2010) characterise professional scepticism. Second, a section was included to gather the demographic information of the participants. The participants were asked to identify their age, gender, education level, experience in auditing and ethical education. This section was in the middle of the questionnaire in order to avoid any bias on the HPSS scores. Finally, section three contains the AEDI test that comprises three accounting-specific vignettes with three tasks developed by Thorne (2000) based on Rest's (1986) DIT module. This section was last so that the researcher could provide the participants with specific instructions to guarantee that they understood the design of the task and what was actually required from them.

Distribution of the questionnaire to the targeted participants was within universities premises and within lecture halls. Although this procedure was time-consuming for the researcher, it granted the researcher the possibility of a higher response rate and timely data collection compared to online or postal questionnaires.

The questionnaire was given to participants with an informed consent form that explained what was expected from them and guaranteed their anonymity and confidentiality of their identification and responses. In addition, it guaranteed their right to withdraw at any stage or not to complete tasks (Cohen et al., 2011). The order of the tools within the instrument was presented in a way to minimise social desirability of responses regarding the sensitive issue of morals and priming effects.

Since the participants were students at undergraduate level the researcher introduced the questionnaire session and provided guidelines for the AEDI tasks which were set out in section 3 in the questionnaire (see appendix 1). This helped in maintaining good response and validity rates for the AEDI responses. Additionally, the researcher attended the sessions to respond to any queries, which was to minimise inaccurate responses due to requirements being misunderstood.

#### **4.3.4 Hurtt Professional Scepticism Scale (HPSS)**

For HPSS participants were required to provide responses based upon a six-point Likert scale, ranging from 1 for strongly disagree until 6 strongly agree. The aggregate score of the thirty items measures professional scepticism and the higher the score the higher the level of professional scepticism. From the total 30 statements that are intended to identify the participant's level of professional scepticism, 22 statements are positive statements and the remaining eight are reverse statements. The reversed statements are included in order to ensure that participants consider the question seriously and thus provide meaningful responses. The inclusion of reversed statements also reduces the biases of acquiescent and extreme responses (Sauro, 2011). Moreover, the questionnaire was piloted by the research in this study with a group of students to test their understanding and the time they required to complete it.

In section one of the questionnaire, participants were asked to complete the HPSS without being informed about the scale's subject in order to prevent untruthful, socially desirable responses. It was explained only that it was part of a judgment and decision-making study.

As discussed before in chapter 2, Hurtt's (2010) Professional Scepticism Scale (HPSS) is a comprehensive psychological scale (see Appendix 1). The scale is based on audit standards, psychology, philosophy, and consumer behaviour research. Indications are

that traits are 'fundamental parameters that sustain professional scepticism around which the state variation occurs. Individuals who exhibit higher levels of specific traits have been found to respond more strongly or differently to changes in circumstances than individuals with lower levels (Hurtt, 2010).

The HPSS is used to measure trait scepticism rather than state scepticism. Since state scepticism can change depending on the situational circumstances, trait scepticism is the best choice for this study since participants are reacting to general scepticism questions. Additionally, the type of questions used does not require any experience in an actual audit environment which is appropriate for the respondents being students.

HPSS measures six traits that form professional scepticism: questioning mind, suspension of judgment, search for knowledge, interpersonal understanding, autonomy and self-esteem. According to Hurtt (2010), sceptical individuals tend to demonstrate active questioning, keep an open mind until they collect all the evidence, have general curiosity and understand the auditee motivation, incentives and attitudes. They also require a level of professional courage and need to be convinced about the evidence.

The scale aims to measure the level of scepticism by answering thirty questions according to a six-degree scale. The scores can vary from 180 to 30 degrees and have proved to be consistent in prior research. Because 8 statements are reverse coded, to compute the total professional trait scepticism score, the score of the 8 statements is amended appropriately to derive the total score. The following statements are reverse coded:

Interpersonal understanding:

- I seldom consider why people behave in a certain way.
- Other peoples' behaviour does not interest me.

Autonomy:

- I do not feel sure of myself.

Self-Esteem:

- I tend to immediately accept what other people tell me.
- I usually accept things I see, read or hear at face value.

- I often accept other peoples' explanations without further thought.
- It is easy for other people to convince me
- Most often I agree with what the others in my group think

#### **4.3.5 Accounting Ethical Dilemma Instrument (AEDI)**

Many scholars in applied cognitive-development research emphasise the importance of using context-specific instruments (e.g, Arnold, 1997. Jones, 1991, Shaub, 1994; Trevino, 1986). Therefore, the AEDI developed by Thorne (2000) was selected to be employed in this study as it is context-specific being the only accounting-specific instrument developed to measure moral reasoning. Thorne (2000) introduced two different versions of the instrument, prescriptive and deliberative reasoning. Additionally, Thorne provided evidence that the psychometric properties of the instrument are comparable or better than those of the DIT with the same number of cases (Mintchik and Farmer, 2009).

The AEDI is an instrument that uses Rest's (1979) DIT as a prototype. There are two versions of the AEDI instrument, a short version and an extended one with six cases (Thorne, 2000). In this study, a three case AEDI instrument is used. The version used includes the three cases: (1) *Amelia and the ABC Company*, on conflict of interest, originally developed by Arnold and Ponemon (1987); (2) *Jack and Amey Construction*, on Auditor Independence, adopted from Ponemon (1988), and (3) *Oliver and Cygnet Company*, on whistleblowing, adopted from a case developed by Boritz (1994). The cases were slightly modified according to remove Americanisms in the language so that they were suited to the UK context and would be accessible by all participants. Thorne (2000) has concluded, via testing, that there is no significant difference between the longer and shorter version of the AEDI instrument. Because of the limited time for conducting the questionnaire this study used a three cases version.

#### ***Pilot testing***

A pilot study was conducted to identify ambiguities, errors, and confusing questions for the AEDI part of the questionnaire as well as the HPPS part. Pilot testing of the instrument was recommended for moral reasoning testing by Rest (1986b, p. 2.3) to

assess if the participants clearly understand the task. Pilot testing helps in highlighting issues and problems within the questionnaire prior to the execution (Flynn et al., 1990).

The questionnaires were discussed within a focus group of volunteer students from the York Management School, University of York. This focus group pilot work was undertaken after obtaining the ethical approvals that were granted 6<sup>th</sup> February 2017 in order to test the questionnaire. This helped in testing the format, confirming that the language was clear and that the questionnaire was not too long. Moreover, these results helped in the timing of the questionnaire and ensuring the necessary instructions were provided to the participants.

Prior to administering the AEDI, participants were provided with the necessary instructions. Although instructions were written clearly, the researcher asked the participants to stop after answering sections one and two of the questionnaires and wait for section three (AEDI) instructions. They were presented with the instructions with on-screen illustrations. This was to minimise any bias and the subsequent rejection of any forms that would consequently affect the sample size. The instructions focused on asking them to give their own opinion on the story given. They were asked to read the items carefully before ranking and to pace themselves to finish within the time allowed.

For the internal checks on subject reliability, there were two checks that Rest used (Rest, 1986b). The first is the M score check. "M" items are written to sound "lofty and pretentious but not to mean anything" (Rest, 1986b). These items are not representing any stage of thinking but rather represent the subject tendency to endorse statements for their pretentiousness rather than meaning. Thus, if the participant ranked M items high (raw score of 4 for M items or M percentage of 7 and more), then they response will be eliminated as this the participant is ranking items according to their perceived complexity and loftiness and not according to the meaningfulness of the items. The second internal check is the consistency check. If the participant's rated an item 1<sup>st</sup> then there should not be other items with a higher score. This inconsistency might result from careless responding, random checking, misunderstanding instructions, or changing their mind. Therefore, inconsistencies in 1<sup>st</sup> and 2<sup>nd</sup> ranks need to be identified and any inconsistencies in more than two stories or eight inconsistencies for one story should be eliminated. Finally, a higher score on the moral reasoning task indicates more sophisticated moral judgment (Thorne, 2000, p. 144).

### 4.3.6 Reliability

Before starting any analysis, the reliability and validity of the study instruments should be calculated (Creswell, 2013). Neuman (2006, p188) states that reliability means dependability or consistency it is the internal consistency of the items used to develop the instrument. On the other hand, validity suggests truthfulness of the instrument and how well an idea fits with the reality. Perfect reliability is difficult to be achieved, however, it can be raised by the use of a clear conceptualisation of concepts, precise measurements, multiple indicators and pilot tests. Piloting or pre-testing of the research instrument can help to improve the reliability of any construct. It is not correct that if a construct is reliable then it will be valid as well, as the measure can be reliable but invalid.

In order to prepare the data for analysis, tests of reliability and validity were applied for both scales. Reliability of the scale illustrates how the scale is free from random errors (Pallant, 2016). Both scales used have been appropriately applied by previous research as is illustrated in the following section.

One means of testing validity is to perform a test the internal reliability of the scale and to do that Cronbach's coefficient alpha is used. Cronbach's alpha is an estimate of an instrument's "internal consistency reliability" based on the average correlation among items within the instrument (Cronbach, 1951; Gliem and Gliem, 2003). The alpha score is the number of instrument items as a (numerator) divided by the heterogeneity of the sample in response to the items (denominator) (Bernardi, 1994). This statistic gives an indication of the average correlation between the items that make up the scale (Pallant, 2016, p. 6).

According to (Pallant, 2016) there are different levels of reliability required depending on the nature and purpose of the scale. A minimum of alpha value of 0.7 was recommended. However, the value of Cronbach's alpha depends on the number of items in the scale. For instance, if the scale consists of less than 10 items then the expected value of the alpha is low, therefore, it is recommended to calculate the optimal mean inter-item correlation value which is recommended by Briggs and Cheek (1986) to range from 0.2-0.4.



### **4.3.7 Validity**

The scale validity is the degree to which it measures what it is intended to measure (Pallant, 2016). There are three types of validity, content, criterion and construct. According to Svensson (2014, p. 1637), content validity refers to the adequacy of the scale and extensiveness in the coverage of important areas. Criterion validity refers to the scale conformity to a true state of a gold standard depending on the purpose of the study. Construct validity refers to the consistency between scales having the same theoretical definition (Svensson, 2014).

The data collected is of an ordinary type that requires the use of nonparametric analysis tools (Pallant, 2016). However, in social science research it is common that data does not meet the assumptions for the statistical techniques that the researcher uses, therefore, Pallant (2016, p. 115) provides three options, the first one being to use parametric techniques anyway with the hope that it does not seriously invalidate the findings. The second option is to manipulate the data so that the assumptions of the parametric statistical test are applicable, and the third is to use nonparametric techniques instead. The risk with nonparametric tools, however, is that they tend not to be as powerful since they are less sensitive in detecting relationships or differences among groups (Pallant, 2016, p. 116).

### **4.3.8 Administration**

The researcher administered and observed the data collection sessions in person to ensure a high response rate and minimise incorrect responses due to any misunderstanding of the questions by the respondents (Keller and Warrack, 2003).

Paper-and-pen administration was selected to conduct the questionnaires within a classroom setting to ensure a higher participation rate and minimize the number of rejected forms.

The questionnaire was divided into three sections. First the HPSS test, then some demographic and background questions. Finally, in section three the AEDI and the three cases scenario were used. The instructions on the questionnaires were provided to the participants through in-session verbal and visual presentation. Since section, three is a long section and complex, participants were asked to wait for instructions before starting

this section. This was to minimise the rejection of forms either uncompleted or with biased answers.

#### 4.4 Semi-Structured Interviews

Employing semi-structured interviews in mixed methods research provides a means for reflecting upon variables and for addressing the research questions. The interviews were conducted by the researcher in this study. The interviews took various lengths of time based on the contribution of the interviewee, ranging from 18-45 minutes. The interviews started with confirming the content of the consent form and asking for agreement on recording the interview. Then, the researcher briefly introduced the topic to the interviewee since they had already received the research fact sheet (see appendix) in advance with the consent form.

Interviews were conducted to further address the research questions by gaining a deeper understanding of both concepts of professional scepticism and moral reasoning and how they may (or may not) be associated. Interviews can provide a deeper understanding of professional scepticism and moral reasoning especially as they are related to people's behaviours. The interview invitations were sent to auditors in the UK and audit related regulators and standard setters like ICAEW, ICAS and FRC using LinkedIn. Additionally, there were invitations sent directly to people within the network of the researcher. More than fifty emails were sent to invite audit participants from various levels and organisations, but the response was weak as is typical in interview-based research. A total of five interviews were conducted. Three with auditors with more than two years' experience and two with people from UK standards setting and regulatory bodies. The interviews with auditors are referred as AP1, AP2 and AP3, while the other two interviews are referred to as AR1 and AR2.

The interview started with a brief description of the research concepts (appendix: the research interview briefing). Then the following main questions were asked:

1. Define Professional Scepticism according to your understanding.
2. How it is applied in practice? Do you think there are only two ends (neutral or presumptive doubt)?
3. What do you think of the professional scepticism level of new auditors?

4. How is moral reasoning important to auditors?
5. What is the effect of experience on professional scepticism?
6. What is the effect of training on professional scepticism?
7. What is the effect of moral reasoning on professional scepticism?
8. How is it best to develop professional scepticism with regard to moral reasoning?

Additional questions were added according to the direction of the conversation and to get deeper insights. Although the participants were provided with choices of how they prefer the interview to be held all five interviews were done through telephone calls.

The analysis of the interviews was done by reference to each core research question and interesting points of view were identified and discussed. This helped the researcher explore the association between professional scepticism and moral reasoning in auditors' decision-making.

There have been calls from scholars to enrich the ethics literature by using qualitative methodologies (see, for example, Cohen and Holder-Webb, 2006; Gaa, 1994; Jones, et al., 2003). Therefore, interviews help in obtaining the views from practitioners on other variables and factors that affect the implication of professional scepticism and moral reasoning in reality. Moreover, interviews facilitate gathering opinions on the practicality of any suggested solutions.

There are three different ways to approach interviews: structured, semi-structured and unstructured (Bryman and Bell, 2015). Structured interviews consist of predetermined questions similar to a survey which means limited interaction with the interviewee and limits the possibility of collecting data rather than those issues and themes that the researcher prepares in advance. Unstructured interviews are like a conversation without any prearranged goals or set of questions. It is more convenient for exploratory research. Accordingly, a semi-structured interview is the one chosen for this study and has some predetermined questions that helped in analysing the data and allowed the researcher to ask key questions in an open-ended style that combined the advantages of structured and unstructured interviews.

The semi-structured interview is a form of synthesis between structured and unstructured interviews. It allows the interviewer to spontaneously raise new questions based on the conversation with the interviewee (Jaccard and Jacoby, 2010). Those opinions and reflections on audit practical mechanisms provide rich insight on the research concepts.

Moreover, semi-structured interviews allow the researcher to interact with the interviewee with follow up questions on the aspects that need further clarification. In addition, they provide flexibility in the order of the questions as the conversation with the interviewee evolves (Saunders et al., 2009). An interview topic guide (Appendix 2) was prepared with a set of main questions and sub-questions that were found to be essential.

#### **4.4.1 Administration**

The interview outline was sent to participants via e-mail then a meeting appointment was scheduled. The interviews were scheduled to take a maximum of 60 minutes and were conducted in the interviewee work premises or via the phone if necessary. A set of questions was prepared as guidance to the researcher (see Appendix 2).

#### **4.4.2 Participants**

The semi-structured interviews were with audit practitioners in the UK in order to discuss the concepts of professional scepticism and moral reasoning within the professional auditing environment.

In conducting the semi-structured interviews, the snowballing technique was used in order to gain access to practitioners, especially those who have might have a greater interest in the topic. In choosing the participants it was important to select a variety of working environments in order to get a deeper understanding about the different approaches and strategies towards auditors' professional scepticism and moral reasoning. There were some potential limitations involved with the interviews. People's experiences and biases can interfere in their responses and therefore, biases and expectations may influence the interviewees' perspectives. Additionally, the difference in cultures and languages between the interviewees and the interviewer might result in

some misunderstanding, although the long practical experience of the researcher minimized this.

#### **4.5 Ethical Risks and Ethical Approval**

While conducting this study there were a number of ethical issues that might have appeared. Saunders et al. (2009, p.202) defines ethics as the appropriateness of your behaviour in relation to the rights of those who become the subject of your work or are affected by it.

The key ethical problems that most research is exposed to are the following: personal privacy, absence of informed consent, maintenance of participants' anonymity, misuse of data, and participants' deception (Bryman and Bell, 2015; Saunders et al., 2011). Thus, to minimise ethical risks in this study, ethical approval was obtained from the Economics, Law, Management, Politics and Sociology Ethics Committee (ELMPS) on the 6<sup>th</sup> of February 2017. This study complies with all the ethical requirements in order to minimise any risks to the participants, researcher and institution. This was achieved by:

- a. Ensuring all participants provided an informed consent signed form before handing them the questionnaire or conducting the interview (see Appendix 3 Interview Consent Form; and Appendix 4 Questionnaire Consent Form).
- b. Coding the participant's names in order to maintain confidentiality and anonymity in all public documents.
- c. Minimising deception and misuse by clarifying the research objectives on the front page of the questionnaire as well as providing a copy of the results to the interviewees.

#### **4.6 Data Analysis**

The analysis of the data gathered was undertaken using SPSS for the quantitative part of the research. The qualitative data was analysed manually since there were five interviews and this enabled a thorough thematic analysis. Furthermore, the AEDI analysis has a specific approach which was followed by the researcher, that requires manual analysis and calculation of the scores based on Rest's (1979) DIT manual.

#### **4.7 Limitations of the design**

There are challenges associated with any research design. This study has adopted a mixed methods approach, and this requires certain skills, time and resources for extensive data collection and analysis. Most importantly, there is a need for “educating and convincing others of the need to employ a mixed methods design so that a researcher’s mixed method study will be accepted by the scholarly community” (Creswell and Clark, 2011, p. 13).

The researcher needs to fully understand some essential issues regarding the rigours of quantitative data collection and analysis including (reliability, validity, and generalisability). Similarly, in respect of the qualitative research the researcher needs to identify the central phenomenon of the study. The researcher must understand essential issues in qualitative data collection and analysis including persuasiveness, credibility, trustworthiness, and common validation strategies.

Questionnaires are limited in that they provide information from a set of participants in a snapshot of time. The responses are dependent on the participant’s state of mind and experience. Additionally, to be able to generalise the findings of the study the number of participants should be representative of the population.

Interviews carry inherited selection bias since some participants will respond to the interviewer, but others will not. Additionally, there are differences between participants in their prior audit experiences and exposure to dilemmas which are then reflected in their responses. However, it is the researcher’s role to offset those limitations whenever possible. Face-to-face interviews are favourable since the researcher can act on verbal cues, some interviewees schedules and circumstances can mean carrying out a phone interview.

#### **4.8 Conclusion**

In this chapter, the research philosophy and design were discussed. The research using a mixed methods approach by combining both questionnaires and semi-structured interviews in order to answer the research questions. The methods applied by the

researcher were discussed and justified. The following chapters provide the results of the data gathering and, in addition, provide the detailed analysis of the results.

# Chapter 5

## 5. Testing for Professional Scepticism: Analysis of Results

### 5.1 Introduction

This chapter addresses the first research question: How do the levels of professional scepticism in the UK context compared to levels of professional scepticism in non-UK contexts? This is achieved through the analysis of the data collected through the administration of the HPSS questionnaire. Thus, the following sections set out the statistical and graphical analysis of the data collected in respect of the HPSS. In addition to providing an analysis of the overall HPSS scores this section also examines the scores for the six individual trait levels which comprise HPSS. The chapter uses appropriate statistical tests to analyse the data and to examine the relationship between variables.

The next section 5.2 provides the sample profile. The HPSS overall results are then analysed in section 5.3. Section 5.3 consists of a number of sub-sections. A reliability and validity test of the professional scepticism scale is performed, as reported in sub-section 5.3.1, which confirms the testing is valid and reliable. The overall results for the HPSS test on The York Management School (TYMS) and Newcastle Business School (NBS) students (Northumbria University) are reported in sub-section 5.3.2 and then compared to the results of prior studies in sub-section 5.3.3. The HPSS scores for this test on UK students are comparable to the HPSS scores in prior studies. This is followed in 5.3.4 by tests for any association between HPSS scores and age, gender or nationality. These tests confirm the results of prior studies in finding no association between HPSS scores and any of the three variables. Section 5.4 compares the HPSS scores for TYMS and NBS. There is a statistically significant difference observable between the HPSS scores for TYMS and NBS students. These results are analysed further to investigate which of the six HPSS characteristics display a statistically significant difference observable between the HPSS scores for TYMS and NBS students. The two characteristics that display this difference are search for knowledge and interpersonal understanding. The reasons for the difference for these two characteristics are



considered with reference to the differing nature of the programmes offered by TYMS and NBS.

## 5.2 Sample Profile

The questionnaire was administered to undergraduate students at TYMS and NBS. The NBS students were all in their final year of undergraduate study whereas for TYMS the students were year one, year two, and final year undergraduate students. The NBS students were studying for a BSc Accounting degree and were all enrolled in an auditing module. The year one and final year TYMS students were studying for the BSc Accounting, Finance and Business Management (ABFM) degree; however, year two TYMS students comprised students who were studying for the BSc ABFM degree and students who were studying for the BA and BSc Management degrees. This enabled the researcher to examine levels of professional scepticism, as measured using HPSS, with reference to characteristics including the level (year) of undergraduate study, and programme of study (accounting and non-accounting programmes).

**Table 5.1 Sample of students for HPSS questionnaire**

<b>Student year</b>	<b>Degree</b>	<b>Institution</b>	<b>Number registered to attend</b>	<b>Actual attendance</b>	<b>%</b>
<b>Year 1</b>	ABFM	TYMS	100	65	65.0%
<b>Year 2</b>	Management	TYMS	176	50	28.4%
<b>Year 2</b>	ABFM	TYMS	110	23	20.9%
<b>Final Year</b>	ABFM	TYMS	180	38	21.1%
<b>Final Year</b>	Accounting	NBS	50	42	84.0%
<b>Total</b>			<b>616</b>	<b>218</b>	<b>35.4%</b>

The questionnaire was administered in a scheduled (timetabled) session for each student group. Students were advised in advance that the lecture would comprise participating in a research study and it was explained that they were not obliged to participate. In total 218 questionnaires were completed (see table 5.1). The number of students registered to attend the classes was 616 students and, therefore, 35.4% of the students elected to participate in the study.

Of the 218 students completing the study 176 (80.7%) were TYMS students and 42 (19.3%) were NBS students; 168 (77.1%) students were studying for an Accounting-ABFM degree and 50 (22.9%) students were studying for a Management degree. The numbers of year one, year two, and final year students completing the questionnaire were, respectively, 65 (29.8%), 73 (33.5%) and 80 (36.7%) students.

The gender of the participants is split almost equally between female (104) and male participants (103), and with 11 students preferring not to state their gender (table 5.2). Table 5.2. provides a breakdown of the nationality of the participants.

**Table 5.2 Gender and nationality for students participating in HPSS questionnaire**

<b>Nationality</b>	<b>Male</b>	<b>Female</b>	<b>Gender stated</b>	<b>not</b>	<b>Total</b>
<b>British</b>	<b>86</b>	60	8		154
<b>Chinese</b>	<b>8</b>	27	1		36
<b>European</b>	<b>3</b>	6	1		10
<b>Other</b>	6	11	1		18
<b>Total</b>	<b>103</b>	<b>104</b>	<b>11</b>		<b>218</b>

### 5.3 HPSS – overall results

This section reports the overall result of calculating the HPSS scores for the sample. As explained in the methodology chapter it is important to perform tests for reliability and validity. The results of the reliability tests are reported in the first sub-section and the validity is confirmed. The second sub-section provides the overall HPSS results and descriptive statistics. The overall HPSS results for this UK-based study are compared to results in prior studies in the third sub-section and are found to be comparable to prior studies which have been conducted in a non-UK setting. The final sub-section tests for associations between the HPSS scores in this study and age, gender and nationality.

#### 5.3.1 HPSS – reliability and validity

To ensure the HPSS results are reliable and that there is internal consistency Cronbach’s coefficient alpha is calculated. Testing in this way using Cronbach’s alpha is important to ensure the findings are based on accurate measures of the underlying constructs and

this is necessary when dealing with the measures of non-observable constructs (Flynn et al. 1994) such as professional scepticism. A detailed discussion of the questionnaire has been provided in the methodology chapter (see section 4.3.3) and this includes a detailed discussion concerning reliability (see sections 4.3.6).

Cronbach's alpha is a commonly used measure of reliability, and it is an estimate of an instrument's reliability based on the average correlation among items within the instrument. The alpha score is calculated as the number of instrument items as a (numerator) divided by the heterogeneity of the sample in response to the items (denominator) (Bernardi, 1994). Whilst a value for Cronbach's alpha above 0.7 is considered acceptable, a value above 0.8 is preferable (see, for example, Pallant, 2010; Hair et al., 2014).

In this HPSS study, the figure calculated for Cronbach's alpha is 0.85 and this is above the recommended minimum of 0.80. The value for Cronbach's alpha of 0.85 compares favourably to the values for Cronbach's alpha in other HPSS studies. Thus, Hurtt (2010) reported that the HPSS testing she had undertaken demonstrated good internal consistency with Cronbach's alpha coefficient reported at 0.79 with sample size 200, whilst Quadackers et al. (2014) and Farag and Elias (2012) both reported a Cronbach's alpha of 0.83 with sample sizes of 96 and 292 respectively. Therefore, this suggests the Cronbach's alpha calculated for the HPSS research undertaken in respect of this thesis can be considered reliable.

**Table 5.3 Cronbach's alpha for individual traits: this study compared to Hussin and Iskandar (2013)**

HPSS Individual Trait	Cronbach's alpha	
	This study	Hussin & Iskandar (2013)
Search for knowledge	0.87	0.75
Suspension of judgment	0.77	Trait not tested
Self-esteem	0.66	0.65
Interpersonal understanding	0.79	0.68
Autonomy	0.87	0.77
Questioning mind	0.68	0.69

The values for Cronbach's alpha can also be calculated for each of the six individual traits which comprise the overall HPSS. However, it is important to note that the value

of Cronbach's alpha is dependent on the number of items in the scale (see, for example, Pallant, 2016) and if the scale consists of less than 10 items then the expected value Cronbach's alpha will be low. Therefore, it should be expected that the values for Cronbach's alpha for the six individual traits care will be lower than the overall figure for Cronbach's alpha. Table 5.3 sets out the results of testing for Cronbach's alpha for the individual traits constructs and, whilst these are lower than 0.85, they are still acceptable. Further, the Cronbach's alpha results for this study compare favourably with the results of Hussin and Iskandar (2013).

In addition to ensuring reliability, it is necessary to ensure the test is valid. Validity is the degree to which the questionnaire reflects reality and measures what it is intended to measure (Pallant 2016). The validity concept is discussed in detail in the previous methodology chapter (see; Chapter 4, section 4.3.7). The construct validity of the HPSS questionnaire was checked by undertaking a pilot test with a small sample of students who were not in the cohorts for the main testing. This ensured the questions were understandable. The scales have also been externally validated through having been successfully administered in previous studies (see; for example, Hurtt, 2010).

### 5.3.2 HPSS – overall results and descriptive statistics

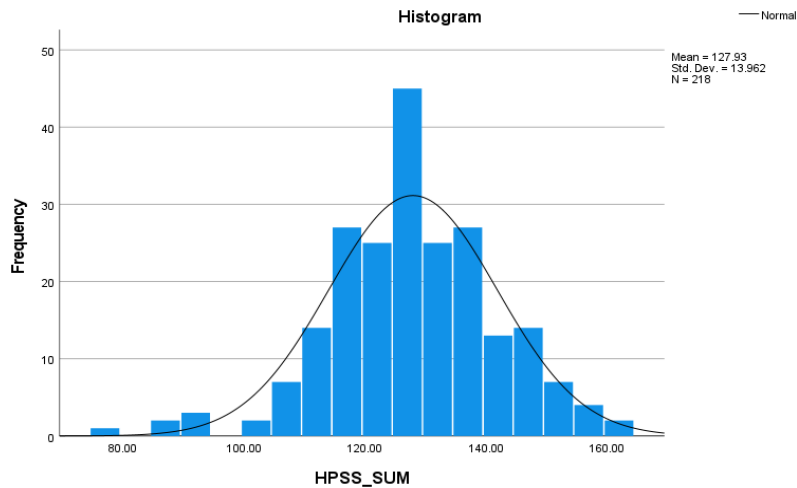
The HPSS questionnaire comprises thirty statements and responses are based upon a six-point Likert scale, ranging from 1 for strongly disagree until 6 strongly agree. The aggregate score of the thirty items measures professional scepticism. Therefore, the minimum possible score is 30 and the maximum possible score is 180. The higher the HPSS score, the higher the level of professional scepticism.

The descriptive statistics for this study are provided in table 5.4 and the mean HPSS professional scepticism score is 127.93 for the total sample of 218 students.

**Table 5.4 Descriptive statistics for HPSS score**

	Mean	Standard deviation	Range
HPSS	127.93	13.962	77-164

To check whether the HPSS scores data is normally distributed a histogram has been produced using SPSS. The figure indicates the data has an approximate normal shape that indicates the HPSS scores are displaying normality (Hair et al. 2010).



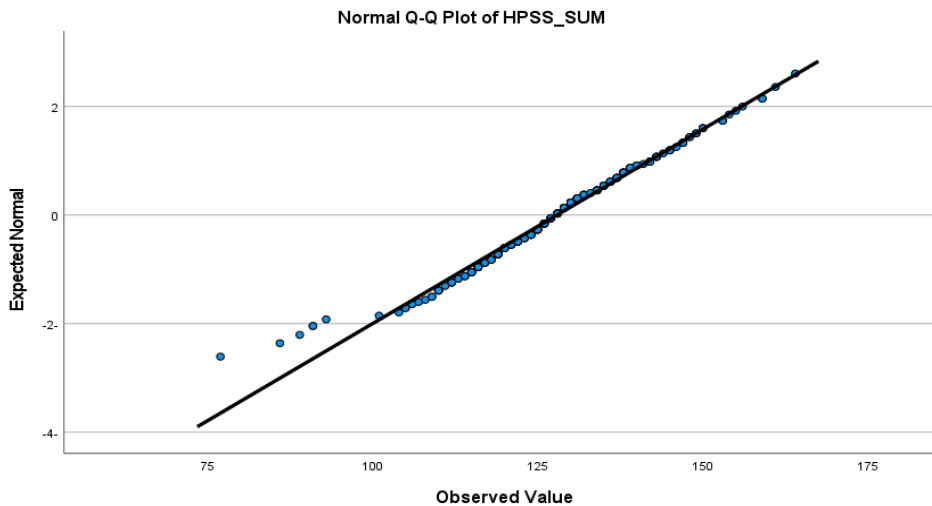
**Figure 5.1 HPSS normality histogram**

In addition to conducting a visual inspection of the histogram in figure 5.1 the residuals, which can be observed in the Q-Q plot set out in figure 5.2, also indicate the HPSS scores are normally distributed. The HPSS scores have an original mean of 127.93 and a 5% trimmed mean of 128.18 and, thus, there are no extreme values that appear to have an effect on the result.

Skewness provides an indication of the symmetry of the distribution, where positive values mean that scores are clustered to the left and the negative values means that the scores are clustered to the right (Pallant 2016). The skewness of the HPSS data is -0.200 which indicates there is only a very small amount of clustering to the right<sup>2</sup>. In reasonably large samples, as is the case here, this amount of skewness will not make a significant difference (Tabachnick & Fidell 2007, p.80). Kurtosis provides information on the peak of the distribution. Positive kurtosis means that the value is peaked or clustered in the centre. In this sample, the Kurtosis is close to one 0.602 which confirms the preliminary assumption of normality which was derived from the histogram.

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<sup>2</sup> A perfectly normal distribution has skewness and kurtosis values equal to zero. Harwell et al. (1992), cited in (Yankova 2014) classify skewness values above 0.5 as mild deviations from normality.



**Figure 5.2 Normal Q-Q plot of HPSS scores**

According to the central limit theorem, normality is not an issue with a large samples since it consists of normally distributed data regardless of the shape of distribution (Field 2009). Wooldridge (2009) states that some researchers consider a sufficient sample size to be 30 as does Field (2009) who states that a sample size of over 30 is considered a large sample size Other researchers provide a more conservative guideline where they consider sample size above 50 to be large (Pallant 2016). The sample size used in this study is 218 and, therefore, can be considered large. Based on these arguments and the results of the normality checks, it can be concluded that the normality assumption is tenable for this data.

### **5.3.3 HPSS – overall results comparison to results of prior studies**

The results for previous studies and the overall results for the current study are as set out in table 5.5. Whilst the mean for the current study is slightly below the mean for the other prior studies, and the current study also displays a greater range of results and higher standard deviation, the difference is not significant. Overall, the results for the current study are comparable to the prior studies.

As this is the first study applying HPPS to the UK context then this suggests, prima facie, the HPSS test is applicable in the UK context. There are, of course, international students within the TYMS and NBS cohorts. If these are removed from the TYMS and NBS samples then the HPSS results are still comparable to the results of prior studies. It can also be noted that the prior studies include studies that both use auditors and that use students as proxies for auditors. The results of this study does provide some evidence that it is valid to use students as proxies in this type of auditing study.

**Table 5.5 Descriptive statistics for HPSS score for prior studies and the current study**

	Mean	Standard deviation	Range	Sample
Hurt et al. (2010)	138.60	12.6	111-173	USA auditors
Farag and Elias (2012)	134.91	Not reported	Not reported	USA accounting students
Quadackers et al. (2014)	133.09	10.84	103-158	Dutch auditors
Current study	127.93	13.962	77-164	See above

### 5.3.4 HPSS – overall results and associations between HPSS and age, gender and nationality

Prior studies have all concluded there is no association between HPSS and either gender, age or nationality. Pearson's correlation coefficient<sup>3</sup> ( $r$ ) has been calculated to test whether there are any significant associations between these three variables and overall levels of professional scepticism in this study.

The strength of the relationship between two variables using Pearson's correlation coefficient is normally described in the following manner: small  $r = 0.10$  to  $0.29$ , medium  $r = 0.30$  to  $0.49$ , large  $r = 0.50$  to  $1.0$  (see, for example, Field, 2009; Pallant, 2016). Pearson's correlation coefficient calculated in this study (see table 5.6) indicates there is a gender effect but it is small ( $r = -.133$ ). The nationality effect might be caused by the dominance of the British students 70% of the sample as illustrated in Table 4.2, therefore, the significance is not to be considered accurate. – gender, age, or nationality. Therefore, this accords with the results of prior studies.

**Table 5.6 Pearson's correlation coefficient (r): HPSS and gender, age and nationality**

	Age Coefficient $r$ (sig. (2-tailed))	Gender Coefficient $r$ (sig. (2-tailed))	Nationality Coefficient $r$ (sig. (2- tailed))
<b>HPSS</b>	.020 (.773)	-.133 (.050)	.194 (.004)

### 5.4 HPSS – comparison of results for TYMS and NBS participant groups

<sup>3</sup> Pearson's correlation coefficient,  $r$ , is a parametric statistic and requires interval data for both variables assuming they are normally distributed (Field 2009, p.186).

In this study there are two different participant groups: the TYMS students and the NBS students. The NBS students are studying a technically-focused accounting degree which is oriented towards students being eligible for professional accounting examination exemptions should they elect to go on to a career in the accounting profession. In contrast, whilst the TYMS students studying for the ABFM degree are provided with technical accounting content, the nature of the degree programme differs from the NBS accounting degree. As discussed in chapter four the ABFM degree has not been designed to maximise exemptions in respect of the professional accounting examinations. Instead the degree has been developed as a broad degree which includes a significant amount of ‘general’ management content and the rationale underpinning the degree is that it is designed to encourage the students to be ‘critical thinkers’. Whilst the TYMS students studying for the Management degree (rather than the ABFM degree) only receive modules in accounting which are foundational, this same TYMS rationale of developing the students as critical thinkers applies.

**Table 5.7 HPSS scores and standard deviations for TYMS and NBS participant groups**

<b>Group</b>	<b>Degree</b>	<b>Number</b>	<b>Mean score</b>	<b>HPSS</b>	<b>Standard deviation for HPSS score</b>
<b>TYMS</b>	ABFM & Management	<b>176</b>	129.04		13.201
<b>NBS</b>	Accounting	<b>42</b>	123.38		17.081
<b>Total</b>		<b>218</b>	<b>127.93</b>		<b>13.960</b>

The HPSS scale comprises six categories including, for example, categories ‘search for knowledge’ and ‘questioning mind’. Therefore, as discussed in chapter four the different underlying nature of the programmes in TYMS and NBS may impact on the development of the students in the TYMS and NBS groups and may affect the ability of the students to be sceptical. The mean HPSS scores for the two different groups of students are set out in table 5.7 and TYMS students have a mean HPSS score of 129.04 compared to the mean HPSS score for NBS students of 123.38.

To compare the HPSS scores for the two groups the independent t-test is applied to test whether there is a significant difference in the HPSS means. The independent t-test is a parametric test used in comparing two sets of scores. It is applied with the assumption



that the variance of the populations is approximately equal; i.e. that there is homoscedasticity with the scattering of the HPSS scores in the two sets of data approximately the same. Levene's test can be applied to test whether the population variances are equal. If the result for Levene's test is significant (value < 0.05) then the two variances are significantly different, and the independent t-test cannot be used; however, if the result for Levene's test is not significant (value > 0.05) then the two variances are not significantly different, and the independent t-test cannot be used.

The Levene's test result for the HPSS scores for TYMS (n=176) and NBS (n=42) students is 2.180 with a p-value of 0.141 which is not significant. Therefore, when considering the overall HPSS score there is no significant difference between the TYMS HPSS score and the NBS HPSS score. However, whilst the overall HPSS scores for TYMS and HPSS are not significantly different there may be differences in the disaggregated scores for the six categories. Therefore, when comparing TYMS and NBS examining for differences in the mean scores for the six categories which comprise the overall HPSS scores may reveal differences in how each institution develops its students. The mean scores for the six HPSS categories for the two different groups of students are set out in table 5.8, and also included in the table are the values for the Levene test and the *p*-values for independent t-test.

**Table 5.8 HPSS category scores and standard deviations for the TYMS and NBS participant groups**

HPSS category	TYMS (n = 176) [mean (SD)]	NBS (n = 42) [mean (SD)]	Levene's Test Sig.	<i>t</i> (independent sample test)	p-value (two- tailed)
Search for knowledge	27.17 (4.523)	24.67 (5.568)	1.836	3.069	0.002
Suspension of judgment	22.46 (3.726)	21.45 (4.581)	1.983	1.512	0.132
Self-esteem	23.52(4.005)	23.43 (4.226)	0.082	0.135	0.896
<b>Interpersonal Understanding</b>	<b>22.60 (3.518)</b>	<b>19.33 (5.568)</b>	<b>19.312</b>	<b>4.763</b>	<b>&lt;0.001</b>
Autonomy	21.61 (4.299)	22.62 (3.999)	0.378	-1.379	0.169
Questioning Mind	11.79 (2.755)	11.70 (2.626)	0.030	-0.242	0.809

When examining the HPSS scores within each of the six categories then we can observe that there is a statistically significant difference in two categories: search for knowledge and interpersonal understanding. In both of these categories, TYMS students' scores are greater than NBS students' scores. It is important to consider why there might be a difference in these two categories as this may potentially give insights into how professional scepticism can be developed in individuals. The discussions that follow consider the two characteristics and why there might be differences. It is very important to note that the discussions are not ranking the institutions against one another. Nor are the discussions in any manner implying that one institution is providing a better teaching and learning experience than another.

The first characteristic to consider is search for knowledge. Hurtt (2010) explains that this characteristic differs from the questioning mind characteristic as the latter "has some sense of disbelief or doubt, while the search for knowledge is more of a sense of general curiosity or interest" (Hurtt, 2010, p. 153-4). Hence, this characteristic is associated with individuals who are inquisitive and enjoy pursuing knowledge for its own sake. They are not necessarily wanting to use that knowledge for a particular end but they gain an innate pleasure from investigating the world around them and from examining the different phenomena within the world. Therefore, these individuals are natural 'explorers' and 'discoverers'.

The search for knowledge score is higher for TYMS participants than the NBS participants. This raises questions what might cause that. Further research would be necessary to ascertain if the type of modules delivered or the design of the modules or the underlying programme design has an impact on developing the students as critical thinkers in the two universities.

The second characteristic to consider is interpersonal understanding. Hurtt (2010) explains that this characteristic is important as it is "only by understanding people that a sceptic can recognize and accept that different individuals have different perceptions of the same object or event" (Hurtt, 2010, p. 154). Thus, this characteristic is concerned with having a facility for querying the motivations that underlie the behaviours of people and for being able to acknowledge that people are dissimilar and, hence they understand and interpret the world differently. Further, possessing this characteristic means one recognises that individuals may be biased in how they present or interpret information

and that it is hard to know when information is being presented in a biased manner. This is necessary for professional scepticism as it implies that having a higher level of interpersonal understanding will mean you will be better placed to recognise bias.

This characteristic is linked to critical thinking. Therefore, the question arises why might TYMS' students display higher levels of interpersonal understanding? The reason might, again, be related to TYMS seeking to assist students to be 'critical thinkers'. Critical thinking has been described as follows:

Critical thinking is ... self-disciplined thinking ... People who think critically consistently attempt to live rationally ... keenly aware of the inherently flawed nature of human thinking ... They use the intellectual tools that critical thinking offers – concepts and principles that enable them to analy[s]e, assess, and improve thinking ... They realize ... they will at times fall prey to mistakes in reasoning, human irrationality, prejudices, biases, distortions, uncritically accepted social rules and taboos, self-interest, and vested interest. (Elder 2007)

The references to the “inherently flawed nature of human thinking” and that people are “prey to ... prejudices (and) biases ... self-interest and vested interest” are suggestive of the notion of interpersonal understanding as set out by Hurtt (2010). Consequently, if TYMS is developing this ability to be a critical thinker it is possible this can explain why there is a higher score for interpersonal understanding.

The above discussions regarding differences between TYMS and NBS are founded on the assertion that programme design can influence the development of professional scepticism, with both universities programmes having different orientation and with different levels of focus on incorporating critical thinking. This needs further consideration in respect of the other four characteristics. Namely, for the other four characteristics there is no TYMS-NBS HPSS score difference and, therefore, it needs to be considered whether the orientation programmes and the development of critical thinking would also be expected to impact on any of the other four characteristics?

It can be argued that it is unlikely that the different programme orientation would impact on the two characteristics of autonomy and self-esteem. Autonomy is included by Hurtt (2010) as she considers it necessary that an auditor has the courage to 'stand up' to auditees and to withstand any pressure that may be applied as they carry out an audit. Self-esteem is a matter of having a high degree of self-belief and trust in one's abilities.

This is because having self-belief, and by implication self-worth, will mean an auditor has faith in the judgements they make and as an outcome be willing to challenge the auditee. These are both characteristics which are largely dependent on the individual's psychological make-up. They are not likely to be developed because a university programme focuses on critical thinking. Consequently, we might not expect there to be any difference between TYMs and NBS students for autonomy and self-esteem.

The remaining two categories are suspension of judgment and questioning mind. Suspension of judgment is important in professional scepticism as it is connected to the need to reserve making a judgment until sufficient, appropriate evidence has been collected on which a sound verdict can be made. A questioning mind implies that the auditor is willing to doubt evidence and does not simply accept it at its face value. This suggests the auditor will 'look behind' the information to see, for example, if it is consistent with other evidence. These two concepts do appear to have some possible connection to critical thinking. One might expect a critical thinker to want to corroborate evidence before coming to a conclusion. And to describe someone as a critical thinker might reasonably be thought to suggest they will not be quick to make judgements but will prefer to spend some time reflecting on the evidence and whether it is sufficient. Therefore, given the reasoning set out above when considering search for knowledge and interpersonal understanding then might also expect that these two categories would have resulted in higher HPSS scores for TYMS. Whilst table 5.9 does indicate that TYMS has higher scores for both questioning mind and suspension of judgement, the difference is not statistically significant.

This suggests that there is a need to be tentative in respect of concluding which program has the outcome that it also develops the characteristics of professional scepticism associated with search for knowledge and interpersonal understanding. However, there is some evidence to suggest programme design potentially affects the development of some characteristics that make up professional scepticism. This raises the need for further research on certain aspects of professional scepticism that can be developed differently within educational institutes.

## **5.6 HPSS conclusions**

This chapter addresses the first research question by analysing the professional scepticism levels with the students used as a proxy for the UK novice auditors. The HPSS Cronbach's alpha is 0.85 which is above the minimum recommended by Pallant (2016) and this confirms the reliability of the results. Further, the overall HPSS score for this UK-based study is 127.93 which is comparable to the results of prior studies conducted in other countries. There is no association between the HPSS scores and the variables of age, gender, or nationality and this is also comparable to the results of prior studies.

When comparing the HPSS results for TYMS students and NBS students then the TYMS mean score is higher than the NBS score, but the difference is not statistically different. However, by analysing the HPSS six traits there is a statistically significant difference between TYMS students and NBS students in two categories: search for knowledge and interpersonal understanding. That the two categories of search for knowledge and interpersonal understanding are higher in TYMS sample might result from the 'critical thinkers' orientation that underpins all TYMS programmes. This approach encourages students to develop a holistic, resourceful, innovative and reflective approach to their studies. That the TYMS modules are research-led and interdisciplinary may also impact on the development of TYMS students as critical thinkers.

On the other hand, the interpersonal understanding is an important characteristic since, in order to be sceptic, a person needs to recognise and understand the different perceptions of individuals. Thus, as TYMS students appear to be following a more holistic and interdisciplinary programme may suggest they are in a better place to recognise bias.

The potential importance of this difference in the HPSS scores for the two sets of students is that this might indicate that professional scepticism can be developed in individuals by considering how programmes are designed. Because of this possibility, academics undertaking future research projects may consider focusing upon studying this further. It is important to reiterate, as stated earlier in the chapter, this is not to suggest that one institution is 'better' than the other compare the institutes rather than trying to understand the factors that can develop professional scepticism.

The next chapter continues the analysis of results by examining the outcomes of the AEDI measurements of moral reasoning. This includes examining whether there is a

correlation between professional scepticism as measured by HPSS and moral reasoning as measured by the AEDI instrument.

# Chapter 6

## 6. Testing for Moral Reasoning : Analysis of Results

### 6.1 Introduction

This chapter addresses the second and third research questions which are, respectively: How do the levels of moral reasoning professional scepticism in the UK context compare to levels of professional scepticism in non-UK contexts? And is there an association between levels of moral reasoning and professional scepticism? This is achieved through the analysis of the data collected through the administration of the AEDI questionnaire. Thus, the following sections set out the statistical and graphical analysis of the data collected in respect of the AEDI.

As discussed in the methodology chapter, the AEDI questionnaire consists of three scenarios (cases) followed by three questions that the participants are asked to answer according to their perceptions and understandings of the ‘story’ set out in each case. The responses from the participants are used to measure their levels of moral reasoning and ethical awareness according to the accounting-related moral dilemma presented in each case.

In addition to providing an analysis of the overall AEDI scores this section also examines for a relationship between moral reasoning (AEDI) and professional scepticism (HPSS). The chapter uses appropriate statistical tests to analyse the data and to examine the relationship.

This chapter is structured as follows. Section 6.2 provides the sample profile for the AEDI test. Section 6.3 then discusses the outcomes of testing for reliability of the AEDI test and, additionally, the validity of the instrument is examined. The reliability and validity are both confirmed in this section. In section 6.4 a normality test is conducted for the AEDI. Section 6.5 then tests for, and discusses, the relationship between the AEDI and the independent variables in the data. Section 6.6 reports the results of the independent t-test on the participant groups. The correlation between the two scales, AEDI and HPSS, is tested for in section 6.8. The correlation between AEDI scores and HPSS scores is not found to be significant and the reasons for this result are also discussed in the chapter. Then section 6.9 concludes the chapter.

## 6.2 Sample profile for AEDI

The AEDI questionnaire was administered at the same time as the HPSS test was administered. Therefore, the same undergraduate students at TYMS and NBS were asked to complete the AEDI and HPSS tests. As noted in chapter 5 which examines the HPSS results, the NBS students were in their final year of undergraduate studies whereas for TYMS the students were year one, year two, and final year students. The NBS students were studying for a BSc Accounting degree. The year one and final year TYMS students were studying for the BSc ABFM degree; however, year two TYMS students comprised students who were studying for the BSc ABFM degree and students who were studying for the BA and BSc Management degrees.

**Table 6.1 AEDI sample profile**

<b>Sample</b>	<b>No.</b>	<b>Not Completed</b>	<b>Rejected</b>	<b>Accepted</b>
TYMS Year 1 ABFM	65	3	5	57
TYMS Year 2 Management	50	1	10	39
TYMS Year 2 ABFM	23	2	5	16
TYMS Year 3 ABFM	38	3	1	35
NBS Year 3 Accounting	42	3	3	36
<b>Total</b>	<b>218</b>	<b>12</b>	<b>24</b>	<b>182</b>

Whilst 218 TYMS and NBS students completed the HPSS test, not all of the students fully completed the AEDI questionnaire. Additionally, it is necessary to reject AEDI responses if there are inconsistencies in 1st and 2nd ranks or inconsistencies in more than two cases or eight inconsistencies for one case. Further, any questionnaire that has two cases with more than 9 items rated the same should be discarded. In this sample, all completed questionnaires fulfilled the consistency check. Table 6.1 provides details of the sample profile and the final column in this table displays that of the 182 accepted AEDI cases, 146 were TYMS students and 36 were NBS students.

Table 6.2 shows that after the rejection and elimination of incomplete AEDI questionnaires there remain a total of 182 accepted forms from the total of 218 forms. This rejection rate is acceptable and to be expected considering the length of the questionnaire. This explains why the researcher opted for the AEDI three-case version rather than the longer four or six case versions which would have resulted in a higher



number of incomplete questionnaires. This indicates a rejection level of 16.5% (24 participants) which is comparable to the rejection rate reported by Thorne (2000).

**Table 6.2 AEDI Reliability Checks Summary**

	<b>No. of Cases</b>
Distributed Questionnaires	218
Uncompleted Forms	12
Rejected (M>4)	24
Total Rejected	36
Accepted	182
% of Accepted	83.5%
% of Rejected	16.5%

The profile for the accepted sample of 182 AEDI questionnaires is provided in table 6.3 with the descriptive statistics for the accepted sample (n =182). The demographics in the table show that there is approximately equal numbers of female and male participants (male; n=91, female; n= 82) with 8 participants selecting “other” or not wishing to state their gender and one missing answer. The age ranges from 17-39 years with an average age of 20 years.

### **6.3 AEDI – overall results**

This section reports the overall result of calculating the AEDI scores for the sample and, in addition, reports on the outcome of the tests performed for reliability and validity. The results of the reliability testing are reported in the first sub-section and this confirms the validity of the results. The second sub-section provides the overall AEDI results and descriptive statistics. The overall AEDI results for this study are then compared to results in prior studies in the third sub-section and are found to be comparable. The final sub-section tests for associations between the AEDI scores in this study and age, gender and nationality.

**Table 6.3 Demographic details of the AEDI Accepted sample (n= 182)**

	<b>Profile</b>	<b>Frequency</b>	<b>%</b>
<b>Gender</b>	Female	82	45.1
	Male	91	50
	Other	9	4.9
<b>Age</b>	Average	20.0	25.3
<b>Nationalities</b>	British	138	75.8
	Chinese	20	11
	European	8	4.4
	Other	15	8.2
	Missing	1	0.5
<b>Degree Program</b>	BSc Accounting, Business, Finance and Management (ABFM)	108	59.3
	BSc Business and Management	17	9.3
	BSc Actuarial Science	5	2.7
	BSc Marketing	2	1.1
	BA Accounting	17	9.3
	BA Business and Management	32	17.6
	Not stated	1	0.5
<b>Year of Study</b>	1 <sup>st</sup>	55	30
	2 <sup>nd</sup>	52	28.6
	3 <sup>rd</sup>	47	25.8
	4 <sup>th</sup>	25	13.7
	Not stated	3	1.6

### 6.3.1 AEDI – reliability and validity

In respect of this research project there is a need to ensure the AEDI instrument has validity and is reliable. To test for reliability Cronbach's  $\alpha$  is calculated. This tests whether the results have internal consistency and for the AEDI three-case version scale administered in this research Cronbach's  $\alpha$  is 0.48. This figure of 0.48 for Cronbach's  $\alpha$  is similar to the result reported by Fleming et al. (2010) when testing for AEDI reliability for the three-case version where the Cronbach's  $\alpha$  figures were 0.48 and 0.49 for the two samples Fleming et al. (2010) tested.

In addition, the Cronbach's  $\alpha$  for this study is comparable to the reliability score reported by Thorne (2000, p. 150) for the four-cases version (Cronbach's  $\alpha$  0.53) and is further supported by Rest (1979) who states that there is an expected average decline in reliability by 0.11 when using a three-case version of the DIT test. Whilst the Cronbach's  $\alpha$  figures reported in this and previous studies may appear to be a little low, Bernardi (1994) explains this is to be expected for ethical judgment studies in accounting because of the homogeneity of the samples and the format of moral reasoning instruments.

In addition to ensuring the AEDI test is reliable, the validity of the AEDI instrument was checked by undertaking a pilot test with a small sample of students who were not in the cohorts for the main testing.

### 6.3.2 AEDI – overall results and descriptive statistics

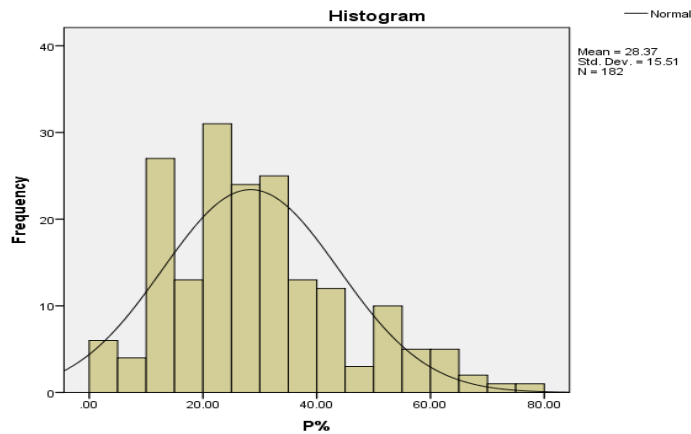
As Thorne (2000) explains, the AEDI p-score is calculated by adding the points assigned to the principle items of consideration included in the participant's four most important considerations ranking (4 points for first rank, 3 points for second, 2 points for third, and 1 point for fourth). Then, the participant's total is converted to percentage of total possible points (Rest 1979; James. R. Rest 1986). Higher p-values represent higher levels of moral reasoning.

The descriptive statistics for this study are provided in table 6.4 and the mean AEDI professional scepticism score is 28.37 for the total sample of 182 students.

**Table 6.4 Descriptive statistics for AEDI p-score**

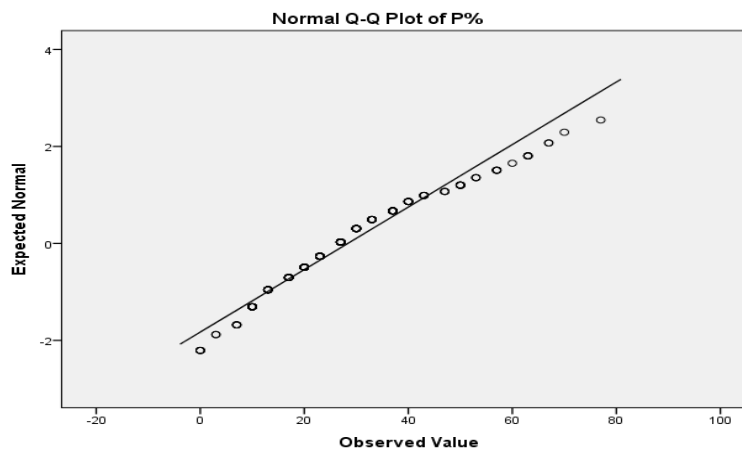
	Mean	Standard deviation	Range
AEDI	28.37	15.48	0 - 23

To check whether the AEDI data is normally distributed a histogram has been produced using SPSS (Figure 6.1). The figure indicates the data has an approximate normal shape that indicates the AEDI scores are displaying normality (Hair et al., 2010).



**Figure 6.1 AEDI score histogram**

Visual inspection of both the AEDI histogram and the Q-Q plot (see Figure 6.2) indicates the AEDI scores are approximately normally distributed. Additionally, the AEDI scores have an original mean of 28.37 and a 5% trimmed mean of 26.11 and, therefore, there are no extreme values that have an effect on the result.



**Figure 6.2 AEDI Normal Q\_Q Plot**

### 6.3.3 AEDI – overall results comparison to results of prior studies

The results for previous AEDI studies and the overall mean result for the current study are provided in table 6.5. The prior studies are similar to this study in using students as proxies but differ in that they are not UK-based. Whilst the mean AEDI p-score for the current study is slightly below the mean for the other prior studies the difference is not significant. Overall, it is possible to conclude that the results for the current UK-based study are comparable to the prior studies.

**Table 6.5 AEDI scores for current study and prior studies**

	<b>Sample</b>	<b>Sample size</b>	<b>AEDI p-score</b>
<b>Current study</b>	See above	182	28.37
<b>Thorne (2000)</b>	USA accounting students	119	32.8
<b>Ge and Thomas (2007)</b>	Chinese accounting students	64	21.84
	Canadian accounting students	71	31.97
<b>Fleming et al. (2010)</b>	Chinese accounting students	221	27.98
	USA accounting students	133	34.37

#### **6.4 AEDI – overall results and associations between AEDI and age, gender and nationality**

Tests were conducted to ascertain if there was any relationship between the AEDI p-scores and the variables age, gender, level of study and participant group. Pearson’s correlation coefficient was calculated to test for any association. The results found there to be no significant association for any of the variables. A similar result was found when testing for an association between the HPSS scores and the three variables in the previous chapter.

#### **6.5 AEDI – testing for differences within the sample**

Tests were conducted to ascertain if there were any differences in respect of the AEDI scores within the sample for the following: (1) gender, (2) junior years (years 1 and 2) versus senior years (above year 2), (3) age and (4) the different participant groups (TYMS versus NBS). These analyses were conducted for the following reasons. A gender comparison was performed as some prior research in accounting and auditing generally has suggested that female subjects exhibit higher ethical standards and moral development (see Shaub, 1994; Sweeney and Roberts ,1997). A comparison between junior and senior years was conducted as it was considered feasible that senior students may have had the opportunity to develop greater levels of moral reasoning because of their greater life experience; age was tested for the same reason. Finally, because the

analysis of the HPSS scores revealed a difference between the TYMS student cohort and the NBS student cohort for two of the HPSS traits, a comparison of the different participant groups was performed to ascertain if AEDI also revealed a difference in this respect.

To perform the four comparisons the independent t-test is applied to test for any significant difference in the AEDI means. If the result for Levene's test is significant (value < 0.05) then the two variances are significantly different, and the independent t-test cannot be used; however, if the result for Levene's test is not significant (value > 0.05) then the two variances are not significantly different, and the independent t-test cannot be used.

The results for each of four tests are set out in tables 6.6, 6.7, 6.8 and 6.9 below. It shows that there is no significant correlation between AEDI and the gender, level of study and age factors in this sample.

**Table 6.6 AEDI Independent sample t-test: gender**

<b>Cases</b>	<b>Males (n=86) [mean (SD)]</b>	<b>Females (n=85) [mean (SD)]</b>	<b>Levene's Test Sig.</b>	<b>t (independent sample test)</b>	<b>p-value (two- tailed)</b>
AEDI	25.155 (15.056)	27.648(15.056)	.507	-1.049	.295
Case 1	27.547 (5.003)	28.235 (6.244)	.861	.796	.427
Case 2	24.174 (6.0160)	23.177 (6.116)	.720	1.076	.284
Case 3	25.454 (6.672)	24.518 (9.048)	.223	.770	.442

**Table 6.7 AEDI Independent sample t-test: junior and senior students**

<b>Cases</b>	<b>Junior students (1st and 2nd year) n= 107 [mean (SD)]</b>	<b>Senior students (above 2<sup>nd</sup> year) n= 74 [mean (SD)]</b>	<b>Levene's Test Sig.</b>	<b>t (independent sample test)</b>	<b>p-value (two- tailed)</b>
AEDI	25.241 (14.951)	27.685 (16.124)	.191	-1.039	.300
Case 1	27.241 (4.944)	28.278 (6.908)	.208	-1.174	.242
Case 2	23.028 (5.428)	24.458 (6.661)	.439	-1.580	.116
Case 3	24.750 (6.893)	25.472 (9.376)	.226	-.595	.553

**Table 6.8 AEDI Independent sample t-test: age groups**

Cases	Age (<=20) (n=121) [mean (SD)]	Age (>20) (n=61) [mean (SD)]	Levene's Test Sig.	t (independent sample test)	p-value (two- tailed)
AEDI	26.226 (15.617)	26.503 (15.085)	.982	-.114	.909
Case 1	27.496 (4.775)	27.918 (7.539)	.018	-.460	.646
Case 2	23.787 (5.673)	23.787 (6.529)	.908	-.231	.818
Case 3	24.992 (6.683)	25.131 (10.097)	.016	-.111	.912

For all four comparisons, the results are statistically insignificant. That is, the differences in levels of moral reasoning are not significant within the sample for either (1) gender, (2) junior years (years 1 and 2) versus senior years (above year 2), (3) age and (4) the different participant groups (TYMS versus NBS).

**Table 6.9 AEDI Independent sample test: TYMS and NBS students**

Case	TYMS 3rd year (n=32) [mean (SD)]	NBS (n=37) [mean (SD)]	Levene's Test Sig.	t (independent sample test)	p-value (two- tailed)
Case1-3 combined	28.96 (18.207)	27.84 (13.726)	.075	.291	.772
Case_1	27.88 (5.380)	28.57 (8.312)	.100	-.404	.688
Case_2	23.91 (6.741)	24.89 (6.548)	.729	-.615	.541
Case_3	24.84 (7.349)	25.84 (10.73)	.329	-.442	.652

As noted above, the analysis of the HPSS scores revealed a difference between the TYMS student cohort and the NBS student cohort for two of the HPSS traits. The relevant question to ask in respect of AEDI is whether the difference between the educational programs lead to a difference in levels of moral reasoning. Maybe having modules that contain greater ethics-related content and ethics-oriented modules to be included in universities will determine whether levels of moral reasoning are enhanced. This could be tested in a future study which, for example, tests AEDI levels for students studying on programmes which have differing amounts of ethics content.

## 6.6 AEDI – summary of results

The AEDI tests conducted at TYMS and NBS have been tested for validity and reliability and found to satisfy both criteria. The results of this UK-based study are

consistent with the results reported in prior studies undertaken in other countries with levels of moral reasoning being found to be comparable. No significant associations have been identified between the AEDI scores and the variables of age, gender and nationality. Similarly, comparisons of the results are statistically insignificant for (1) gender, (2) junior years (years 1 and 2) versus senior years (above year 2), (3) age and (4) the different participant groups (TYMS versus NBS).

### **6.7 Testing for an association between moral reasoning and professional scepticism**

This section of the chapter examines whether there is an association between professional scepticism and moral reasoning. The importance now being placed on professional scepticism and on ethics has been discussed in earlier chapters. These prior discussions emphasise how both these concepts have risen to prominence because of the current crisis of trust in auditors and auditing.

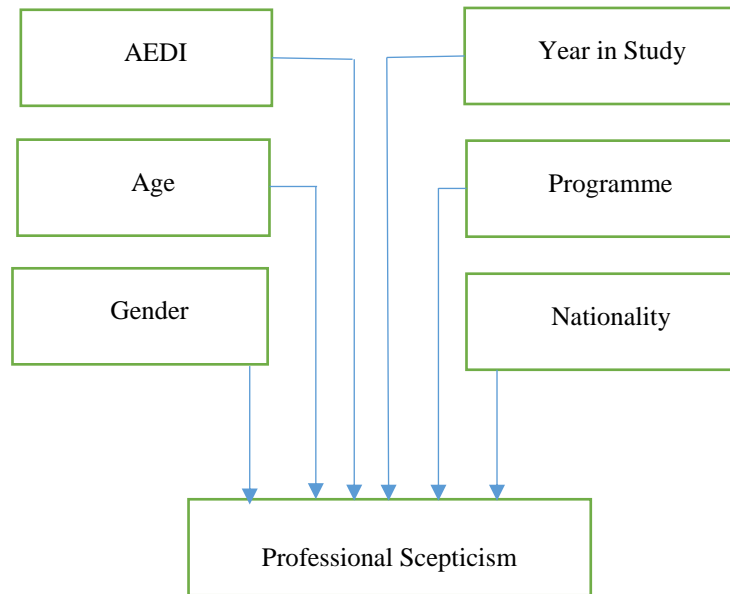
One aspect of the current discussions has been that ethics and professional scepticism have been viewed by some as interconnected concepts, and with the suggestion being that an auditor who has a strong ethical base may then have an enhanced level of professional scepticism. For example, Glover and Prawitt (2013) (see also, for example, (ICAS, 2015) have suggested that having a strong ethical disposition might potentially contribute to the ability of the auditor to display a greater level of professional scepticism. Hurtt et al. (2013) have also argued that auditors' individual characteristics play an important role in professional scepticism studies and moral reasoning is one of these individual characteristics that the auditor brings to the engagement.

Whilst it appears reasonable to argue that moral reasoning is an important factor when auditor's engage in decision-making in the context of exercising their professional judgement, this is currently only supposition as it has not yet been tested. Hence, this section of the chapter addresses the third research question in its exploration of the relationship between professional scepticism measured by HPSS and moral reasoning level according to the AEDI. In this section, the two scales HPSS and AEDI are analysed and tested for an association and to explore for any relationship between the different independent variables a regression is run.



### 6.7.1 Moral reasoning and professional scepticism: regression analysis results

The primary goal of regression analysis is to investigate the relationship between the dependent variable DV, in this case professional scepticism, and independent variables IVs. A multiple regression is applied to predict the DV given a set of IVs including age, gender, moral reasoning, level of study, study programme, audit knowledge and nationality. Regression analysis is used when the intent of the analysis is predicting the dependent variable value using a set of independent variables.

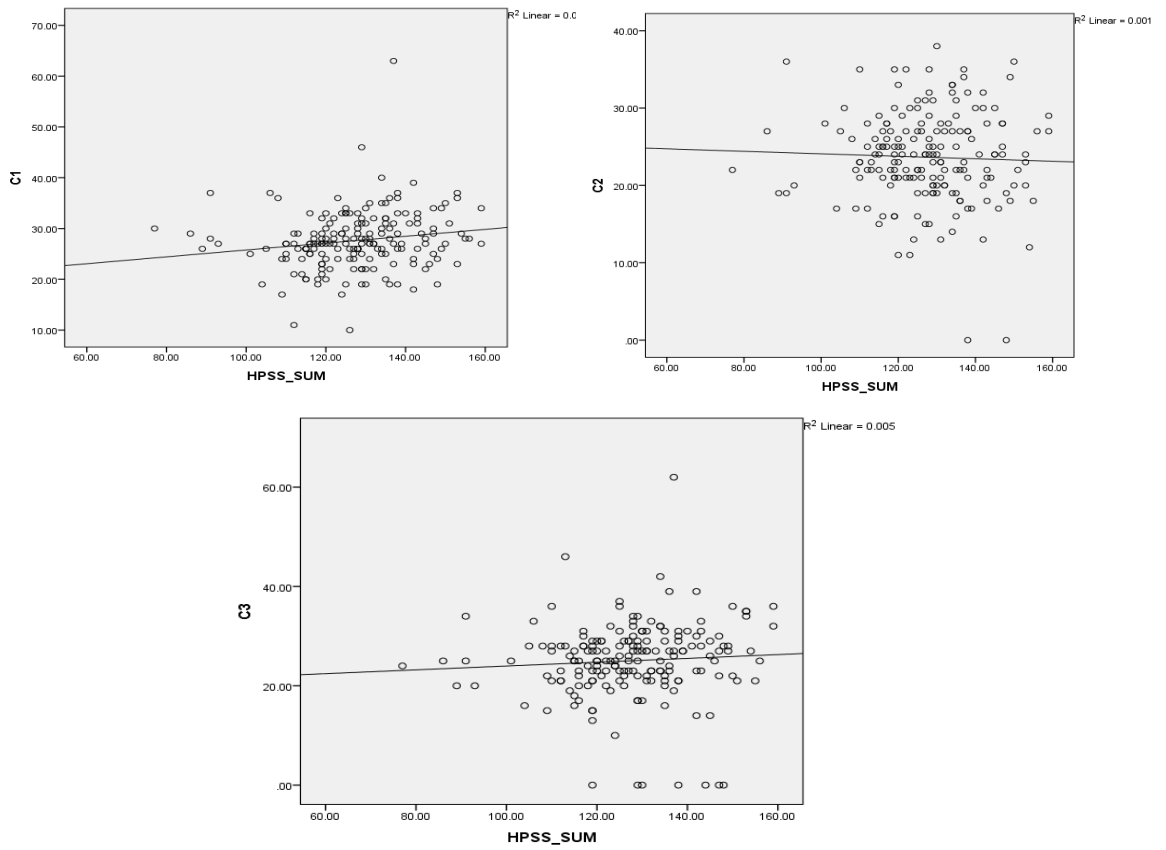


**Figure 6.1 The regression analysis DV and IVs**

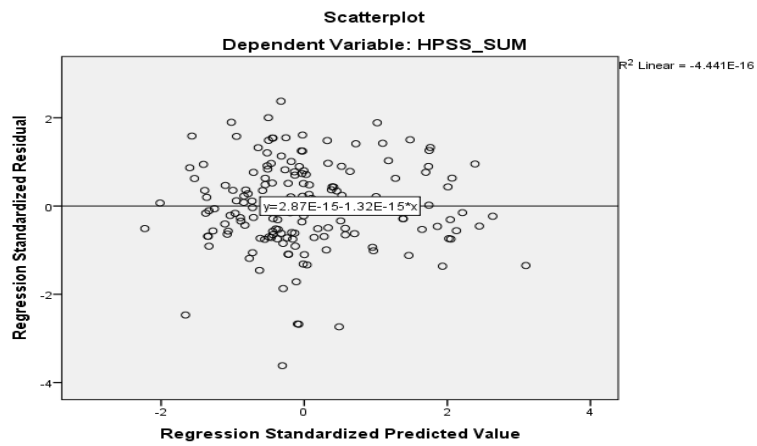
Preliminary analyses were performed to ensure there was no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity (Pallant 2010). The correlation matrix was prepared for the HPSS DV and the IVs (AEDI moral reasoning level, age, gender, year in study, the programme type and nationality).

In this sample, the dependent variable (DV) type is continuous, and the independent variables (IVs) are mixed between continuous; and dichotomous variables. The dichotomous variables treated as dummy variables are gender, accounting experience, education level, study programme, nationality and audit knowledge. The linear relationship between the dependent variable and each of the independent variables was tested by creating scatterplots for each relationship (see figure 6.3). The assumption that there are no significant outliers was also checked through the scatterplots. The fourth assumption concerns the independence of observations and that there is

homoscedasticity rather than multicollinearity, which means that there is positive relation between the IV's. According to Pallant (2010, p. 121) this can be tested by generating scatterplots that enable checking for both assumptions of linearity and homoscedasticity. The residuals scatterplots generated as part of the regression procedure. Residuals are the differences between the obtained and the predicted dependent variable scores. From the scatter-plot (Figure 6.2) positive values for the residual (on the y-axis) mean the prediction was too low, and negative values mean the prediction was too high; 0 means the guess was exactly correct. Ideally, the plot of the residuals looks symmetrically distributed, tending to cluster towards the middle of the plot, the points clustered around the lower single digits of the y-axis and in general there aren't clear patterns. In Figure 6.3 Regression Residuals Standardised Scatterplots it is clear that the plot meets those specifications. The independent variables are tested for multicollinearity by exploring the correlations between variables to assess the relationships. Multicollinearity exists when the variables are highly correlated with Pearson's (r); that is when r is 0.9 or above (Pallant 2010, p. 151). The correlation test for the independent variables; age, gender, nationality, year in programme, study programme and accounting experience satisfied the homoscedasticity assumption and there are no significant inter-relations.



**Figure 6.2 Regression Variables Scatterplots**



**Figure 6.3 Regression Residuals Standardised Scatterplots**

Table 6.10 sets out the regression variables. The regression analysis results are then set out in tables 6.11, 6.12 and 6.13.

**Table 6.10 Regression Variables**

Variables	Type	Note
HPSS_ Score	Continuous _DV	Dependent Variable
AEDI_ Score	Continuous _IV	Each AEDI case individually (C1, C2 and C3)
Age	Continuous _IV	Two groups: <ul style="list-style-type: none"> <li>▪ &lt; 21yrs,</li> <li>▪ &gt; 21years</li> </ul>
Gender	Dichotomous _IV	Dummy (Female = 1, Male = 0)
Nationality	Dichotomous _IV	Dummy (British, Chinese and Others)
Education Level	Dichotomous _IV	Two groups: <ul style="list-style-type: none"> <li>▪ Juniors (1<sup>st</sup> and 2<sup>nd</sup> years)</li> <li>▪ Seniors (3<sup>rd</sup> year and above)</li> </ul>
Study Program	Dichotomous _IV	Students are grouped into two categories: Accounting or Business
Accounting Experience	Dichotomous _IV	Dummy (Yes=1, No= 0)
Auditing Knowledge	Dichotomous _IV	Dummy (Yes=1, No= 0)

**Table 6.11 Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.342 <sup>a</sup>	.117	.056	13.70830	.117	1.916	11	159	1.947

a. Predictors: (Constant), Auditing, C1, C2, C3, China, British, Accounting, Older, Female, Acc\_Experience, Upper Level

Table 6.11 provides the model summary. The R-value is 0.342 indicating there is not a high degree of correlation. The R square value (0.117) indicates that 11.7% of the total variation in the DV (HPSS scores) can be explained by the IVs. This R-value is relatively small so, whilst the ANOVA summary in table 6.12 has the value of sig. is equal to .041, which indicates that this model is statistically significant (p less than 0.05), the results in table 6.11 are indicating a relatively weak association between HPSS scores and the IVs.

**Table 6.12 ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3961.132	11	360.103	1.916	.041
	Residual	29878.879	159	187.917		
	Total	33840.012	170			

The coefficients for the regression model are provided in table 6.13 and the resulting regression model is below table 6.13.

**Table 6.13 Coefficients of the regression Model**

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.	Collinearity Statistics	
		B	Std. Error	Beta		Tolerance	VIF
1	(Constant)	128.987	6.939	-	.000	-	-
	British	-8.118	3.237	-.261	.013	.513	1.949
	China	-10.851	4.161	-.277	.010	.492	2.031
	Accounting Experience	.761	2.641	.023	.774	.850	1.176
	Accounting	-1.186	2.334	-.040	.612	.907	1.102
	Upper Level	-2.995	2.715	-.104	.272	.629	1.590
	Older	1.435	2.760	.047	.604	.682	1.467
	Female	-.068	2.247	-.002	.976	.871	1.149
	Auditing	-3.948	3.426	-.096	.251	.804	1.243
	C_1	.471	.236	.188	.047	.624	1.603
	C_2	-.201	.202	-.086	.321	.738	1.356
	C_3	.002	.175	.001	.992	.572	1.748

**Equation 1 HPSS Regression Model**

$$\text{HPSS} = 128.987 (\text{constant}) - .068 (\text{Female}) - 8.118 (\text{British}) - 10.851 (\text{Chinese}) + .761 (\text{Acc. Experience}) - 1.186 (\text{Accounting Program}) + .471 C_1 - .201 C_2 - .002 C_3 - 2.995 (\text{senior}) + 1.435 (\text{Old}) - 3.948 (\text{Auditing})$$

Notes:

- a) C\_1, C\_2, C\_3 are the cases in AEDI
- b) Senior= students in year 3 and more

c) Old= Older than 20 years

In table 6.13 it can be seen AEDI case 1 has a p value less than 0.05 significance level (sig. 0.047) whilst AEDI case 2 and AEDI case 3 have p values greater than the 0.05 significance level. Thus, this suggests some possible positive association may exist between the level of moral reasoning as measured by AEDI case 1 but there is no association in respect of AEDI cases 2 and 3.

To explore the relation between professional scepticism and moral reasoning further Pearson's correlation coefficient was calculated for each of the three AEDI cases. Pearson's correlation for each case was as follows (see also table 6.14): case 1,  $r = 0.179$  (sig. = .010); case 2,  $r = -0.051$  (sig = 0.255); case 3,  $r = 0.079$  (sig = 0.151). Therefore, case 1 has a significant correlation with professional scepticism with p value less than 0.05 but for cases 2 and 3 there is no significance. This, again, indicates some possible positive association may exist between the level of moral reasoning as measured by AEDI case 1 but there is no association in respect of AEDI cases 2 and 3.

**Table 6.14 Correlation Table between DV and IVs**

	<b>Variable</b>	<b>Pearson Correlation (r)</b>	<b>Sig.</b>
1	Female	.042	.293
2	British	-.112	.073
3	China	-.101	.095
4	Acc. Experience	.010	.446
5	Accounting	-.104	.088
6	C1	.179	<b>.010</b>
7	C2	-.051	.225
8	C3	.079	.151
9	Upper Level ( $\geq 3^{\text{rd}}$ year)	-.082	.268
10	Older ( $>20$ yrs.)	.000	.143
11	Auditing Background	-.096	.106

### **6.8 Moral reasoning and professional scepticism: discussion and conclusions drawn from regression analysis results**

The results of the testing for an association between HPSS scores and moral reasoning are, at best, inconclusive. There is only some possible positive association may exist between the level of moral reasoning as measured by AEDI case 1 and there is no association in respect of AEDI cases 2 and 3. In conducting research it is commonplace to want to find associations and much published research only presents results where associations have been found. Where results are either inconclusive or there is no

association then this can sometimes lead researchers to conclude the results are uninformative or of lesser importance. However, it is erroneous to think in this way as inconclusive results or results where no association is found do provide potential insights. Thus, in this study we can, and should, consider why an association between HPSS and AEDI scores may not be identifiable; in addition, we can, and should, consider the implications of the findings. This section discusses both of these aspects.

One possible reason for the results being inconclusive is that the design or conduct of the study was flawed. It can be argued this is not the case on the following grounds. First, the researcher was careful to follow appropriate protocols in undertaking the research including adopting relevant methodologies and having sufficient sample size. Second, the HPSS scale and AEDI instrument have both been used in prior studies and been found to be robust in those (non-UK) settings. This study also conducted pilot testing of the HPSS and AEDI instruments in advance of administering them to the sample of students to confirm their validity for use in the UK setting. Second, whilst some may query the use of students as proxies in auditing studies it is common to use this approach and, more specifically, in prior HPSS and AEDI studies students have successfully been used as proxies. Further, if the results of HPSS testing and AEDI testing resulted in scores in both cases which were consistent with prior studies in these two areas. This suggests that the research design was appropriate and the use of students as proxies also appropriate.

Consequently, if the study has been designed and conducted appropriately then we should we need to consider reasons why higher levels of moral reasoning do not lead to higher levels of professional scepticism. The key arguments proposed that potentially link moral reasoning to professional scepticism are as follows. Auditing requires individuals to follow a methodical process and, as such, it is reliant on the auditor's logic and reasoning (Shaub, 1996); given this, it then can be argued that *moral* reasoning has an important role to play in the auditor's decision-making. Moral reasoning in the context of auditing implies being an assiduous, diligent and attentive auditor and, hence, it is an element of their moral disposition (Shaub and Lawrence, 1996). These ethical dispositions - being an assiduous, diligent and attentive - it can then be argued will enhance the auditor's professional scepticism. This argument, *prima facie*, seems to be relatively sound but what it does not include is consideration of the complexity of both

the concept of professional scepticism and moral reasoning. The complexity of the concept of professional scepticism is at least partly revealed in the HPSS scale. The six characteristics comprising HPSS are each independently relatively complex. For example, the characteristic of autonomy has been explained in the prior chapter as having the courage to ‘stand up’ to auditees and to withstand any pressure that may be applied during the audit. Where does such courage emanate from? Why do some have greater ability to stand up to others? Some part of it may result from have firm moral convictions but some part may also be a result of upbringing or stem from life experiences. In the previous chapter it was stated that this characteristic is largely dependent on the individual’s psychological make-up and whilst there is a moral dimension within an individual’s psychological make-up other factor will have a bearing. Similarly, we can understand that moral reasoning is highly complex. For example, our perspective on the level of an individual’s moral reasoning might possibly vary dependent on whether we judge a particular ethical theory more important than other ethical theories.

Therefore, it seems plausible to suggest that if there is an association between moral reasoning and professional scepticism it will not be an easily identified association. Further, there will be other important factors that need consideration in clarifying any potential association. This is not to argue that moral reasoning should be considered unimportant. It is essential that auditors follow professional codes of ethics. These will have an important bearing on how they conduct themselves when performing an audit. What the results indicate is that it is difficult to ascertain what the different effects are upon an audit when auditors adhere to professional codes of ethics. Thus, it is important that professional accounting bodies, regulators and governments need to continue to emphasise ethics as being important and particularly in this period of crisis in the audit profession.



# Chapter 7

## **7 Professional Scepticism and Moral Reasoning in Practice: Interview analysis**

### **7.1 Introduction**

It has been argued at the end of the previous chapter that it seems plausible to suggest that if there is an association between moral reasoning and professional scepticism it will not be an easily identified association. Therefore, interviews were conducted to further address the research questions. The importance of the interviews is they can assist in gaining a deeper understanding of both concepts of professional scepticism and moral reasoning and how they may (or may not) be associated.

As discussed in the literature review chapters, auditors are confronted with the difficult issue of how to be professionally sceptical on a daily basis as they continually make decisions in respect of the audits, they are engaged in. From the interviews with practitioners and standard setters, it is clear that the concept of professional scepticism is complex, and these complexities become particularly evident when they have to apply the concept in practice. This chapter presents the analysis of interviews conducted with five auditors, standard setters and regulators. The interviews are not limited to discussions of professional scepticism, but also include, although to a lesser extent, discussions relating to moral reasoning.

Because the interviews addressed the problem of professional scepticism this chapter, therefore, complements the previous two chapters which presented the results of the tests addressing the research questions. The tests in these prior two chapters were conducted using undergraduate students. The methodology chapter explains how the use of students is deemed appropriate in administering the HPSS and AEDI surveys. However, the interviews were conducted with auditors, standards and regulators as they have appropriate understanding of how professional scepticism plays out in practice and how ethics might intersect with professional scepticism. That is, the interviewees have insights into professional scepticism which the students would not possess, not having had the opportunity to work in audit in practice. Therefore, the interviews provide the

researcher the opportunity to get an insight from the audit practitioners and regulators regarding professional scepticism and moral reasoning and this may also assist in further understanding and interpreting the results of the previous two chapters. Thus to study the correlation between the two concepts is important but to get the full picture on its implication in the practice helps building a comprehensive understanding. Additionally, it is important to remember that on a day-to-day basis auditors have to engage in decision-making which affects how professional scepticism is enacted and, consequently, the understanding of individuals from within the auditing field are important. Auditors constantly have to make judgments before and during an audit. It would be incorrect to think of audit as a science and interviewing auditors is important for understanding the nuances of their work and the difficulties they encounter on a daily basis.

The qualitative data presented in this chapter has been collected through semi-structured interviews with participants from audit firms and regulatory organisations in the UK. Of the five interviews conducted, three of the interviews were with auditors with more than two years' experience and two interviews were with professionals from the UK standard setting and regulatory bodies. To preserve anonymity, the interviews with the auditors are referred to as AP1, AP2 and AP3, while the other two interviews are referred to as AR1 and AR2. Fundamentally, the interviews make it clear that there are a range of complexities associated with the concept of professional scepticism and the auditors are able to describe these complexities within the context of their working lives. These complexities help explain why there has not been a clear relationship identified between professional scepticism and moral reasoning in the previous chapter. The remainder of the chapter is divided into the following sections. Section 7.2 discusses the overall perspective of the audit practitioners regarding the professional scepticism and their lived reality. In addition, the perspectives of regulators and standards setters are highlighted. Sections 7.3, 7.4, 7.5, 7.6 and 7.7 then discuss the interviewees' perspectives on professional scepticism in respect of the following themes: the audit process, audit pressures, auditee familiarity, training and experience, and standards and regulations. The final section 7.8 concludes the chapter.

## 7.2 Professional scepticism: the overall perspective of the interviewees

It is clear from the interviews that auditors and regulators fully acknowledge professional scepticism is a fundamentally important feature of the auditing standards. As practitioners they are fully familiar with professional scepticism as a matter of terminology, and they understand the regulations and standards that surround professional scepticism. However, they also emphasised very strongly that when the context of the day-to-day life of an auditor is taken into account the application of the concept in practice is more complex than the auditing standards might suggest. Consequently, the practical implications of professional scepticism are not reflected in how professional scepticism is defined or intended to be applied.

The interviews commenced with the interviewer asking about the interviewees' interpretation of the professional scepticism concept. The interviewees' initial definition of the concept is that the auditor should have a questioning mindset and, therefore talked about “*not taking the first answer from the client[auditee] as the right answer*”(AP2) and the need to “*question all the evidence they get*” (AP3). This is aligned with the definition of regulators and standard setters internationally and in the UK. For instance, the International Standards of Auditing (ISA 200) the “*Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing*” states that professional scepticism as an attitude which includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence (FRC, 2009b). Additionally, the US Auditing Standards, AU Section 230.07 defines it as “an attitude that includes a questioning mind” (AICPA, 1997) and in the context of fraud AU Section 316.13, states that professional scepticism requires an ongoing questioning (AICPA, 2002).

At the core of professional scepticism is the notion that it is to ensure that the auditor does not neglect unusual circumstances, oversimplify the results from audit procedures or adopt inappropriate assumptions when determining the audit response required to address identified risks. From the interviews, auditors also discussed these aspects and demonstrated that they understood that scepticism is not looking solely for fraud. Thus, they talked in broader terms explaining it is not just fraud that auditors need to be sceptical about and they emphasised that key is ensuring they are ‘doing the right thing’ to protect the public interest. Additionally, they explained how auditors know it is their

responsibility not to neglect any indicators which may signal potential audit problems and that they need to think carefully about the matters of public interest.

In respect of the audit and auditing the practitioners interviewed not only recognised the importance of professional scepticism. In addition, they also recognised the significance and importance of ethics in auditing, and they emphasised this was as at least as important as professional scepticism:

“Ethics is really, really important and every time we audit, we have to sign an ethics and independence form and we also have to remind the team of being ethical and behave well as part of our obligations as auditors. Ethics is at the forefronts of our job so everything we do every day has to be ethical. So we think about ethics first before we do anything.” (AP3)

The regulator similarly emphasised the criticality of ethics in the audit process and spoke of how ethics has increased in importance in recent years:

*“From an audit point of view [...] ethics are massively important and it is part of the auditing culture now more than in the past few years. But it all seems that we have had a massive shift in what we can and can’t do as a result we could have possible ethical breaches and no one wants to have an ethical breach or even risk it as long as we are very cautious and we are extremely cautious when it comes to ethics.” (AR2)*

However, the auditors interviewed, when talking about professional scepticism and the adoption of a questioning mindset, and issues of fraud and the public interest, also stressed that there are factors that significantly affect the implementation of the concept in practice. Therefore, when audits take place, the interviewees confirmed that applying professional scepticism in practice brings in a range of complexities. These complexities are discussed in the following sections.

### **7.3 The audit process as a continuum**

The interviewees explained the manner in which professional scepticism is included as a part of the audit process as follows. At the outset of the audit a standard checklist is applied for considering professional scepticism and, hence, during this preliminary planning phase the audit team considers a range of factors that might potentially affect

the level of scepticism they will apply. For example, one of the factors considered at this stage is the previous audit result. As they move on during the audit they will consider any new event that comes to their attention for the audit assignment and, if necessary, a “*creative session*” (AP1) will be held. During this session, the audit team brainstorms the event and considers how evidence can be collected to better understand the event as well considering what implications this may have for the level of scepticism they have been applying and whether the level of scepticism should be altered. During the audit engagement, the levels of scepticism applied also varies according to the task type and risk associated with it. For instance, auditing fixed assets can usually be undertaken according to a pre-prepared checklist, while a new investment made by the auditee business requires a discussion among the audit team about levels of scepticism before the team prepares a schedule of new procedures to collect sufficient supportive evidence.

As discussed in the literature review (chapter 2, section 2.5), scholars have identified two distinct types of scepticism, neutral and presumptive doubt. These have been discussed as being positioned at two ends of a professional scepticism continuum (Glover and Prawitt, 2013). When discussing the audit process (above) the auditors interviewed implied that they practiced scepticism not as static mindset. For them it is influenced by different contextual factors that affect the approach to the audit and the auditors adapt their approach during the audit engagement. They indicated they prefer to initially approach the auditee with an “*open mind*” (AP1) and to then build and amend their levels of scepticism as they progress through the preliminary visits and through the audit and related audit meetings. For instance, if they encounter discrepancies between what the auditee presents and either what the auditor obtains as evidence or draws on from their knowledge or experience with other auditees in the same industry then the level of scepticism will rise, and decisions are then made as to what further evidence will be collected. Consequently, from the interviews it is clear that auditors apply professional scepticism in practice as a continuum. The level of their scepticism fluctuates according to the circumstances and facts that they collect and according to the task they work on. This continuum begins with a level of trust, although not complete trust, and can end with doubt, although it would be unusual for it to be a fully suspicious form of doubt as this would reposition the audit into more of a forensic audit.

To better specify the level of scepticism that should apply in the audit, the audit team use tools to help in making their judgement. According to the audit practitioners interviewed, they apply a risk assessment approach to evaluate the risk level associated with the auditee's business. This risk assessment considers two types of factors: internal and external. Internal factors relate to the auditee and may include, for example, a change in management, new investments and any exceptional events. On the other hand, external factors may include the factors impacting the industry which the auditee is operating within, reports a third party has published, and the previous audit results. These factors are taken into consideration and influence the level of scepticism applied. With regards to ethics and moral reasoning the interviewees noted that some connection between professional scepticism and moral reasoning exists. For example, interviewee (AP3) stated:

*Ethics is really very important, and it is actually helps on your scepticism because if you are ethical you are more likely to be sceptical.” (AP3)*

What was not specified in the interviews was exactly how professional scepticism and moral reasoning are connected or why ethics leads to greater scepticism. Why is it so difficult to provide any clarity on this connection? The audit process explained above may suggest that the auditors are able to follow a clear and rational approach to professional scepticism and that throughout the audit process they are creatively monitoring whether the levels of professional scepticism they are applying need revising. However, throughout the interviews, the auditors confirmed that maintaining an appropriate level of scepticism is, in reality, much harder and more complex. An important aspect of this is that the auditors interviewed described how throughout audit engagements the atmosphere is intense and that they, as auditors, are required to take decisions under pressure within a stressful environment. This pressure is manifested in different forms and the forms it takes are explained further in the next section below.

#### **7.4 Audit pressures impacting professional scepticism**

The most obvious, although not necessarily the most important, source of pressure that auditors face is in respect of the time and budget allocated to each audit. Thus, although the auditors are seeking to exercise scepticism appropriately, whether the time available for properly considering professional scepticism is sufficient is questionable. The auditors interviewed noted that they are concerned about finishing audits within the time

allocated and within the budget set for the audit. This accords with previous auditing research which has discussed time and budget pressures (see, for example, Holstrom, 2015; Ponemon, 1992; Robinson et al. , 2013; Robinson, 2011; Svanberg and Öhman, 2013). Time is important for auditors to be able to engage fully in being professionally sceptical during the audit and it is equally important when planning the audit in the initial stages to have sufficient time to reflect upon different aspects of professional scepticism. Without sufficient time the audit tasks can become routinised and a tick box exercise occur.

A major pitfall is that auditors feel they have a responsibility to keep the auditee satisfied. A key factor in this is that audit firms have been found to emphasise commercialism over professionalism (Gendron, 2001, 2002) as they are profit-making entities who do not want to lose auditees. The audit firms want to maintain a close relationship with the auditee and secure work for the future years, which can result in a potential impairment of auditor's independence (Bazerman et al., 2006) and consequently impact upon their levels of scepticism.

A further pressure which appears to be of greater significance than the time and budget pressure relates to the meetings which are a feature of any audit. At the outset of the audit there are the planning meetings attended by the audit team. When auditors have a planning meeting the entire team should be thinking about what knowledge they have relating to auditee entity in order to assess the risks involved. One problem that arises in these meetings that puts the whole team under the risk of groupthink. This groupthink is likely to occur because the team is, relatively, a highly cohesive group and individuals are under in-group pressure (Janis, 1972).

In addition, members of the audit team are potentially under pressure from those 'in authority'. Namely, the audit team gathered in the one room will look towards the audit partner to see what she or he thinks. The room's social setting is reflected by the hierarchical statuses of the participants and in this setting the views and thoughts of the partner will be emphasised. Hence, the decision-making surrounding professional scepticism in this situation is not following a properly rational analysis of the facts but is being influenced by the social situation within the room.

Furthermore, during the meeting the professional (hierarchical) ranking affects the social situation in the room in other ways. For example, the ordering of the conversation can matter. If a junior auditor first puts forward their view and the partner disagrees

then, consequently, there is the danger everyone else follows the partner's lead and disagrees. This can influence the future reaction and participation of that junior auditor or other novice auditors present making them reluctant to offer an opinion.

Therefore, this implies planning needs to be done differently, and in a way that auditors can freely express themselves and their ideas in a way that does not compromise their ethical position and does not risk their scepticism being compromised. To avoid any bias involved they could use an external facilitator to make sure that all views are heard and discussed but this is highly unlikely to occur. Another suggestion might be to encourage the team to present views on an anonymous basis and in this way auditors are less afraid to put their views forward. However, again it is unlikely in an audit setting. Another form of meeting held during the audit is where the auditee is present. According to the practitioners interviewed, this brings further personal pressures that can affect the auditors' level of professional scepticism. Two aspects of these personal pressures relate to the self-image and personal ambitions of the auditor. During these audit meetings the auditors will try to protect their self-image in front of their managers, audit partners and auditees by showing that they have the necessary level of knowledge of the auditee's business. For example, if they may avoid asking a question where if they are unsure of their facts as this may harm their self-image should they subsequently find the question displayed some degree of ignorance regarding the auditee. Therefore, they can protect self-image to such a degree that they compromise scepticism and do not question the information provided by the auditee. Additionally, some will try not to 'annoy' the auditee, not necessarily because they want to maintain a close relationship with them in order to secure the next year's contract, but to open up work opportunities for themselves. Additionally, an individual's advancement in the audit firm can be adversely affected if the auditee feeds back adversely based on the questions raised by that particular auditor within the meeting

The interviewees further noted that in auditee meetings they will do their best to avoid the auditee turning to the engagement partner or senior auditor and saying: "... *they are asking really unnecessary questions*" (AP2). This implies the auditors are concerned to ensure they only ask questions which are 'correct' to ask and to avoid being an embarrassment to their team. Thus, the interviewees discussed how auditors will attempt to avoid the pressure of ensuring they are asking only 'correct' questions by either keeping quiet or by pushing the responsibility for being sceptical to the audit



partner and letting them ask all the key questions. In other words, they are making the partner exclusively responsible for exercising judgement on professional scepticism. It was for this reason one of the auditor's interviewed stated: *"I think it is the partners who exercises professional scepticism more greatly than an associate or trainee like myself."* (AP2)

Moreover, these meetings are intense and cause pressure especially to novice auditors since the interaction during that short time auditors feel pressure to impress their auditee more generally as they are establishing themselves and their professional credibility. Thus, new auditors will be trying to impress their colleagues, and at the same time showing the auditee that they have the sufficient knowledge. The issue here is they are not then completely sceptical since they will be reluctant to ask questions or raise queries that might make them embarrassed in front of their team or the auditee. They are deeply concerned about their team's perception of them and this impacts on their judgment as an auditor.

So whilst the regulators support the idea that the audit environment should be such that junior auditors' interventions are treated fairly and given due attention, this is not necessarily achievable in practice. It is difficult to host a supportive environment where diverse views can be discussed in an objective attitude and through open communication. Undoubtedly, it is important to set the right tone at the top in a way to enhance professional scepticism and this needs to be coming from the partners and supported by senior managers. Audit partners and senior managers do affect auditors' judgments and decisions and from the interviews it was evidenced that they ultimately have a great influence on team decisions regarding professional scepticism. AP2 stated that new auditors should raise any doubts with their seniors and *"... it is their responsibility to be sceptical"* (AP2). However, the problem is in achieving this is complex.

Another important factor that impacts on the auditors' judgement when applying professional scepticism is the level of familiarity the auditor has with respect to the firm they are auditing. Auditors, as interviewee AP3 claimed, tend to assume a stance of being less sceptical with 'old' auditees who they have previous experience of auditing and they feel they can be more relaxed since they know what to expect. Auditors tend to adopt such an approach and only alter from this where they are worried about new things that have happened in respect of the auditee since their last visit. This is a

dangerous assumption affecting the auditor's mindset and the level of professional scepticism they apply. It exposes them to various types of decision-making biases that have been discussed earlier in the literature review chapter (section 4.2) and, consequently, they may miss the detection of serious misconduct. Hence, being familiar with the business can be a two-sided situation. The auditor's knowledge of the industry is an advantage in planning and assessing the audit tasks to undertake. However, it can be a risky position to adopt if it means neglecting or looking for shortcuts during the audit since it can jeopardise professional scepticism leading to the auditor becoming too comfortable in their assessment of risk and eventually becoming less sceptical.

This discussion on familiarity has a further relationship which concerns how auditors view information sources and the degree of scepticism they apply. During the audit the level of scepticism fluctuates based on the type of information received and the people providing the information for the audit team. If the auditee is deemed trustworthy the auditor will be less sceptical about the information provided. One interviewee warned that this is a possible problem stating: "*... if you can't trust the people you can't trust the information but also, if you can't trust the information you can't take them as a reliable audit evidence*" (AP3).

As discussed in the literature review (Section 0), there are two distinct types of scepticism according to researchers, neutral and presumptive doubt (see; Hurtt, 2010; Hurtt et al., 2013; Nelson, 2009). Regulators and standard setters recommend approaching data in a neutral way which the practitioners agreed on during the interviews. However, when discussing the audit in practice the auditors interviewed stated that they start with a low level of scepticism that they then build upon as the audit progresses. This does not suggest a neutral approach is necessarily being adopted.

One factor which might mitigate against the problem of familiarity and professional scepticism is the audit firm's stance on its reputation. Auditors have reputational incentives to avoid audit failures as these send negative signals about the audit firm. That auditors can be protective of their firm reputation is confirmed by the statement of one of the interviewees: "*... auditors don't want to see their firms' reputation getting attacked in the media*" AR2.

It is not just the firms' reputations that can matter. An auditor's individual reputation can also be important in building their career and reputational damage may delay or derail the auditor's career progress (Westermann et al. 2014a, p.20). Consequently,

individual auditors might not want to have their reputations harmed and this might assist in ensuring they do not neglect professional scepticism.

### **7.5 Training and experience: the interviewee perspective**

The discussions above and the interviewees responses clearly show that dealing with a complex concept like professional scepticism is not easy. One of the major tools that both practitioners and regulators agreed upon is the importance of training in enhancing professional scepticism.

The interviews with audit practitioners demonstrated they support interventions through on-the-job training rather than attendance at specialised courses. This type of on-the-job training is considered a part of the audit manager's job responsibilities. However, its practice varies according to the capabilities of those managers and the time available during the audit engagement which can be a significant limitation.

There are other approaches that audit managers can adopt to overcome any gaps in training such as annual updates for auditors and quarterly meetings comprising conversations and updates on the problems different colleagues have faced during recent audit engagements. During these meetings auditors are encouraged to share stories of the different incidents they faced and what can be learned from these events. This then avoids the problem voiced by one interviewee:

*“I think they (the audit team) get told to be sceptical about what they are doing, but what they do about is completely different” (AP1)*

The suggestion is that the design of training needs to be more specific to the auditor needs. Thus, training is not only theoretical and includes more practically-based reflections on the knowledge learnt when qualifying. The interviewees also proposed that ethics training needed to be grounded in practice and with the reasoning being that ethics problems confronted in day-to-day auditing were *“not quite as being taught it from like a classroom”* (AP2).

The interviews showed evidence that story-telling can be a motivating tool encouraging auditors, especially those new to the field, to follow successful examples. This encourages them to have a questioning mindset and being alert to any misstatements.

*“Hearing success stories of others who are professionally sceptical can encourage other auditors to be more so.” (AP3)*

In addition, hearing stories of scenarios of very difficult experiences in audit that have been faced by other colleagues in practice can also be a good training tool. It can alert auditors to situations they might face in day-to-day decision-making situations. Moreover, it is a way to enhance their moral reasoning by discussing the effects around these worst events and how public interest was impacted. Additionally, if those scenarios are discussed by audit seniors it helps in setting the tone at the top and enhances the audit culture and emphasises the adoption of a sceptical mindset.

When the audit practitioners were asked about their perception of the level of professional scepticism with regard to novice auditors they expressed some dissatisfaction. They stated that junior auditors tend to rely on management assertions and take them at face value. The consequence is it becomes the partner or audit manager's responsibility to ask them to be more sceptical. Senior auditors send the work back on regular bases to the junior auditors because of unsatisfactory levels of scepticism such as unconfirmed assumption on earnings. Moreover, young auditors tend to treat the managers information as it is and not check the details behind it. However, whilst this criticism may be valid it needs to be remembered that, as discussed above, some of this may arise because of the hierarchical nature of the audit firms and junior auditors wishing to protect their self-image.

A part of the issue for junior auditors is their comparative lack of experience. Auditor experience and its effect on scepticism, decision-making and memory has been the topic of a number of studies ( see Moeckel, 1990; Popova, 2012; Pramitasari et al., 2017; Shaub and Lawrence, 1996). According to the practitioners interviewed, it is important to recognise experience can go two ways; it can enhance scepticism but can also hinder it. On the negative side there is a danger with experience of turning tasks in to routine matters and a checklists approach occurring.

Regulators also view some aspects of experience as a threat to professional scepticism. They expressed concerns that auditors retaining an audit for too long can become too 'comfortable' and, hence, why audit rotation is mandated by regulation. One regulator interviewed, when discussing audit rotation, stated that this aspect of experience can make auditors more "*complacent and (result in) a false sense of security*" (AR1). Additionally, another regulator noted that: "*... it's complicated. The danger of experience is that you become convinced by your own ability. If you are a partner and maybe your career with the firm has been a strong record of performance. Then, you*

*tend to believe that must be because you make good decisions and therefore, the decision you make must be good and feels a bit like a risk of overconfidence in one's own abilities" (AR2). This is a reminder that experience can lead to overconfidence of the auditor in their abilities which, in turn, can lead to neglecting some obvious red flags or signs of misconduct.*

Consequently, the conclusion to draw is that all auditors need to continuously be reminded of what is expected of them and of the role they play within the firm, not just junior auditors. That way training can better ensure high levels of professional scepticism. As one interviewee noted:

*"I think it really comes in the training and highlighting the dangers of one is not sceptical and the advantages of being sceptical ... [and] how it should help you uncover anything and to what a great extent." (AR1)*

## **7.6 Standards and regulations**

The final major theme the interviewees discussed related to standards and regulation. There was a universal view that the standards are a clarifying and enforcing tool that encourage higher levels of scepticism to be applied by auditors:

*"I think the standards make it clear that you should exercise professional scepticism and there are references to professional scepticism through the auditing standards. But equally, firms are very conscious of the danger of getting things wrong" (AR2).*

The aspect of standards which received greatest attention in the discussions was documentation. The standard setters want auditors to document their professional scepticism. However, this procedure gave rise to contradictory views amongst the auditors. Therefore, whilst standard setters like to have documentation requirements as they consider this ensures the execution of audit tasks with appropriate levels of scepticism, it is viewed by practitioners as a barrier to scepticism.

So whilst the International Standard on Auditing 230: Audit Documentation (IFAC, 2013) clearly states that there is no single way that scepticism can be documented, the auditors considered documentation as a burden, time consuming and a task that detracts

from the application of professional scepticism And in this context the auditors are clear that they do not need more standards:

*“... I think everyone coming through now in the modern era is very aware (of professional scepticism) but no more standards in terms of audit are needed.” (AP2).*

This request by the practitioners that there no further standards are needed equally applied in respect of ethics. For example, interviewee AR1 stated: *“I think there is enough legislation on ethics”*.

The reason given by the practitioners as to why they are against more standards in respect of ethics is that they thought auditors would have an innate motivation to be ethical and, therefore, this lessened the need for regulations or standards. For example:

*“... If you are in a firm that they make it like their goal essentially to be the most ethical firm that they can be. They will think of more ethics and even be more ethical but not from regulations like standards point of view.” (AP2)*

With regards to professional scepticism they think more standards will only increase the pressures on them, affect their performance and decrease their professional scepticism. For instance, auditors say that documentation is causing them to experience delays which adds to time and budget pressures. The regulators response is that these delays may relate to inefficiencies on the part of the auditors:

*“... it means that the auditor is spending time following things they shouldn't. Potentially, it means they are not looking at issues that they should, spend their time inefficiently” (AR2).*

The auditors also consider this added pressure tends to turn the auditing task into a checklist as means of ensuring they obey the regulator and adhere to the standards This is congruent with prior studies that state excessive documentation actually decreases professional scepticism (see Brazel et al., 2016; Westermann et al., 2014b).

In addition, an important element that is difficult to capture in documentation is ethics and moral reasoning. For example, were the auditors too friendly with the auditee? Were they too familiar or too engaged with them? It is difficult to document these aspects. A potential outcome is that documentation is then treated as a formality that is required by regulators and that auditors provide to avoid fines and protect their reputation.

During the last two decades, the standards have become more Americanised according to the standard setters and this has been driven by the legal environment which has led audit to adopt a more defensive approach. Again, as a result, auditors tend to work according to a checklist that they go through and tick-off tasks to prove that they met all requirements.

Therefore, overall, there is a delicate balance that may not currently be found. This is a balance between the level of documentation that is required to assure that professional scepticism has been applied appropriately, but which is not leading to a checklist mentality on compliance.

## **7.7 Conclusion**

There is a crisis of trust in the audit profession and, as explained earlier in the thesis this primarily stems from the sequence of financial scandals that have occurred regularly and frequently in recent times. Some argue that the crisis is such magnitude that it amounts to a moral crisis. To address the crisis there have been calls for auditors to demonstrate greater levels of professional scepticism. Alongside these calls for greater levels of professional scepticism there have been suggestions made that ethics needs revisiting and it has been posited that there is a connection between ethics and professional scepticism.

Whilst it certainly seems plausible to make such an assertion the testing in this thesis for an association between moral reasoning and professional scepticism has not revealed any statistical association the interviews do suggest there may be some association. The discussions above of the outcomes of the interviews also indicate that there are other factors within the audit working environment that compromise the levels of professional scepticism applied. These include matters such as personal appearance and reputation threats that the interviewees suggested can affect the level of scepticism the auditor applies. Thus, auditors might not be sceptical enough in practice as they are worried about personal appearance, reputation and how that can affect their future work opportunities. This suggests that it is possible that no association between professional scepticism and moral reasoning has been found in respect of HPPS and AEDI because the connection is highly complex. .

The interviews indicate that professional scepticism is a highly complex concept and when applying it in practice a range of difficult issues arise. These include issues related

to time and budget pressures, problems relating to audit meetings, auditee familiarity, and experience. These complexities are a feature of the lived reality of auditors. The interviews suggest auditors are fully aware of the importance of professional scepticism and ethics, but they are having to confront issues which are hard to eliminate. The auditors are all clear that adding to standards or to regulations will not help in addressing these difficulties and may actually be detrimental. Training may be more helpful than adding to standards, but any training needs to be practical rather than theoretical. What might also help is if those who are senior managers or audit partners in the auditing firms consider the culture of the firm and ensure they set an appropriate tone at the top. However, yet again this will not solve all problems as culture, like professional scepticism, is also complex.



# Chapter 8

## 8. Conclusion

### 8.1 Introduction

This chapter reflects upon the results of this study discussed in the previous three chapters to draw conclusions on the research undertaken. These conclusions are related to the research questions and objectives presented in the introduction chapter. This chapter also discusses the theoretical and practical implications of this study in terms of the contribution made to the existing literature on auditors' professional scepticism and moral reasoning. It also sets out the limitations of the study and provides suggestions for future research.

The main focus of the research was upon auditors and their behaviour. The behaviour of auditors is core to whether audits are conducted effectively and whether the audit succeeds in meeting the public interest. More specifically, there have been major criticisms in recent years whether auditors have demonstrated sufficient professional scepticism and questions have also been raised as to whether their behaviour has been sufficiently ethical. Recent reviews of the audit profession, such as the Brydon Review (2019) and the Kingman Review (2018), have raised questions about professional scepticism and have been highly critical of the audit process and auditors. This has led to the claim that audit has entered a period where trust is at such a low level that it is at crisis point. Therefore, this thesis has focused upon investigating professional scepticism and moral reasoning. First, the study explores the concept of professional scepticism in the context of audit in the UK by measuring the level of professional scepticism of participants. Second, this research measures levels of moral reasoning for the same participants. Third, the study investigates the relationship between professional scepticism and moral reasoning.

This study looks to build on the previous literature to create a better understanding of the concept of professional scepticism concept in accounting in addition to testing for an association between professional scepticism and moral reasoning in the audit context. Therefore, the thesis discusses the concept of professional scepticism and emphasises the highly complex nature of the concept. In doing this it highlights the antecedents necessary to ensure the right level of professional scepticism is applied and comments

upon their implications including how it is reflected in the practice and training of auditors.

The remainder of this chapter is structured as follows. The next section summarises the research findings set out in the chapters five, six and seven. Then, section 8.3 highlights the research contribution with regard to theoretical and practical implications. This is followed by a discussion of the limitations of this study in section 8.4. Finally, suggestions for future research are provided in Section 8.5.

## 8.2 Summary of results

This study examines the association between auditors' professional scepticism and moral reasoning. Although the concepts have been investigated by scholars separately there have not been any previous studies that have examined whether there is a relationship between the two concepts. Examining and gaining a deeper understanding of the concepts is important as it can potentially improve audit practice and audit quality.

The current study explores the correlation between the two concepts using two types of data derived from the HPSS scale and AEDI scale. These two scales have been applied separately in some prior studies but never together and, additionally, they have typically been applied in non-UK contexts. Therefore, this presents a research gap which this thesis seeks to address. After investigating for any correlation between professional scepticism and moral reasoning, it then takes account of the views of practitioners in audit practice and regulatory bodies to create a deeper analysis in answering the research questions discussed in chapter 1. The practitioner perspective is important as they have experience, on a daily basis, of how professional scepticism functions in practice during audit engagements. The outcomes of answering the research questions initially set out in the introductory chapter are now summarised.

### **1- How do the levels of professional scepticism in the UK context compare to levels of professional scepticism in non-UK contexts?**

In answering this question, the findings revealed that levels of professional scepticism . professional scepticism combines different traits and the HPSS scale was adopted for measuring levels of professional scepticism using undergraduate students studying in the UK as a surrogate for novice auditors. The scores were aligned with similar studies

conducted in other countries suggests Hurtt's scale is useful for measuring professional scepticism in different settings.

The findings revealed that there is a possibility that the education style adopted by a university may have some effect on the individual's level of scepticism. In this study the York Management School (TYMS) participants had a mean professional scepticism score of 128.84 in comparison with the NBS mean score 123.38. Therefore, it is proposed that there is the possibility this might be a function of the different educational approach to the accounting and management programmes. The proposal is that because TYMS has adopted a particular approach to how it designs its undergraduate degree programmes this has created a stronger degree of professional scepticism in its students. This might also be because the students learn more about the wider macro environment that surrounds the audit practice, as the degree programmes at TYMS are broader in scope and interdisciplinary in nature, which might help them better appreciate their responsibility towards protecting the public interest. This is in comparison to the NBS students who are studying on a programme that is more oriented towards the development of strong technical accounting skills.

Additionally, two of the professional traits were found to be higher for TYMS students. 'Search for knowledge' is an important trait that defines professional scepticism and the mean score for this was found to be 26.84 for TYMS students compared with 24.43 mean score with the NBS students. This may support the argument that the education style and the type of university may have some effect on the individual's level of scepticism. TYMS is situated as a Russell Group university and this might imply it focuses upon a broader curriculum and encourages this 'search for knowledge'.

There was also a difference in the trait scores for 'interpersonal understanding' with a mean score 22.41 for TYMS students in comparison with only 19.05 for NBS. This, too, has been discussed as potentially caused by the difference in programme design between TYMS and NBS.

## **2- How do the levels of moral reasoning in the UK context compare to levels of moral reasoning in non-UK contexts?**

This study is examining the relationship between professional scepticism in relation to another important trait that has an effect on auditors' decision-making which is moral reasoning. In order to find if there is a correlation, there is a need to measure the level

of moral reasoning and this study uses the AEDI instrument developed by Thorne (2000). This tool has been developed using Accounting-Specific scenarios so that it can help in understanding the accountants and auditors' moral behaviour in specific.

The AEDI scores for the participants was an overall mean score 28.37 which is similar to previous studies that have used students as surrogates for auditors (see, Fleming et al., 2010 (21.84) and Ge and Thomas, 2008 (29.15)).

That the overall mean AEDI score is comparable with similar studies conducted in other countries, prima facie, suggests the AEDI scale is useful for measuring auditor's moral reasoning levels in different settings or contexts. Additionally, when comparing the participant groups then this did not reveal any significant results. This does not mean we should neglect to ask potential questions regarding the effectiveness or sensitivity, of this instrument. AEDI seems to be able to provide an overall score in respect of moral reasoning but there are various factors and elements that can have an impact on individuals' moral decision-making and these might not be fully accounted for in AEDI; however this would require further research. Moreover, the AEDI as a tool is very long and requires instructions and careful guidance to be given to the participants, which might lead to participants not answering the questionnaire diligently.

### **3- Is there an association between the level of professional scepticism and moral reasoning?**

Conducting a regression on the quantitative data, AEDI and HPSS data, showed a very slight and inconclusive result regarding whether there is a relationship between professional scepticism and moral reasoning. Interviews are an important qualitative supplement to performing a quantitative regression analysis as they provide the opportunity for auditors to discuss professional scepticism and ethical reasoning from their perspective as auditors who are constantly confronted with having to embed professional scepticism into audits. The interviews highlighted that there are a complex range of factors that affect the level of professional scepticism it is clear from the interviews that professional scepticism is challenging to understand and difficult for auditors to operationalise when conducting audits. Importantly, the interviews highlight there are some factors which relate to the ethical background of the individual. This suggests there is some connection between moral reasoning and professional scepticism but this connection is also complex. It is a concept that involves wide range of factors

that influence it. This is also the case for moral reasoning; it being a complex concept and with many factors that affect it and making it difficult to model. Therefore, a lack of a relationship may reflect the complexity inherent in both concepts.

#### **4- What are the perceptions of audit practitioners and regulators concerning professional scepticism and moral reasoning?**

Whilst it is important for researchers to build models such as HPSS which can integrate important characteristics which relate to professional scepticism, the interviews also reveal that models may not be able to fully take account of all the dimensions or aspects which pertain to professional scepticism. It is important to emphasise that developing scales such as HPSS remains important as these do add to understanding what might underlie professional scepticism; but capturing the complexities of professional scepticism is not straightforward as the interviews indicate.

Through the interviews conducted with audit practitioners and standard setters, there was an understanding gained of the challenges that auditors face either from within their firms or when engaging with auditees. Thus, they openly discussed those factors affecting their levels of professional scepticism and even how they morally respond to situations.

The practitioners clearly explained the intense pressures that they were under during audit engagements and how these played out in their day-to-day lives as auditors. These pressures not only included the commonly cited issue of time and budget constraints which apply in most audits (see; Holstrom, 2015; Brazel et al., 2016; Eutsler et al., 2017). In addition, the interviewees discussed how during the audit process an important means of communication are the frequent meetings that are held internally with all the audit team members or externally with the auditee attending and they revealed how behaviours in respect of these meetings are such that professional scepticism can be impacted in a number of ways. For example, the hierarchical nature of the audit firms is one aspect of how professional scepticism can be affected during meetings causing novice auditors to defer judgments on professional scepticism to senior managers and audit partners. This deferment of judgements on professional scepticism to senior managers and audit partners is further aggravated by the concern novice auditors have regarding ensuring they do not harm their self-image. This led to discussion on the importance of setting the right tone by audit partners and managers given they are

considered by novice auditors as the ones who hold the responsibility for professional scepticism.

Overall, whilst the interviews emphasised the complexity of the concept of professional scepticism, they also noted how ethics is at the forefront of the auditors' role and this is fully recognised by all the interviewees. The complexity of the concept of ethics is also fully evident in the discussions with the auditors.

The interviewees also discussed training as a means for improving how professional scepticism might be improved. The discussions highlighted that practical training might yield better results and be more productive. This conclusion drawn by the interviewees was a result of their knowing that the application of professional scepticism is undoubtedly highly complex and cannot be learnt in a classroom-type setting.

### **8.3 Research contribution**

This research has made a number of contributions and has implications for research and practice. The findings are likely to be of interest to different stakeholders including academics, auditors, audit managers, auditees, and standard setters and regulators who are interested in enhancing audit quality and raise the level of professional scepticism in practice.

There are two major areas where contributions have been made and where there are implications resulting from this research,

#### **8.3.1 Contributions of the thesis**

This study has aimed to address a gap in the auditing literature between existing research discussing professional scepticism and its possible relation with moral behaviour in general and specifically moral reasoning. Therefore, this research contributes to the existing professional scepticism literature in the following respects.

This study is the first to investigate auditors' professional scepticism in the context of the UK and the first to investigate the correlation between professional scepticism and moral reasoning. Three contributions can be highlighted. First, the results confirm that levels of professional scepticism and levels of moral reasoning in the UK are comparable to the levels found in USA and other non-UK settings. This suggests that UK auditors have levels of professional scepticism and levels of moral reasoning that

are neither above or below auditors in the USA or other countries. Second, no association is found between levels of moral reasoning and professional scepticism. The thesis argues this is likely to be because of the great complexity attached to both concepts and this is corroborated through the interviews. The interviews also provide insights into where some principal difficulties lie in respect of applying professional scepticism during the audit process. The third contribution to highlight is the finding that there is a difference in the mean scores for TYMS and NBS students for some of the traits which comprise the HPSS scale. The thesis contends that these differences are a result of differences in the design of the degree programmes. If this contention is correct then this may suggest one way in which professional scepticism can be enhanced. Future research might investigate this further.

Thus, the findings overall can potentially help future researchers in progressing understanding of the two concepts individually and regarding connecting ethical behaviour and professional scepticism. Additionally, the results highlight the need to have a unified definition of professional scepticism that practitioners can understand and, more importantly, apply consistently.

Regarding the methodology, this study is one of few mixed method research studies in auditing. Most of the previous research based on professional scepticism is based on quantitative data only; however, more qualitative research is needed to take into consideration the human factor. This is especially the case in audit research since it is, fundamentally, a series of decision-making activities which are based on individual factors.

The research findings highlight the complexity of professional scepticism as well as moral reasoning. In order to reach a clearer understanding further research approaches can be taken beyond the usual quantitative approaches.

### **8.3.2 Practical Implications**

The findings report that professional scepticism needs to have a clear and unified definition that is appropriate for all stakeholders. It is the responsibility of all stakeholders to try to clarify the ambiguity surrounding the implication of professional scepticism.

Regulators and standard setters can benefit from the findings in designing the audit standards and certifications. Moreover, academics and education institutes can use the

results in developing their curricula and by helping their students build their traits relating to the development of moral reasoning and to become more adept at being professionally sceptical.

The results are particularly beneficial to auditors and audit firms. First, it assists in clarifying both the concepts of professional scepticism and moral reasoning. Second, and more importantly, it can help auditors to reflect upon where they can improve how they approach professional scepticism in the day-to-day interactions with other members of the audit team and with the auditee. It is particularly important that senior managers and partners in audit firms reflect upon the comments of the interviewees. Senior managers and audit partners can then consider how they approach the audit, and how they conduct audit meetings, and what they might do to ensure novice auditors do not defer judgments. The latter is challenging as it entails changing the perspective of the novice auditors in some fundamental ways; but if it is possible to do this then it might have a significant and positive impact on professional scepticism.

#### **8.4 Limitations**

This study is one of only a very few mixed method research studies conducted in auditing and professional scepticism. It is the first to investigate auditors' professional scepticism in the context of the UK. Moreover, it is the first to combine the HPSS and AEDI in one instrument to investigate the relationship between the concepts of professional scepticism and moral reasoning. However, as with all academic research there are, of course, some limitations.

There are methodological and contextual limitations. Although this study uses mixed methods to bridge gaps and weaknesses with the traditional one method approach, it could be argued that it also combines the inherited limitations of the two methods applied. One major limitation is the generalisation of the results to the auditor population in general. It is to be noted in this study participants are based in the UK; therefore, care must be taken considering other contexts. Nevertheless, it would be interesting to know whether the findings from this study would be similar if conducted in other countries such as another country in Europe or in a country in the Middle-East that has similar education system for accountants.



Another limitation is that this study included only two universities and consideration needs to be given whether it can be conducted on a wider scale and in different type of settings like audit training programmes. Extending the research to other universities might be particularly fruitful if these universities have designed their programmes in alternative ways, as this would build on the TYMS-NBS comparison in this thesis. The use of university students as a proxy for novice auditors might be considered a limitation, although it has been discussed in earlier chapters in the thesis why this is justified.

There are challenges inherent to survey-based research which include selection bias, and this study was based on motivated business and accounting students. The use of business and accounting students as the sample to measure professional scepticism may not reflect the best representation for auditors although it is common to use students as surrogates in audit research.

With the complexity of the concepts investigated the number and variety of the interviews is considered a limitation. An inherent challenge with interviews, and qualitative research in general is to avoid subjectivity in analyses and interpretation of the data as well as maintaining the research reliability and validity. Thus, extra care was paid to avoid any bias or preconceptions that might affect the interpretation of the data and focused only on conveying the interviewees view on professional scepticism and moral reasoning within the auditing context.

Following the consideration of the potential limitations of the study, in the following section a number of directions that auditing researchers can pursue in the future are outlined.

### **8.5 Suggestions for further research**

For future research, there are a number of recommendations arising from this study. First, a different context for data collection such as a cross-country or cross-cultural study is recommended. This gives the opportunity to compare the results in the thesis to this suggested future research and this will potentially yield further insights.

An alternative methodology might be adopted for conducting a future study which seeks to gain further insights into either, or both, concepts of professional scepticism and moral reasoning. Focus groups comprised of audit practitioners might usefully explore

their thoughts regarding both concepts and give insights that individual interviews are not always able to reveal. Additionally, focus groups of regulators and standard setters could also be conducted so that the two views can be compared to diagnose any conflicts that affect practises.

This study does not consider the possible effect of situational variables, such as organisational or cultural aspects, on a professional scepticism study. A comparative approach could be applied that incorporates relevant situational variables to better understand the factors that can affect the level of professional scepticism applied and how moral reasoning affects this.

Applying the HPSS scale to measure professional scepticism at various role levels in the audit firm and across different levels of expertise could potentially be useful as the researcher might then better understand how levels of professional scepticism are impacted by experience or role. This can help in identifying patterns regarding if scepticism rises or decline across the audit firm hierarchy.

Another avenue for research is to repeat this study using an experimental approach with an intervention such as conducting a specific course in ethics and measuring the HPSS and AEDI scores before and after course delivery.

New insights are also needed into what more sceptical auditors by nature do differently during the audit process and whether this leads to higher levels of audit quality and, through this type of research, firms may be able to strengthen the firms' culture in promoting professional scepticism.

The suggested research avenues underscore how much research is still needed to understand professional scepticism and moral reasoning. In turn, this underscores the great complexities which are associated with both concepts.

# Appendices:

## Appendix 1 Questionnaire

### Section 1

Please read the following statements carefully and tick the score on a 6-point scale ranging from *strongly disagree* to *strongly agree*. **Please tick only one answer for each statement, there is no right or wrong:**

		Strongly Disagree	Disagree	Slightly Disagree	Slightl y agree	Agre e	Strongly Agree
1.	I often accept other peoples' explanations without further thought.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	I feel good about myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	I wait to decide on issues until I can get more information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	The prospect of learning excites me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	I am interested in what causes people to behave the way that they do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	I am confident of my abilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	I often reject statements unless I have proof that they are true.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	Discovering new information is fun.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	I take my time when making decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	I tend to immediately accept what other people tell me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Other peoples' behaviour doesn't interest me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	I am self-assured.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	My friends tell me that I usually question things that I see or hear.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	I like to understand the reason for other peoples' behaviour.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Slightly Disagree</b>	<b>Slightly agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
15.	I think that learning is exciting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	I usually accept things I see, read or hear at face value.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	I don't feel sure of myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	I usually notice inconsistencies in explanations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	Most often I agree with what the others in my group think.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	I dislike having to make decisions quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	I have confidence in myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	I don't like to decide until I've looked at all of the readily available information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	I like searching for knowledge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	I frequently question things that I see or hear.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	It is easy for other people to convince me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	I rarely consider why people behave in a certain way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	I like to ensure that I have considered most available information before making a decision.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	I enjoy trying to determine if what I read or hear is true.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	I relish learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	The actions people take and the reasons for those actions are fascinating.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 2

**General Questions**

**Part A:**

1. Age \_\_\_\_\_

2. Gender (Tick only one response)

Female  Male  Other  Do  want to state.

3. In which country(s) did you receive most of your previous education? (Tick relevant box)

United Kingdom  Germany  China

Other (Please specify) \_\_\_\_\_

4. Nationality \_\_\_\_\_

5. What year of your degree you are in? (Tick relevant box)

2  3  4

6. What program are you currently registered on? (Tick relevant box)

BS  Accounting, Business Finance and Management

BA  Business and Management

BS  Business and Management

BS  Actuarial Science

BS  Marketing

Other? (Please specify) \_\_\_\_\_

**Part B:**

**1. Have you had any Accountancy/Auditing experience?**

Yes  No

If *Yes*, Please can you state:

	Organisation	Industry (Accounting/Auditing)	Your Role	Period of Experience
1.				
2.				
3.				

**2. Have you taken a course on Ethics before?**

Yes  No

If *Yes*, please state the type of the course ( for example, Business Ethics or General Ethics), and where (for example, School, University, Organisation or Community)?

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**3. Have you taken a course in Audit before?**

Yes  No

Where? \_\_\_\_\_

**4. Have you come across the term Professional Scepticism before?**

Yes  No

If *Yes*, what does this term mean to you (*in your own words*)?

---

### **Section 3**

Please read the following scenarios, then, review the response options carefully before you mark your answers. **There are no right or wrong answers:**

#### **Case 1: Amelia and the ABC Company**

---

Amelia is a senior auditor and a Chartered Accountant (CA) for a national firm of chartered accountants that provides auditing, tax, and consulting services. The firm has developed a package called the *Bay Accounting System*, which is sold to the general public as well as the firm's clients. Amelia is the auditor in charge of the audit field work on the ABC Company. As part of the audit program, Amelia is asked to evaluate the quality control of the accounting system in the ABC Company, which happens to be the *Bay Accounting System* package. Amelia uncovers several severe control weaknesses in the *Bay Accounting System*. Before sending a letter to ABC management, Amelia is told by her manager to modify the negative comments regarding the *Bay Accounting System* package.

---

1. Realistically, should Amelia amend the management letter? (Tick one)

Should amend it                       Can't decide                       Do not amend it.

2. In the process of advising Amelia, many items need to be considered. Below is a list of some of these items. **Please indicate the importance of each of the following considerations:**

Rate the following 12 issues in terms of <u>importance</u>		No	Little	Som e	Much	Great
1.	Whether the weakness in the <i>Bay Accounting System</i> may be easily remedied by compensating controls.					
2.	Would a good employee defer to her superior's judgment?					
3.	Whether Amelia's job may be threatened by her refusal to revise the letter.					
4.	Whether fair deliberation on the client's financial position can predict professional reputation.					
5.	What is best for Amelia's firm?					
6.	Whether Amelia has a duty to ensure the management letter is accurate.					
7.	What is the potential value of an independent audit instead of the society's current perspective on an enterprise's net worth?					
8.	How is society best served?					
9.	Whether clients really care about internal control or if all they ever really want is a clean audit opinion.					
10.	Would amending the management letter be consistent with what Amelia thinks is right?					
11.	What action would Amelia's peers in the audit firm expect her to make?					
12.	What factors are relevant in determining Amelia's professional responsibility?					

3. From the list above, rank the four items of greatest importance to a "realistic" response:

1<sup>st</sup> Most Important bothering

2<sup>nd</sup> Most Important

3<sup>rd</sup> Most Important

4<sup>th</sup> Most Important



## **Case 2: Jack and Amey Construction**

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Jack is an auditor and Chartered Accountant (CA) working for a small firm that provides auditing services. The Chief Executive of the Amey Construction Corporation is searching for a finance director, and has asked Jack to help recruit and select an appropriate candidate. Jack is the 'in charge' auditor on the Amey Construction engagement, which is among the largest and most profitable jobs for his firm. Jack truly believes that he can provide a valuable service to Amey Construction, as well as his firm, by performing the function of assisting in the recruitment and selection of the finance director. In addition, Jack already knows an individual, a personal friend, who has the right qualifications for this very important position.

---

**1. Realistically, should Jack assist Amey Construction’s Chief Executive? (Tick one)**

\_\_\_ Should assist him      \_\_\_ Can't decide      \_\_\_ Should not assist him

2. In the process of advising Jack, many items need to be considered. Below is a list of some of these items. **Please indicate the importance of each of the following considerations:**

Rate the following 12 issues in terms of <u>importance</u>		No	Little	Some	Much	Great
1.	What effect will Jack’s refusal have on his firm’s relationship with the client?					
2.	Whether Jack has the right to assist a client in the selection and recruitment of a chief financial officer?					
3.	Whether employment referrals ought to be in the hands of a few greedy headhunters.					
4.	Does telling his friend the job is available constitute an infringement of Jack’s professional responsibilities?					
5.	Will having a friend as the finance director prevent Jack from making a fair assessment of the firm’s financial position in the future?					
6.	Whether Jack is overweight or has a weakness for fast food.					
7.	Whether the audit partner of the Amey Construction audit will endorse Jack’s actions.					
8.	Would a good auditor refuse to assist Amey Construction’s Chief Executive?					
9.	What actions would Jack’s friend expect him to take?					
10.	Would it be fair to other clients if Jack assisted Amey Construction’s Chief Executive?					
11.	Would assisting Amey Construction’s Chief Executive in any way violate the rights of others?					
12.	Would refusing to assist the Chief Executive be consistent with what Jack thinks is right?					

**3. From the 12 points listed above, rank the four items of greatest importance to a “realistic” response:**

\_\_\_ 1<sup>st</sup> Most Important

\_\_\_ 2<sup>nd</sup> Most Important

\_\_\_ 3<sup>rd</sup> Most Important

\_\_\_ 4<sup>th</sup> Most Important

### **Case 3: Oliver and Cygnet Company**

---

Oliver is the audit partner on the Cygnet Company audit. Cygnet Company is a wholly owned subsidiary of White Swan Manufacturing. The entire audit of the White Swan consolidated entity is handled by different offices of Oliver's firm and is nearing completion. The audit of Cygnet Company proceeded without a problem. Nevertheless, Oliver is troubled. Oliver is aware that several sites of White Swan Manufacturing have not been visited by audit staff and the soon-to-be-released, consolidated financial statements of White Swan do not show that the plants at these sites are out of operation. The financial statements carry these plants at their historic cost, subject to normal depreciation provisions. Oliver feels that the asset impairment 'write-down' of the unused plants cannot be dismissed as temporary or immaterial to the consolidated entity. These concerns have been discussed with the audit partner of White Swan Manufacturing who has indicated that this issue is not Oliver's concern. The senior partner of Oliver's office also has advised Oliver that this matter is not Oliver's responsibility.

---

**1. Realistically, should Oliver pursue the issue? (Check one)**

Yes                       Can't decide                       No

2. In the process of advising Oliver, many issues need to be considered. Below is a list of some of these issues. **Please indicate the importance of each of the following considerations:**

Rate the following 12 issues in terms of <i>importance</i>		No	Little	Some	Much	Great
1.	Does signing the audit report for Cygnet Company have anything to do with the White Swan Manufacturing issue?					
2.	What is in Oliver's best interest?					
3.	Whether the managing partner of Oliver's firm will support Oliver's actions.					
4.	Does Oliver's role is to compare the articulation of a professional response in opposition to the partner-in-charge of the consolidated enterprise (in this case White Swan Manufacturing)?					
5.	Whether Oliver should respect his superiors' decision.					
6.	Is Oliver more responsible to his firm or to his audit clients?					
7.	Whether Oliver is a bird lover, or vegetarian.					
8.	What values has Oliver set out for himself in his own personal code of behaviour?					
9.	Whether a system which supports powerful, opportunistic and greedy organisations ought to be completely overhauled.					
10.	Does society expect Oliver's responsibility to extend beyond Cygnet Company audit?					
11.	Would a good partner bring this matter to the attention of other partners in the firm?					
12.	How is the public good best served?					

**3. From the 12 points listed above, rank the four items of greatest importance to a "realistic" response:**

1<sup>st</sup> Most Important

2<sup>nd</sup> Most Important

3<sup>rd</sup> Most Important

4<sup>th</sup> Most Important

**End of Questionnaire.**

## **Appendix 2 Interview Topic Guide**

**Researcher:** Khalsa Al-Akhzami

**Research Title:** Auditors' Professional Scepticism and Moral Reasoning

### **Research Background and Aim**

Following financial crisis like the recent in 2007-2008 the discussion on auditors' role and their professional scepticism is highlighted. There are concerns and discussions by the regulators, practitioners and academics. Professional scepticism is often characterised by questioning mind, suspension of judgment, searching for knowledge, interpersonal understanding, self-determining, and self-confidence. The International Forum of Independent Audit Regulators (IFIAR) defines a lack of professional scepticism as a situation when two elements jointly occur; not acquiring sufficient evidence and failing to address material misstatements. Thus, developing a better understanding of professional scepticism is important in enhancing audit practice.

Consequently, the interrelation between professional scepticism and other individual personality characteristics like moral reasoning would benefit from further research. This study mainly concerned with the auditors as individuals and aims to investigate whether, and how, auditors' professional scepticism and moral reasoning might be connected, and under which circumstances they contradict or reinforce each other.

### **Assurance of Ethical Conduct**

- Information obtained is classified as confidential and will not be exchanged with a third party, unless it is anonymised and as transcripts.
- Participants' names and identity are anonymised and will not be revealed.
- Participants are free not to answer any particular question or stop the interview at any point in time.

## **Interview Structure:**

### ➤ **Section 1 (Approximately 5 minutes)**

#### **Background and Experience Information:**

- Sign the consent form.

Ask the interviewee to introduce themselves by providing information on:

- Auditing background and experience.
- Professional qualifications.
- Current position.

### ➤ **Section 2 (Approximately 15 minutes):**

At this stage the questions are on auditor's professional scepticism.

#### **Topics and Themes for *stage 1* of the Interview:**

##### 1) Professional Scepticism:

- How would you define professional scepticism?
- **Is professional scepticism a one state of mind or a continuum of neutral and presumptive doubt?**
- According to the IAASB "*professional scepticism is a fundamental concept and core to audit quality*", what is your comment on that?
- **Is professional scepticism a state or trait?**
- According to you what are the traits that represent professional scepticism? In other words do you agree that; questioning mind, suspension of judgment, searching for knowledge, interpersonal understanding, self-determining, and self-confidence are traits for professional scepticism?
- Is auditors' professional scepticism affected by other factors? What are they?
- **What do you think of new auditors' levels of scepticism? Why?**
- How professional scepticism is promoted in the audit environment?

### ➤ **Stage 3 (Approximately 15 minutes):**

At this stage the questions are on moral reasoning.

#### **Topics and Themes for *stage 2* of the Interview:**

##### 2) Auditors' moral reasoning:

- **Can we develop auditors' moral reasoning? How?**

- **Do you think auditors need more ethical standards and rules?**
- Auditors are responsible to protect the public interest, from your point of view what is “public interest”?
- Do you think self-reflection and stand-back review will increase professional scepticism? How? What other techniques might be useful for auditors?
- What do you think about recruiting only auditors with a certain level of moral development? Will it increase the implication of scepticism or audit quality?

➤ **Stage 4 (Approximately 15 minutes):**

At this stage the questions are on professional scepticism and moral reasoning relation and future perspective on the audit business.

3) **Linking Questions:**

- Do you think that the levels of moral reasoning have impact on professional scepticism?
- How we can enhance professional scepticism through the development of auditors’ moral reasoning?
- Do you think auditors’ professional scepticism affected by experience? How?
- Is strengthening our ethical principles helps in enhancing professional scepticism? What about enforcing ethical standards, will that work?
- What do you think is ideal to enhance professional scepticism?
- How professional scepticism can be enhanced in todays’ audit environment?
- Do you think auditors’ professional scepticism affected by experience? How?
- What about the changes in audit environment does it have impact on auditors moral?

**Post-Interview:**

- Thank the participant.
- Ask them if they recommend a perspective interviewee from their network.
- Take permission for follow up contacts.

## Appendix 3 Interview Consent Form

### Consent Form 1 the questionnaires

**The York Management School**  
University of York  
Freboys Lane  
Heslington  
YO10 5GD  
  
Tel. : 01904 325062

### Interview Consent Form

Reference Number:[ RI\_00 ]

Date:

This form is for you to state whether or not you agree to take part in the study. Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher (Khalsa Al-Akhzami-Email: [kasa501@york.ac.uk](mailto:kasa501@york.ac.uk)).

- Have you read and understood the information leaflet about the study? Yes   
No
- Have you had an opportunity to ask questions about the study? Yes   
No
- Do you understand that the information you provide will be held in confidence by the research team? D Yes   
No
- Do you understand that you may withdraw from the study for any reason, without affecting any services you receive? D Yes   
No
- Do you understand that the information you provide may be used in future research? Yes   
No
- Do you agree to take part in the study? Yes   
No
- If yes, do you agree to your interviews being recorded?  
(You may take part in the study without agreeing to this). Yes   
No



No

**Your Name:** -----

**Your signature:** -----

**Interviewer's name:** [Khalsa Al-Akhzami](#)

**Date :** -----

## Appendix 4 Questionnaire Consent Form

### Decision-Making in the Context of Auditing

You are invited to participate in a study on decision-making. Participation is **voluntary** and you have the right not to answer any question, or to withdraw your consent and terminate participation at any time.

**The questionnaire should take approximately 45 minutes.**

The survey is **anonymous** and only aggregated data will be used in the analysis. This research is approved by Economics, Law, Management, Politics and Sociology Ethics Sub-Committee on the 6th February 2017 (reference no. 256/2016-17). The research and its associated results will be compiled at the University of York

I have been informed that I may contact Khalsa Al-Akhzami, Accounting and Finance Research Group, The York Management School, University of York, York, by email at: [kasa501@york.ac.uk](mailto:kasa501@york.ac.uk) if I have any questions or comments about this survey.

Please read the instructions for each of the following questions. Review the response options carefully before you mark your answers. **There are no right or wrong answers.** Please answer the questions as honestly as possible.

I have read the information above and **I choose to participate** in the research.

---

Signature

---

Date

## Appendix 5 AEDI Analysis Guide

Scenario	Theme Tested	Scenario Original	1	2	3	4	5	6	7	8	9	10	11	12
Amelia	Conflict of Interest	ABC Company (Alice)	4	3	2	<b>M</b>	3	4	<b>M</b>	6	A	5A	3	5A
Jack	Independence	Dogwood Construction (Bill)	3	4	A	4	6	<b>M</b>	3	4	3	4	5A	5A
Oliver	Whistle Blowing	Big Boulder Beer (Alex)	4	3	2	<b>M</b>	3	4	<b>M</b>	6	A	5A	3	5A

## Abbreviations

ACA	=	ICAEW chartered Accountancy Qualification
APB	=	Audit Practice Board
ATE	=	Authorised training employer
ATP	=	Authorised training principal
BAA	=	The British Accounting Association
BAFA	=	British Accounting and finance Association
BIS	=	The, UK, Department for Business, Innovation and Skills
CAG	=	Comptroller and Auditor General
CAQ	=	Centre for Audit Quality
CAQ	=	Center for Audit Quality
CPAB	=	CCRC Canadian Public Accountability Board
CPAB	=	CCRC Canadian Public Accountability Board
CSC	=	Codes and Standards Committee
Eurosa	=	European Supreme Audit Institute
FCA	=	Financial Conduct Authority
FRC	=	Financial Reporting Council
FSA	=	Financial Services Authority
GIPS	=	Global Investment Performance Standards
IAA	=	International Actuarial Association
IAASA	=	The Irish Auditing and Accounting Supervisory Authority
IAASB	=	International Auditing and Assurance Standards Board
IAESB	=	International Accounting Education Standards Board
IAPN	=	International Auditing Practice Note
IASB	=	International Accounting Standards Board
ICAEW	=	Institute Of Chartered Accountants in England and Wales
IESBA	=	International Ethics Standards Board for Accountancy
IESBA	=	International Ethics Standards Board for Accountants
IFAC	=	International Federation of Accountants
IFIAR	=	International forum of independent Audit regulators
IIA	=	The Institute of Internal Audit
IOSCO	=	International Organisation of Securities Commissions

ISA	=	International Standard on Auditing
ISAE	=	International Standard on Assurance Engagements
ISQC	=	International Standards on Quality Control
ISRE	=	International Standards on Review Engagements
ISRS	=	International Standards on Related Services
NAO	=	National Audit Office
PCAOB	=	Public Company of Audit Oversight Board
SEC	=	The US Securities and Exchange Commission

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