PROFESSIONAL SCEPTICISM OF AUDITORS: A CROSS-CULTURAL EXPERIMENT

By

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A Thesis Submitted in Fulfilment of the Requirements of

the degree of

Doctor of Philosophy (Accounting)

October 2010

School of Accounting

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STATEMENT OF AUTHENTICATION

This work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in whole or in part, for a degree at this or any other institution.

Medhat Endrawes

______________________

Signature
DEDICATION

This thesis is dedicated to my wife Gihane, my daughters Clara and Amanda, and to my parents Layla and Yousry. I would like to thank them for their care, love and support.
ACKNOWLEDGEMENTS

This thesis would not have been possible without the assistance of my supervisors. First, I am grateful to my principal supervisor, Professor Garry Tibbits, who has been very supportive and patient throughout. I would like to acknowledge his help both professionally and personally when I most needed it. Garry has been very caring and interested in my progress and always has had great suggestions on how to make my thesis better. I would like to thank him for his hard work. I am very grateful to my co-supervisor, Professor Gary S Monroe, who has provided me with invaluable advice and has devoted much time to answering my questions. His diligence and expertise were critical in all stages of this thesis. His insightful comments and constructive suggestions at various times have been deeply appreciated. Gary is someone on whom I would want to model my academic career, especially in terms of his research as well as his compassion for students. I am also grateful to my co-supervisor, Dr. Kenan Matawie, for his advice especially with statistical analysis. I would like to thank him for assisting me with information during many early mornings. I would also like to acknowledge and thank Professor Chris Patel for his direction and expert advice and above all for his interest and encouragement of my studies. I would like to express my deep appreciation to Vivienne Chavez for her excellent editing and proofreading of the final draft of this thesis. Words cannot express my appreciation to you all.
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ABSTRACT

With the growth in multinational business operations and greater use of international sources of finance, there has been a trend to increased uniformity in accounting and auditing standards. However, uniformity in auditing also requires uniformity in the application of those standards. This paper examines the potential for differences in application of auditing standards due to the influence of cultural differences influencing decision-making by auditors.

This study examines the effect of culture, the risk of fraud and errors, accountability and audit knowledge on auditors’ professional scepticism, which is necessary to assess the risk of material misstatements due to fraud and error. Information from a sample of 269 junior and senior auditors from three accounting firms from Egypt and Australia were collected. The subjects evaluated the risk of fraud and error at the planning stage. The results provide evidence as to whether auditors from different cultural backgrounds react differently to audit evidence. The results show that there are significant differences between the two countries with respect to some audit decisions but not in others.
CHAPTER 1

Introduction

The aim of this study is to investigate the impact of the risk of fraud and error, accountability, culture and audit knowledge on auditors’ professional scepticism. The accounting literature reports that in the absence of externally imposed standards accounting is determined by the culture of a particular country (Violet, 1983), and the lack of consensus between different countries on appropriate accounting methods often occurs because of cultural differences (Hofstede, 1991; Tsakumis, 2007). Business operations are becoming more international and thus, occur across cultures. Completing the audit on international operations requires an understanding of other cultures. If cultural differences cause differences in audit decisions, they need to be considered at all audit stages such as planning, risk assessment, materiality and internal control evaluations.

Many researchers such as Hogarth (1991), Ashton and Cianci (1998) and Ng and Tan (2003) have stressed the importance of audit judgment. Hopwood (1996) calls for wider research in audit judgment to include different societies and nations. More recent studies suggest that there is a lack of cross-cultural judgment studies (Leung et al., 2005; Kirkman et al., 2006). The current study responds to these calls. This study makes an original contribution by examining cross-cultural decision-making related to auditing issues. These issues have not been fully examined in the cross-cultural accounting literature. An example of issues that are likely to enhance cross-cultural accounting literature includes consensus in audit decision-making in different
cultures. This is also relevant given the recent change of emphasis in relation to fraud
detection in auditing (Australian Auditing Standards, ASA 240).

Using a sample of auditors from different cultures is important because accounting
and auditing practitioners need to understand the extent to which audits performed in
different economic settings may be influenced by cultural differences that might
affect professional scepticism judgments. This understanding is valuable because
professional scepticism affects both audit effectiveness and efficiency and, therefore,
the quality of the audit and the financial reports associated with the audit. There are
no studies that consider the question of whether culture will impact on fraud and
error risk assessments and the audit work required. The relationship between culture
and professional scepticism has not previously been examined. The current study
contributes to that aim by testing whether culture (individualism/collectivism and
power distance) influence audit decision-making in fraud and error assessment risk
tasks.

There is also limited research to date that has focused on the relationship between
national culture, accountability, and audit knowledge and fraud and errors detection.
These are important research issues of interest to regulators given the current
emphasis on harmonisation of both auditing and accounting standards. For example,
the International Federation of Accountants has established Guidelines on ethics for
professional accountants (IFAC, 2010). Similarly, PriceWaterhouseCooper (2002)
have introduced a global code of conduct as a guide for auditors around the world.

With the increasing number of multinational companies requiring international audits
and audit firms expanding their linkages across more countries, it will be useful for
audit partners in different countries to understand how and why audit decisions can
be expected to be different between countries as a function of the cultural differences that exist among the audit partners and personnel across the countries. Such an understanding is likely to reduce misinterpretations and offer ways to deal with the differences. Examining the effect of culture on audit decisions and judgments would help audit partners, especially in multinational firms, to comprehend how audit decisions differ from country to country due to differences in shared values, norms, personality and auditing knowledge of auditors within each culture. Since there are expectations of differences in audit decisions, expecting uniform decisions is unrealistic and is likely to lead to miscommunication.

The literature on accountability has generally revealed that greater accountability increases effort, performance (e.g., Johnson & Kaplan 1991; Ashton 1992; Kennedy, 1993 DeZoort et al., 2006), and vigilant and self-critical thinking (Tetlock, 1992; Lerner & Tetlock, 1999). Prior research suggests that enhanced accountability leads to an increase in testing but sheds no light on whether this affects professional scepticism and whether national culture affects professional scepticism. Thus, the current study contributes to the literature by investigating the impact of accountability on professional scepticism.

Over the past decade in Australia and the United States (US), the accounting and auditing profession, users of financial statements and governments have expressed concern about corporate collapses around the world. In 1980, there was a call for more effective ways to detect material misstatements that related to fraud (e.g., Romney et al., 1980) and errors (Asare & Davidson, 1995). In the past few years, there have been many events suggesting the importance of detecting fraud such as the introduction of the international auditing standards (IAS 99) and the Australian Auditing Standards (ASA 240). These events have included an unprecedented level
of corporate collapses during the close of the 20th century and the early part of the
21st century, e.g., Enron, Waste Management, WorldCom, Royal Ahold, and
Parmalat. As a consequence there have been many regulatory reforms relating to
professional auditors around the world. In Australia, the Corporate Law Economic
Reform Program (CLERP 9) was introduced to enhance auditor independence.
Similarly, in the US, the Sarbanes-Oxley Act of 2002 (SOX) was implemented to
improve auditor independence and audit quality.

Both ASA 240 and the Statement on Auditing Standards (SAS) 99 have not changed
auditors’ responsibilities to detect fraud but\(^1\) they have made significant changes with
respect to how and what auditors are required to do in order to conduct an audit. In
recent times, the profession has reconsidered the need for greater emphasis on
scepticism and hence on fraud detection and this has given rise to the need to know
more about the implications of professional scepticism in different settings and hence
the importance of the current study.

In Australia, paragraph 27 of ASA 240 states “the auditor shall maintain an attitude
of professional scepticism throughout the audit, recognising the possibility that a
material misstatement due to fraud could exist, notwithstanding the auditor’s past
experience with the entity about the honesty and integrity of management and those
charged with governance”. In the US, SAS 99 and SAS 109 require auditors to
maintain their professional scepticism. For example, paragraph 19 of SAS 109 states
that “the auditor should plan and perform the audit with an attitude of professional
scepticism”. In addition, paragraph 16 of SAS 99 states that “professional scepticism

\(^1\) Auditors saw their role as expressing an opinion on the reliability of the accounts and either fraud or
errors in the application of accounting principles that could lead to unreliable information.
should lead the audit team members to continually be alert for information, or other conditions, that could indicate material misstatement due to fraud may have occurred”. Auditors worldwide need to be aware of, and deal with, the significant changes in the IAS 240, which will change the ways of conducting audits, including the requirement to perform additional audit work. The most significant requirement of IAS 240 is that the auditors are required to increase their level of professional scepticism.

Similarly, SOX requires auditors to view their client’s financial statements with a sceptical view and conduct the audit accordingly. Fraud detection is an important element of every audit because the new auditing standard requires auditors to assess the possibility of the existence of fraud at the audit planning stage.

There are many signs that indicate the importance of looking for the possibility of fraud and many ways of improving the chances of detecting fraud. These include the use of red flags as indicators of fraud. For example, Price Waterhouse (1985) suggested that auditors should be responsible for searching for fraud and suggested that auditing standards should emphasise red flags as a way to detect fraud. Palshikar (2002) suggested that fraud was the most dominant white-collar crime in business and that many government organisations suffered from fraud of many kinds. Cain (1999) and KPMG (2006) in Australia found that fraud was a major business problem. A review by Rezaee (2005) illustrated a $500 billion financial statement fraud discovered recently in the US and Europe.

Financial statements containing fraud and errors can lead to losses for investors, creditors and auditors. However, detecting fraud is a complex task for auditors (Zimbelman, 2001) because most auditors never experience fraud during an audit.
(Pany & Whittington, 2001; Montgomery et al., 2002). Nonetheless, given the many corporate collapses around the world, auditing is under increasing pressure to improve fraud detection. For example, in 1997 the profession in the US issued SAS No. 82, requiring auditors to separately assess fraud risk from audit risk at the planning stage.

Researchers in auditing have conducted many studies related to fraud risk assessment. Some studies focused on assessing fraud risk separately from audit risk (Zimbelman, 1997), assessing audit risk including fraud risk (Wilks & Zimbelman, 2004) and using red-flag questionnaires as a decision aid (Pincus, 1989, Asare & Wright, 2004) or using an experts system as a decision aid (Eining et al., 1997). Other examined the impact of fraud risk levels on adjusting the nature and/or extent of planned audit tests (Zimbelman, 1997; Glover et al., 2003). Others studied the relationship between fraud risk and audit fieldwork (Rose & Rose, 2003; Payne & Ramsay, 2005).

Testing the effect of the existence of errors in financial statements is important because errors impact on the nature, extent and timing of audits and on audit plans and audit risk levels (Abdolmohammadi & Wright, 1992; Asare & Davidson, 1995). Error risk makes auditors budget for more hours and results in changes to the extent of testing (Mock & Wright, 1993). None of these studies provide evidence that the levels of fraud and error risk impact on professional scepticism.

It has been reported in the auditing literature that future research should “investigate whether current audit procedures are the most effective ones to detect fraud and errors or whether better fraud decision procedures need to be developed” (Hoffman, 1997, p. 103). The current study’s objective is to investigate the factors that increase
the level of professional scepticism and the level of scepticism may affect the likelihood of discovering fraud and errors.

Research investigating fraud and errors detection is very important for policymakers, academics, and government bodies. Concerns for fraud detection have been reported in the auditing literature for several decades (e.g., Mautz & Sharaf, 1961). Fraud and errors detection has been a very important topic for the profession and there have been many fraud research projects funded by the Auditing Standards Board. In addition, failing to detect fraud and errors is an indication of audit failure (Nieschwietz, et al., 2000; Zimbelman, 2001).

Auditors need to assess the possibility of fraud at the time of accepting the client (Gay & Simnett, 2010) and the risk of fraud. The assessment of the level of fraud risk may depend on the level of the auditor’s scepticism. The current study argues that the level of scepticism may depend on many factors, such as culture, accountability, the auditor’s knowledge, and the level of trust between the directors and the auditor.

The current study is motivated in many ways. First, there have been recent calls to examine the relationship between fraud risk judgment and accountability. For example, DeZoort et al. (2006, p. 386) stated “future research is needed to clarify these issues [accountability] because the potential for accountability-based improvement in individual auditor performance seems particularly important in high risk areas subject to professional judgment (e.g., materiality, fraud risk)”.

Second, while the auditing literature has reported studies that show that increased

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2 See [www.aicpa.org/news/p032299a.htm](http://www.aicpa.org/news/p032299a.htm) for more information about these projects.
accountability improves judgments (e.g., Ashton, 1992; Tan & Kao, 1999) and audit effort (Tan, 1995; Chang et al., 1997), the use of accountability in different cultures and its effect on audit judgment does not exist in the auditing literature. The current study addresses these concepts in a different cultural context. Third, undetected fraud and errors can lead to litigation against auditors (St. Pierre & Anderson, 1984; Palmrose, 1987; Carcello & Palmrose, 1994), audit failure and may affect the supply of audit services (Bonner, et al., 1998). Fourth, as a result of technology, concerns about unintentional errors reduce and therefore there is an increased focus on detection of fraud (Elliott, 2002).

Professional scepticism may impact on audit efficiency because it may make the auditor more conservative, which leads to over auditing (McMillan & White, 1993). Professional scepticism is important given the corporate collapses in the last decade as a result of undetected fraud. Professional scepticism can reduce audit failure because it can increase audit quality. For example, if auditors are more sceptical, they may increase testing rather than trusting the directors’ explanations. Additional procedures may help auditors discover material misstatements, especially if those procedures are not expected by the directors. Finally, auditors may choose to confront the directors to gain more evidence about the possibility of the existence of fraud and errors in the financial statements.

Research on audit knowledge suggests that there is a positive relationship between audit knowledge and performance (Curtis & Viator, 2000). In addition, auditors with different educational backgrounds have different knowledge structures, which affects their decisions (Curtis & Viator, 2000). The current study also investigates whether audit knowledge affects professional scepticism.
An experiment was conducted to test the impact of the risk of fraud and error, accountability, culture and knowledge on auditor’s professional scepticism. A 2 x 2 x 2 between-participant design was used. The risk of fraud and error and accountability were manipulated into two levels, high and low, across two cultures. Culture was manipulated by selecting subjects from different countries with different cultures. The subjects were 269 senior and junior auditors from three of the Big accounting firms in Egypt and Australia. The subjects evaluated the risk of fraud and error at the planning stage. Subjects were randomly assigned to four groups: fraud/error cases and no fraud/error cases, with high accountability and low accountability. The results of this study provide evidence as to whether auditors from different cultural backgrounds react differently to risk factors and whether their fieldwork follows the proposals of SAS No. 99, ASA 240 and ISA 240. In addition, the result of the current study will benefit the profession and society because it assists in answering the important question of how auditors fulfil the current higher expectations in relation to detecting fraud.

Overall, the results are of interest to auditing firms in that they ascertain that professional scepticism is important and complex and that increased understanding of the operation of scepticism across situations and cultures may protect auditors against litigation and audit failure. Audit firms need to revise their practices and training schemes to improve the detection of fraud by increasing the level of professional scepticism to appropriate levels without ignoring the efficiency of the audit.

The remainder of the current study is divided into four chapters. Chapter 2 reviews the research on accountability, the risk of fraud and error, culture, audit knowledge, professional scepticism and the hypotheses development. The method and the results
follow in Chapters 3 and 4. Chapter 5 discusses the key findings, future research and limitations of the study.
CHAPTER 2
Prior Research and Hypotheses Development

Introduction
Attention to how multinational accounting firms around the world manage their work is an important area for auditing research. The work of multinational accounting firms must be consistent across offices in different countries and different cultures if they are to provide confidence to enable cross national investment. This includes consistency in their judgments and decision-making. Auditors moving from country to country need to understand the local culture and the local system in order to produce an effective audit. If financial report users, making investment decisions using financial statements prepared and audited in different countries, are to correctly interpret accounting and audit reports they need to be able to rely on the same accounting methods being used (i.e., international accounting standards) in a consistent manner, involving consistent interpretations, and subjected to the same rules and standards of auditing (international auditing standards). However, if the interpretations and applications are significantly influenced by cultural factors, it will be difficult to validly interpret accounting and audit reports across national borders.

An important issue in this context is fraud and error detection. Subsequent to this research, Hurtt et al. (2010) indicated that there is still concern that auditors do not show concern for professional scepticism, which supports the search for greater understanding of the factors which influence the level of scepticism.

One important criterion for high quality fraud and error detection is the level of scepticism applied by auditors in the many decisions taken throughout the audit
process. Scepticism influences the behaviour of the auditors because auditors have to evaluate directors’ assertions and their scepticism levels influence the development of the audit program and the interpretation of audit evidence. Fraud and error discovery may be affected by the level of scepticism as stated in Australian Auditing Standard ASA 240 and International Standards on Auditing ISA 240. Thompson (1993) noted that the level of scepticism may be affected by culture, and that conclusion is reinforced by Patel (2003, 2006). The current study seeks to answer the following research question: Does the level of professional scepticism of auditors vary across cultures and does it vary according to audit knowledge, fraud and error risk, and accountability?

Egypt and Australia have been used in the current study because: (1) they are quite different on the individualism/collectivism and power distance cultural measures (Endrawes & Matawie, 2002); (2) Australia represents Anglo-American nations, while Egypt represents Middle Eastern nations; (3) the subjects were accessible in these counties; and (4) there was content equivalence. It is important to establish content equivalence to ensure differences in judgments in cross-cultural studies occur because of cultural differences rather than differences in meanings (Patel, 2004). The current chapter also develops the hypotheses tested in this study.

The current study divides the literature into four components to facilitate its review:

Professional scepticism

Fraud risk and error risk

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3 Audit knowledge impacts on audit judgment (Libby, 1983; Tan 1995) and knowledge differs from culture to culture (Rutz et al., 2003).
4 Content equivalence means that the meaning is the same across countries (Karnes et al. 1990; Schultz et al., 1993; Patel, 2004). For example, the meaning of related parties and when and how to recognise revenue should be the same in Egypt and Australia. More details are provided in Chapter 3.
Accountability

Culture

(a) Individualism/collectivism and power distance

(b) Audit knowledge, education systems and religion.

Chapter 2 examines the audit judgment literature, specifically studies related to professional scepticism. Chapter 2 also discusses cross-cultural research that examines the significant role culture plays in decision-making in the areas of marketing, and accounting and auditing.

Professional Scepticism

According to ASA 240, auditors are required to conduct an audit with a sceptical mind. Professional scepticism is required at all stages in the audit. Despite the importance of this concept in auditing, there are a limited number of studies in the auditing literature on professional scepticism (e.g., Shaub & Lawrence, 1996; 1999; Payne & Ramsay, 2005).

Professional scepticism refers to a questioning mind and a critical assessment of audit evidence (ASA 240). Professional scepticism may make auditors either confront the directors or perform additional tests (Shaub & Lawrence, 1996). These decisions particularly depend on the level of trust between auditors and directors (Anderson & Marchant, 1989). The assessment of the extent to which the statements of directors can be trusted is formulated during the audit planning stage (Shaub & Lawrence, 1996). This level of trust between auditors and the directors may impact on the auditors’ perceived level of misstatements that may exist in the financial statements. However, William and Larry (2009) state that auditors’ trust is
not related to their perceived risk of fraud because a balance between trust and suspicion is required.

The current study tests the impact of culture, accountability, level of the risk of fraud and error, and audit knowledge on auditors’ professional scepticism. The effects of these factors on scepticism have not been tested before.

Professional scepticism is measured in the current study in five ways: (1) perceived fraud risk; (2) perceived error risk; (3) trust; (4) confrontational audit procedures and; (5) non-confrontational audit procedures.

Professional scepticism requires a balance between trust and suspicion. For example, Deutsch (1958) has suggested that dysfunctional behaviour will occur if there is extreme trust and/or extreme suspicion. Similarly, Kee and Knox (1970, p. 358) have stated that “a slight amount of suspicion - a kind of alert but not distracting guardedness - may be facilitative”. It has been suggested that the absence of scepticism might cause others to question the usefulness of the audit function (McEnroe & Martens, 2001; Brenner & Moir, 2004; Guiral & Esteo, 2006). An appropriate level of scepticism is important for auditors during all stages of the audit including risk assessment.

The auditing literature reports some factors that may affect the level of professional scepticism such as work experience (Shaub & Lawrence, 1999; Carpenter et al., 2002; Payne & Ramsay, 2005); ethical levels (Shaub & Lawrence, 1996; Jones et al., 2003); evidence assessment, such as the detection of contradictions and errors and the generation of alternative explanations, and a search for additional information (Hurtt et al., 2008); examination of substantive testing (Hurtt et al., 2008); coping with directors’ pressure (Koch et al., 2008); undertaking a forensic accounting course
(Carpenter et al., 2008); satisfaction with the client (Kerler & Killough, 2009); and mood (Chung et al., 2008).\(^5\)

The auditing literature reports that inexperienced auditors are more sceptical in thought and behaviour than experienced auditors (Shaub & Lawrence, 1999; Carpenter et al. 2002; Payne & Ramsay, 2005). This may be because: (1) experienced auditors have audit knowledge that increases their confidence and reduces their scepticism; and (2) experienced auditors focus less on ethical reasoning\(^6\) and, therefore, have a lower level of scepticism (Ponemon, 1990). Payne and Ramsay (2005) conducted an experiment to establish the base line for scepticism to test the impact of experience on professional scepticism using staff auditors and senior auditors from Big 4 accounting firms. Auditors in the group where there was no information about fraud risk were less sceptical than auditors in the group where information about fraud risk had been provided. They stated that “these results suggest that auditors anchor on low fraud risk assessments, which has an undesirable effect on the level of professional scepticism displayed when later presented with a new fraud risk factor. This type of response may potentially have serious adverse effects on the quality of audit work performed” (p. 326). This is because fraud may exist in the financial reports but auditors do not adequately focus on fraud detection. They also found that the level of scepticism was related to the auditor’s experience, that is, senior auditors were less sceptical than staff auditors. Payne and Ramsay (2005) did not provide an explanation for their results.

\(^5\) The study did not examine professional scepticism directly.

\(^6\) Partners give priority to external forces such as marketing and promotion activities, while staff give priority to technical issues and affiliation (Ponemon, 1990).
Other studies have examined the impact of concerns for ethics on professional scepticism. While some studies have not found any relationship between ethical sensitivity and decision-making (e.g., Kaplan & Reckers, 1984; Bernardi, 1994), there are studies suggesting that a relationship between ethical levels and professional scepticism does exist (e.g., Shaub & Lawrence, 1996; Jones et al., 2003). For example, the capability to judge the integrity of the directors is a significant feature of the auditor’s professional scepticism (Shaub & Lawrence, 1996). Similarly, Jones et al. (2003, p. 49) believe that “auditors’ sensitivity to [warning] signals suggesting their professional scepticism is warranted is a function of their ethical development”. This indicates that, when there is a higher concern for professional ethics, there is a higher professional scepticism.

Shaub and Lawrence (1996) examined the impact of ethical dispositional factors (ethical orientation⁷ and ethical reasoning⁸), experience and situational factors on auditors’ professional scepticism. One hundred and fifty-six auditors from a single Big 6 audit firm answered questions on nine short scenarios. Auditors were randomly assigned to either the high-risk scenarios or the low-risk scenarios. They found that professional scepticism increased when the company had related party transactions, financial stress, an inaccurate prior year financial position, or bad communication with the auditor. In addition, auditors who were less concerned about professional ethics were less sceptical. US auditors who were CPAs were less sceptical than those auditors who were not. The authors argued that CPAs were more experienced than non-CPAs and, therefore, more experience led to reduced scepticism. However, it

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⁷ Ethical orientation is “a predisposition derived from an individual’s cultural environment and previous life experiences” (Shaub & Lawrence, 1996, p. 127).
⁸ Ethical reasoning refers to an individual’s decisions on whether a particular situation is ethical or unethical (Ponemon, 1990).
may also be possible that such a result may be due to differences in audit knowledge because knowledge increases with experience (Knapp, 1995). The current study considers this by testing the relationship between audit knowledge and professional scepticism.

Using an experiment, Tan (1995) found that auditors with prior involvement with the directors concentrated more on consistent cues than inconsistent cues, whereas auditors without prior directors’ involvement paid more attention to inconsistent cues. Tan suggested that audit rotation was important because it reduced the propensity to give attention to consistent cues that arise from repeat engagements. While Tan (1995) did not examine scepticism, the result is related to scepticism because repeated involvement with a director affects the auditors’ attention to fraud risk factors, which are important in applying professional scepticism. Tan’s result also suggests that the level of scepticism in repeat audits may be less and auditors focus only on consistent information and, therefore, it is less likely that the auditor will be able to discover fraud. It is fair to argue that prior audit involvement impacts on an auditor’s professional scepticism.

Auditors in repeat engagements are likely to become more committed to prior audit work in comparison to auditors working on non-repeat engagements (Tan, 1995). This may suggest that highly sceptical auditors may initially not trust the financial statements and are more likely to issue qualified audit opinions in the first two years, but, after repeated audits and more involvement such as providing non-audit services, they may accept them as true and fair (Geiger & Raghunandan, 2002).

Auditors who provide both audit and non-audit services to a client may apply different levels of scepticism and focus on the efficiency of the audit. This may be
because of the increased understanding of the business generated by their involvement in the non-audit services. However, Joe and Vandervelde (2007) reported that in fraud cases, auditors who provided only audit services were able to identify more factors than auditors who provide both audit services and non-audit services because in the second situation the auditors were less sceptical.

Chung et al. (2008) examined auditor judgments from a psychological perspective. They relied on mood management theory to study auditors’ moods and its relation to scepticism (Isen & Simmonds, 1978; Mayer et al., 1992; Wegener & Petty, 1994). Chung et al. (2008) distinguished between decisions made by positive mood auditors and negative mood auditors. They found that auditors with a positive mood were not willing to confront others (less scepticism) so as to maintain their mood. On the other hand auditors with a negative mood were willing to confront others (high scepticism) to expose potentially negative information.

More recent studies have found that scepticism may be related to coping with pressure (Koch et al., 2008); having taken a forensic accounting course (Carpenter et al., 2008); examination of substantive tests (Hurtt et al., 2008); detection of contradictions and errors that have generated more alternative explanations and a search for additional information (Hurtt et al., 2008).

9 Positive moods are feelings of pleasure, being supported and excitement, however, negative moods are feelings of grief, despair and depression (Isen & Simmonds, 1978; Mayer et al. 1992; Wegener & Petty, 1994).
The risk of fraud and error

Australian Auditing Standard ASA 240 distinguishes between two misstatements: error and fraud. Errors are unintentional misstatements, while fraud is intentional misstatement.

Two types of fraud are mentioned in the Statement on Auditing Standards (SAS) 99 and ASA 240. First, fraud arising from fraudulent reporting is deliberate or reckless behaviour, acts, or omissions that result in materially misleading financial statements (Gay & Simnett, 2010) and second, fraud arising from misappropriation of assets (Coram et al., 2008). The current study focuses on fraud conducted by executives and managers who have the authority to override the entity’s internal controls. The fraud may be related to misrepresentation of accounting records, distortion of transactions or misapplication of accounting principles. It has been recognised that detection of fraud is very complex (Loebbecke et al., 1989) and difficult because the perpetrators conceal it. Auditors are required to develop audit tests and strategies to focus on fraud detection. Auditors are specially required to consider the risk of fraud in revenue recognition and the possibility of directors overriding internal controls (ASA 240 and ISA 240).

Separate fraud risk evaluation

The concept of a separate fraud risk evaluation has been reported in the literature (e.g., Jiambalvo & Waller, 1984; Hoffman & Patton, 1997; Zimbelman, 1997; Knapp & Knapp 2001; Wilks & Zimbelman, 2004). These studies agree that explicit instructions to assess fraud risk improve the chance of detecting fraud.

Zimbelman (1997) asked 107 auditors to make planning decisions after manipulating two levels of fraud risk and two types of inherent risk evaluations. One group of
auditors was required to make separate assessments of fraud and errors. The other
group of auditors was required to combine their assessment on both error and fraud.
Zimbelman (1997) found that auditors spent more time reading fraud cues (i.e., red
flag risk factors) when they separately assessed fraud risk compared to those who
assessed both fraud and error risk together. In that study, the budgeted hours for audit
testing were the same for both assessment groups and the subjects did not
recommend different audit procedures in response to the level of risk. One limitation
of the study was that no distinction was made between audit procedures that were
confrontational auditing procedures, such as inquiries of management, and the ones
that were non-confrontational auditing procedures, such as examination of
documents.

Knapp and Knapp (2001) examined the relationship between audit experience and
explicit fraud risk assessment, and the effectiveness of analytical procedures in
discovering fraud in the financial statements. Explicit instructions to assess fraud risk
resulted in better performance. They found that experience improved the accuracy of
fraud risk assessment. This may be due to the fact that the audit managers’
knowledge is better than the audit knowledge of senior auditors. Audit managers
were better than senior auditors in assessing fraud risk. Similarly, detecting fraud
was more effective when there was a separate assessment of fraud risk but not as
efficient because auditors spent more time in fraud risk assessment (Knapp & Knapp,
2001).

Another branch of research on fraud risk indicates that fraud may occur when three
factors are present: incentive, opportunity, and attitude (Albrecht et al., 1984;
Loebbecke et al., 1989; Wilks & Zimbelman, 2004; Rae & Subramaniam, 2008).
Incentive is a pressure to commit fraud, such as when a bonus is based on the amount
of income. Opportunity is a condition that permits a person to commit fraud such as the lack of internal controls, for example, no separation of duties. Coram et al. (2008) found that organisations with internal control are likely to detect fraud more than those without controls. Attitude in this context is the justification of personal gain at the expense of others. Loebbecke et al. (1989) suggested that these factors are necessary, but are not sufficient conditions for fraud, and auditors are required to consider the interaction of these factors when assessing fraud risk levels.

Some studies (Zimbelman, 1997; Wilks & Zimbelman, 2004) used the fraud-triangle categorisation as suggested by SAS 99, which requires a separate (decomposition) risk assessment related to management’s attitude, opportunities, and incentives. These are the three conditions identified in SAS 99 that auditors need to consider to detect fraud. There have been concerns regarding reliance on management’s attitude when such an attitude may suggest low fraud risk. For example, Wilks and Zimbelman (2004) suggested that is it hard to determine accurately management’s attitude, especially if management is trying to deceive the auditors, and such attitudes may change over a short period of time.

Wilks and Zimbelman (2004) reported the results of an experiment, with 52 audit managers from two of the then Big 5 audit firms, to evaluate fraud risk for a hypothetical client. They varied the risk level related to opportunity and incentives without changing the attitude risk level (management’s attitude). They also varied whether auditors made a decomposed fraud-risk assessment or a holistic assessment. They expected that fraud-risk assessment in the decomposition condition to be more related to opportunity and incentive risks than in the holistic condition. The results showed that auditors who decompose fraud assessments are significantly more sensitive to changes in opportunity and incentive than auditors who used the holistic
approach. In addition, this greater sensitivity only occurred in the low risk condition. When fraud risk was low, auditors were sensitive to opportunities and incentives. However, when fraud risk was high, auditors in both the holistic and decomposition settings were similarly sensitive to opportunities and incentives. They suggested that auditors were more sensitive to cues related to high fraud risk regardless of the decomposition approach or the holistic approach. They also added that auditors may have realised that attitude risk factors were at a low level and that made them less sensitive to the other cues. The study suggested that the decomposition approach may or may not improve an auditor’s ability to detect fraud. They stated “thus, no matter how much a decomposition approach might reduce the cognitive effort necessary to assimilate a list of fraud-risk factors, in the end, auditors using any approach may be equally sensitive to cues suggesting fraud risk” (p. 727). The current study, therefore, will use a holistic fraud-risk assessment approach.

**Red Flags**

Red flags have been used as a tool to detect fraud. They are “potential symptoms existing within the company’s business environment that would indicate a higher risk of an intentional misstatement of the financial statements” (PriceWaterhouse, 1985, p.31). Red flags are indicators that may lead to the discovery of fraudulent activities because they indicate incentives and opportunities to commit fraud. The role of red flags in audit engagements has been reported in the audit literature. For example, Uretsky (1980, pp. 90-91) stated that:

….auditors must be alert for signs that management’s integrity should be viewed with additional skepticism, for conditions that may provide a motive for management fraud, and to signs that fraud has occurred. This is accomplished by their perspicacity in dealing with management and by so-called red flags. Red flags are situational indicators. They indicate that the auditor should be more watchful than usual, and, in combinations, they may indicate that the auditor should be suspicious.
Some studies (e.g., Pincus, 1989; Hackenbrack, 1992; Hoffman & Patton, 1997; Asare & Wright, 2004) showed that using red flags did not improve fraud detection.

Albrecht et al. (1980) identified 95 red flags such as rapid expansion through new business and an executive who was arrogant. Albrecht and Romney (1986) considered 87 red flags across fraud and no-fraud cases. The study used a mail survey and the subjects were audit partners with experience in detecting fraud and partners with no experience in detecting fraud. They were asked to identify red flags that indicated fraud. Univariate tests showed only one-third of these red flags were indicators of fraud. A large number of the significant indicators were related to personal characteristics of management such as a key executive living beyond his/her means. Moreover, many company-specific indictors such as business operations deteriorating significantly were not important. The study, however, did not attempt to provide a model to evaluate overall fraud risk.

Loebbecke et al. (1989) asked auditors who had identified fraud in prior years’ audit about the presence of red flags at the planning stage. The study was based on the assumption that assessing fraud risk is a complex task and demands “a multi-attribute, high-level judgment task that requires audit knowledge, experience, and reasoning” (p. 3). That study also developed a model that increased the cognitive engagement of auditors. The model comprised three factors: (1) the client may contribute to the fraud (e.g., weak internal control); (2) motivations that led a person to commit fraud (e.g., financial pressure); and (3) a person may be in a position to commit fraud (e.g., opportunity).

Loebbecke et al. (1989) surveyed 1,050 audit partners from KPMG in the US who had experience with asset misappropriations and fraudulent financial reporting. They
found a quarter of all fraud cases were discovered in the first year of an audit. This indicates that when the audit firms accept a client for the first time they may use unpredictable audit tests. In addition, auditors may become more sceptical due to the screening process during the acceptance stage that leads to detection of fraud in the first year (Nieschwietz et al., 2000). This indicated that prior involvement with the client reduced the chance of detecting fraud due to a reduced level of professional scepticism or as a result of predictable auditor behaviour. The authors suggested that the most important indicators of fraud risk are: decision-making dominated by one person; weak internal control; related party transactions; difficult to audit transactions; industry decline; inadequate profits; emphasis on earnings projections; significant contractual commitments; dishonest management; personality anomalies; prior year fraud; lies or evasiveness; and aggressive financial reporting. In addition, fraudulent financial reporting was more likely in public companies than private companies and was more likely in some industries such as manufacturing, transportation, and technology / communication companies. One limitation of their study that the authors declared was that they did not include a non-fraud sample. This limitation “makes determining red flag predictive strength impossible” (Nieschwietz et al., 2000, p. 204).

While the above studies suggest that red flags may be related to discovering fraud, they did not test whether the level of auditors’ professional scepticism affected fraud risk assessment. The current study addresses this issue.

**Audit Knowledge and Experience**

As suggested by Nelson (2009) audit knowledge is an important factor to make audit judgments. Because fraud does not happen as frequently as errors, auditors have...
more experience in finding errors than discovering fraud (Loebbecke et al., 1989), and hence their audit knowledge about fraud is less sophisticated than for errors (Bonner, 1990; Johnson et al., 1993; Zimbelman, 1997). However, audit knowledge of fraud indicators increases with experience (Knapp, 1995). Given the complexity of fraud risk evaluation tasks, the auditing literature suggests that procedural knowledge that is developed over many trials is important to deal with such complexity (e.g., Bonner & Walker, 1994; Herz & Schultz, 1999). Procedural knowledge “frees greater cognitive resources to consider knowledge germane to the immediate task” (Zimbelman, 2001, p. 20). Prior research has shown that the focus on assessment of fraud risk changed the extent of the audit but not the nature of the audit (Zimbelman, 1997; Glover et al. 2000) and auditors’ decisions in interpretation of audit evidence (Knapp & Knapp, 2001).

Hackenbrack (1993) examined whether an auditor’s experience impacted on their assessment of fraud risk. He conducted two between-subjects experiments where auditors were required to make a comparison of the effect of red flags on fraud risk assessment. In the first experiment, he used auditors with three years of experience and a hypothetical company. The results indicated no consensus between auditors regarding the effectiveness of red flags. The second experiment used 32 auditors dealing with large client companies and auditors dealing with small client companies. He used 8 red flags and divided them into two groups according to whether the red flags related to an “incentive” or an “opportunity” to perpetrate fraud. The results were that auditors with experience auditing large clients rated red flags in relation to “opportunity” more important red flags than “incentive” red flags and vice versa. Hackenbrack stated that large companies have controls that would reduce the opportunity to engage in fraud activities.
Knapp and Knapp (2001) also tested the impact of experience on fraud detection. They used 62 senior auditors with an average experience of 3 years and 57 managers with an average experience of 8.5 years. They used an analytical review task to evaluate the effect of experience on fraud risk assessments. They developed two cases from actual companies that had been given unqualified audit opinions even though fraud existed in the financial statements. The auditors reported their risk assessment on a scale of zero-to-ten after performing the analytical procedures. As expected, audit managers were more effective than senior auditors with respect to evaluation of fraud risk levels. In addition, the subjects were divided into two groups; one group of auditors was given explicit information that the intention of carrying out analytical procedures was to determine the level of fraud risk, while the other group was simply requested to perform analytical procedures. The explicit information group outperformed the group without such information with respect to effective assessment of fraud. They also found a significant interaction effect between experience and explicit information, that is, managers with high levels of experience and explicit information outperformed the other groups. These studies suggest that experience is an important factor and impacts on audit judgment.

Other researchers investigated the relationship between fraud detection and demographic factors such as type of firm, firm size, auditor experience, prior success in detecting fraud, job position, industry specialisation, task complexity, and gender. For example, relationships were found between rating red flags and demographic factors, such as type of audit firm, years of auditing experience and industry specialisation (Apostolou et al., 2001). Females were more accurate than males in dealing with complex tasks (Chung & Monroe, 2001). General audit experience and fraud experience were related to fraud detection (Moyes & Hasan; 1996; Knapp &
Knapp, 2001). Size of the audit firm, auditor tenure and years of experience were very important in detecting fraud in the stock and warehouse cycle (Owusu-Ansah et al., 2002). However, gender and experience were not significant in fraud detection in the Smith et al. (2005) study, which was conducted in Malaysia. The contradictory results may indicate that culture impacts on fraud detection.

Johnstone and Bedard (2001) investigated the effects of fraud risk and error risk on audit planning hours and audit pricing. The results showed a small effect for error risk factors (i.e. client’s control environment) on audit planned hours but fraud risk factors (i.e. management integrity) had no effect on audit planned hours. The study found that auditing firms planned more intensive testing for directors with error risk factors, but not for directors with fraud risk factors. Results reported in earlier studies (Bamber & Bylinski, 1987; Cohen & Kida, 1989) found that error risk made auditors budget more hours. In addition, changing levels of error risk resulted in a change in the extent of testing but not in the nature of the testing (Mock & Wright, 1993).

More recently, however, fraud risk assessment has become an important part of audit work during the planning stage according to ASA 240. Therefore, we may expect that fraud risk increases audit testing. Johnstone and Bedard (2001) found that both fraud risk and error risk affected audit fees. This indicates that auditors price risk into the audit fee.

Houston et al. (1999) found that auditors’ assessment of fraud risk and error risk had a different impact on audit planning and audit pricing. For example, audit risk is higher in the case of fraud than in the case of errors. However, Payne and Ramsay (2008) found that more time was spent on tests of internal control over account
receivable tasks when the risk of fraud and error was high. This suggests that fraud and error risk affect auditors’ judgments.

Barron et al. (2001) found that potential errors leading to overstated financial performance were positively related to litigation risk. The study suggested that auditors gave more attention to overstatement errors than understatement errors because overstatement can lead to litigation and overstatements are more common (Barron et al., 2001). Hirst (1994, p. 417) stated: “Because uncorrected material overstatements of earnings are particularly risky to auditors, they may become highly sceptical and, therefore, closely investigate such differences”. This suggests that error risk affects auditors’ scepticism.

**The Role of the Risk of Fraud and Error in increasing Professional Scepticism**

Professional scepticism is measured indirectly in the current research. The first and second measures, perceived fraud risk and perceived error risk, are measured by asking the auditors to rate the risk of fraud and error. The third measure, trust, is determined by asking the auditors the extent to which they trust management. The fourth and fifth measures are the importance of non-confrontational auditing procedures and confrontational auditing procedures.

The risk of fraud and error are manipulated at two levels in the current study; high and low. The high fraud risk and error scenarios include conditions as described by Leobbecke et al. (1989), such that a material management fraud could be committed. The risk of fraud and error increases through: the existence of related parties transactions; a close personal auditor-director relationship; fee dependency, that is, the audit firm obtains most of its fees from a particular party; and the familiarity of the auditor with the client business through a number of prior year audits (St. Pierre
& Anderson, 1984; Stice, 1991; Craswell & Francis, 1999). Shaub and Lawrence (1996) found that both related party transactions and financial stress increased professional scepticism. The impact of the presence of such factors is examined in the current study by measuring auditor scepticism. Consistent with Nelson (2009), professional scepticism consists of two stages; sceptical thought and sceptical behaviour. Sceptical thought is measured in the current study as the degree of trust an auditor gives to the director’s explanation. Sceptical behaviour is divided into confrontational auditing procedures and non-confrontational auditing procedures. The relation between the two stages is unclear. For example, auditors may experience sceptical thought but not sceptical behaviour (Shaub & Lawrence, 1999). It is expected that the level of scepticism would increase in the presence of fraud and error risk.

Prior research shows that auditors are more sensitive to negative evidence (Ashton & Ashton, 1988, 1990; Reckers & Schultz, 1993). Similarly, Bamber et al. (1997) stated that increased audit risk induced more evidence collection. In addition, an increased risk of fraud induces more cognitive effort and this leads to reduced reliance on confirming evidence (Church, 1990), and serious risks induce conservatism (Smith & Kida, 1991). This argument is further supported by Smith and Kida (1991, p. 485), who stated that “…auditors give significantly greater attention to data consistent with negative outcomes than data consistent with positive outcomes, even in response to positively framed hypotheses”. In addition, the authors suggested that “attention to more failure than viability items by auditors implied scepticism” (Smith & Kida, 1991, p. 484). However, the authors did not empirically test their argument. In addition, auditors of companies with high error risk are likely to perform intensive testing thereby increasing audit fees (Johnstone & Bedard,
2001; 2003). This results in auditors being more conservative as they give more attention to audit effectiveness rather than efficiency in context of high risk of material overstatement (Hirst, 1994). These studies suggest that auditors will be more sceptical when fraud and error risk is high compared to when fraud and error risk is low.

**H1: Professional scepticism will be higher when the risk of fraud and error is high compared to when the risk of fraud and error is low.**

**Accountability**

Accounting research on decision-making suggests that cognitive studies need to consider the context in which accounting judgments are made (Ashton, 1990; Hogarth, 1991; Johnson & Kaplan, 1991; Dopuch, 1992; Fuller & Kaplan, 2004). One context under which such decisions are made is accountability. Accountability is the pressure to validate one’s judgments to others (Glover, 1997). It requires individuals to perform tasks to an acceptable standard (Schlenker, 1997) and impacts on judgments because it creates social anxiety (Schlenker & Leary, 1982; Messier & Quilliam, 1992; Tracy & Robins, 2004) through “self-attention” (Carver, 1979; Tracy & Robins, 2004), which requires an increase in performance to meet the required standards.

Accountability may relate to many factors such as, knowing a supervisors’ views and expectations (e.g., Cuccia et al., 1995; Buchman et al., 1996; Wilks, 2002), conservative behaviour (e.g., Morton & Felix, 1991; Lord, 1992; Quilliam, 1993; Kennedy, 1995; Buchman et al., 1996; Shelton, 1996; Hoffman & Patton, 1997;
Monroe & Ng, 2000), dilution\(^{10}\) (e.g., Hoffman & Patton, 1997; Turner, 2001), audit knowledge and task complexity (e.g., Tan & Kao, 1999; Tan et al., 2002), auditors’ testing strategies (e.g., Asare et al., 2000), and auditors’ materiality decisions (e.g., DeZoort et al., 2006).

The auditing literature reports that when auditors are held accountable to their supervisors, it has a significant impact on their decisions (e.g., Hoffman & Patton, 1997; Tan & Kao, 1999; Asare et al., 2000; DeZoort et al., 2006).

Hoffman and Patton (1997) tested the relation between dilution and accountability to superiors in a fraud risk context. Forty-four auditors with experience in assessing fraud risk (average experience of 3.2 years) were randomly assigned to either an accountable group or non-accountable group. Subjects in the accountable group were told that their judgments would be reviewed by a panel of partners and managers and they would be required to justify their judgments to the panel. They found no significant relation between dilution and accountability\(^{11}\), however, accountability was related to more conservative fraud-risk evaluations. The authors stated that “we attribute this combination of findings to the auditors’ tendency to shift their judgments towards what they anticipate will be defensible to their superiors” (p. 228). This indicates that when auditors are conservative, they can defend their judgments.

Tan and Kao (1999) tested the relation between accountability and performance and the effects of three moderator variables: audit knowledge, problem-solving and task

\(^{10}\) Dilution relates to using irrelevant cues to make a decision (Hoffman and Patton, 1997).

\(^{11}\) Other studies found that accountability increases dilution because it made auditors over-interpret information (e.g., Tetlock and Boettger, 1989; Hackenbrack, 1992; Messier and Quillian, 1992). However, Hirst (1992) suggested that these studies did not include the view of the audience to whom the auditors were accountable.
complexity. Their participants’ comprised 25 managers, 26 seniors and 54 staff auditors from two of the Big 6 firms located in Singapore. They manipulated accountability into two levels: no accountability and high accountability (accountability to partners) using a between and within subjects design. The results indicated that accountability did not influence performance\textsuperscript{12} when the complexity of the task was low. On the other hand, accountability impacted on performance when the complexity of the task increased but only when audit knowledge was high. They also found that in a highly complex task, accountability increased performance only when both problem-solving ability and audit knowledge were high. The authors suggested that accountability “works best in particular combinations of audit knowledge, problem-solving ability, and task complexity” (p. 210).

Asare et al. (2000) tested the impact of accountability and time budgets on auditors’ testing strategies. They used a 2 X 2 between-subjects experimental design with accountability (present or absent) and time budgets (present or absent). The participants were 91 auditors from two of the Big 6 firms with an average of 2.9 years of experience. They were required to determine the cause of an increase in the gross margin from the previous year. They found that accountability increased the extent of testing\textsuperscript{13}, the breadth of hypotheses tested\textsuperscript{14}, and resulted in more cautious behaviour\textsuperscript{15}. The authors did not find any significant relation between accountability and the depth of testing\textsuperscript{16}. This result is not consistent with prior research. Koonce et al. (1995) documented that accountability increased both the breadth and depth of

\textsuperscript{12} Performance was measured according to the number of correct compliance and substantive tests.
\textsuperscript{13} Extent relates to the number of tests conducted.
\textsuperscript{14} Breadth refers to the number of hypotheses tested.
\textsuperscript{15} Cautious behaviour indicates sceptical behaviour.
\textsuperscript{16} Depth relates to the number of tests per hypothesis.
justifications. The differences between the two studies may be due to differences in tasks and the dependent variables. For example, Koonce et al. tested budgeted hours while Asare et al. tested actual testing work. Further, time pressure reduced the extent and depth of testing. These findings suggest that accountability increases the auditor’s effort in detecting fraud. In addition, accountability makes auditors more cautious, that is, auditors are possibly more sceptical.

DeZoort et al. (2006) investigated the impact of different levels of accountability pressure on auditors’ materiality decisions. They manipulated accountability pressure into four levels: (1) anonymity (i.e., the responses were anonymous); (2) review (i.e., routine review of performance by direct supervisor); (3) justification (i.e., routine review by supervisor and review of additional explanations); and (4) feedback (i.e., routine review by supervisor and review of additional explanations with specific feedback given to the auditors). Their participants were 160 auditors from three Big auditing firms, one national firm and one regional firm in the US. Using a between-subjects design, the auditors were required to indicate the amount of materiality they would set at the planning stage and at completion of the audit. The results showed that auditors under a high level of accountability (e.g., justification and feedback) were more conservative, and less variable in their materiality judgments than auditors with a low level of accountability (e.g., both anonymity and routine review). In addition, auditors with a high level of accountability spent more time and effort than auditors with a low level of accountability. The authors suggested that accountability made auditors deal better with complex tasks and perform “careful analysis of available information” (p. 385). This is relevant to the current study because assessing fraud and error risk is a complex task and requires auditors to consider all relevant information. Therefore, accountability may affect auditors’
scepticism. One limitation of the study, stated by the authors, was that accountability in practice may include a review by outsiders such as other auditing firms.

**The role of accountability in increasing professional scepticism**

Consistent with Nelson’s (2009) model, the current study suggests that there is a relationship between accountability and professional scepticism. Professional scepticism results in auditors focusing more on error-related evidence. It has been reported that accountability to superiors makes auditor judgments more conservative (e.g., Morton & Felix, 1991; Lord, 1992; Quilliam, 1993; Buchman et al., 1996; Kennedy, 1995; Shelton, 1996; Hoffman & Patton, 1997) and acceptable to others who may assess the decisions (Curley et al., 1986). For example, when there is accountability to superiors, internal control risk was assessed as being higher (Morton & Felix, 1991), auditors were more likely to qualify the audit opinion (Lord, 1992; Buchman et al., 1996), and auditors were more conservative with respect to judgments concerning inventory valuation (Quilliam, 1993).

Peecher (1996) found that auditors made more conservative judgments when they were held accountable to superiors. That is, auditors were more sceptical as a result of a higher level of conservatism when held accountable. Similarly, Nieschwietz et al. (2000) suggested that accountability increases the effectiveness of the audit because it makes auditors more conservative because they are required to justify their judgment. Many authors have found a variety of results due to accountability. Accountability increases cognitive effort by making auditors focus on different types of evidence (Kennedy, 1993; Tetlock, 1983; Gibbins & Newton, 1994; Tan, 1995). Accountability increases vigilance (Tetlock, 1983, 1987), and “promotes more cautious behaviour” (Asare et al., 2000, p. 539) and, therefore, probably increases
scepticism. Accountability increases consensus and self-insight between auditors (Johnson and Kaplan, 1991) and reduces the possibility of issuing unqualified opinions (Lord, 1992). Accountability produces high quality audits (Gibbins & Emby, 1984; Davis & Solomon, 1989). Accountability motivates individuals to achieve an acceptable level of performance and, therefore, induces higher effort and should stimulate alert, serious processing (Tetlock, 1992; Gibbins & Newton, 1994; Cloyd, 1997; Lerner & Tetlock, 1999). The accountability literature reports that accountable individuals exert more effort than unaccountable individuals. For example, time spent by students to solve an accounting problem increased under the pressure of accountability (Chang et al., 1997) and time to deal with a tax research task by tax professionals increased under accountability pressure (Cloyd, 1997). This extra effort is due to accountability motivating additional cognitive effort, for example, thinking more carefully about choices or using more careful analytic techniques (McAllister et al., 1979; Tetlock, 1985; Tetlock et al., 1989). This extra effort leads to a better performance (Kren & Greenstein, 1991).

Tan (1995) conducted an experiment to test the impact of the review process on audit decisions. The results were that knowing that their work would be under review made auditors more vigilant and they selected different audit procedures from prior years. This result suggests that auditors are possibly more sceptical when they know that their work is subject to review and, therefore, they are likely to spend more time looking for fraud and errors, and performing extra and unpredictable audit procedures.

Review will be considered in the current study as an important type of accountability because it is related to auditing practice (Kennedy, 1993; Tan, 1995) and often used by auditing firms (Libby & Trotman, 1993). Review causes pressure because
individuals recognise that it is related to performance appraisal (DeZoort et al., 2006). Individuals under such pressure are motivated to avoid criticism and avoid losing the chance of being promoted. The results of the above studies suggest that accountability is likely to increase professional scepticism because individuals under accountability pressure increase cognitive effort and vigilance which makes them proceed cautiously and therefore, they may select different audit procedures compared to individuals under no accountability pressure.

H2: There is a positive relationship between accountability and professional scepticism.

Culture

Culture is defined as a way of living that influences one’s values, interaction with others and shared beliefs (Hofstede, 1980). Culture is shaped by religion, education systems, language, shared-meaning systems and government philosophy. Hofstede (1984) defined culture as “the collective programming of the mind which distinguishes the members of one human group from another” (p. 21). Solomon (1996) referred to culture as “the accumulation of shared meanings, rituals, norms and traditions among the members of an organisation or society” (p. 539). Hofstede (1980) conceived of culture at a national level as a construct, which manifests itself in an organisation as a result of the organisation’s location within a particular society.

On the basis of an extensive analysis of responses to a questionnaire survey of IBM employees in 66 countries, Hofstede (1980) and Hofstede and Bond (1988) argued that there are five discrete dimensions of culture that differed across countries: individualism (the extent to which people are oriented towards self-interest versus an
orientation towards the interest of a wider group of which they are a part), uncertainty avoidance (the extent to which people seek to minimise uncertainty versus the extent to which they are tolerant of ambiguity), power distance (the extent to which relationships between superior and subordinate are distant and formal versus close and informal), masculinity (the extent to which success is defined in terms of assertiveness, challenge and ambition, rather than in terms of caring and nurturing), and long term (willingness of individuals to support each other, keeping relationships and having a sense of shame).

On the basis of his research, Hofstede (1980) demonstrated that countries differ significantly in their “score” on these dimensions. Hofstede’s theory is reviewed due to its significance in describing the relationship between culture and auditors’ judgement. Cross-cultural studies using Hofstede’s theory have provided support for the theory. Although Hofstede’s theory was supported by many researchers interested in cross-cultural studies, the theory was criticised by a few studies that argued that it was no longer suitable for testing cultural differences due to better communication between nations. This study adopts the view of “collective mental programming” which takes a substantial amount of time to change (Hofstede, 1980). Collectivism and individualism, and power distance are based on mental programming.

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17 See for example, McSweeney’s critique (2002) in Human Relations. McSweeney rejects Hofstede’s logic and warns researchers about using Hofstede’s theory. See also Hofstede’s reply (2002) to McSweeney in Human Relations. Similarly, Baskerville (2003) argues that Hofstede never studied culture. Hofstede replied in Accounting, Organizations and Society (2003). However, Patel (2003) found strong support for Hofstede’s theory. A recent value survey across many countries around the world showed that cultural differences between nations remain unchanged (Inglehart and Baker, 2000).
Hofstede’s theory will be used in this study for four reasons. First, Hofstede’s sample size is much larger than other cultural studies. Second, the subjects in Hofstede’s study were of very similar education and experience to the current study. Third, while House et al. (1999) had a large sample, they focused on leadership, which is not relevant to the current study. The purpose of this study is to examine auditors’ judgments rather than leadership. Fourth, if we assume judgment is dependent on values, then Hofstede’s study is more suitable than other cultural theories because Hofstede uses anthropological thought, that is, basic values that determine an individual’s choice or preferences. Those values are likely to impact on auditing judgments and decision-making. As the purpose of the current study is to examine auditors’ decisions in two cultures, Hofstede’s theory is the most appropriate theory to use.

Cross-cultural studies have been reported in many disciplines such as marketing and accounting. An examination of that literature shows the importance of cultural values in influencing judgment and decision-making.

**Culture and Marketing**

Negotiation is an essential skill in the marketing industry. Negotiation is defined as “a process in which two or more entities come together to discuss common and conflicting interests in order to reach an agreement of mutual benefit” (Harris & Moran, 1987, p. 55). A negotiator’s conduct during a negotiation situation is influenced by his/her cultural heritage, attitudes and customs. A negotiator’s behaviour is also influenced by the way he/she is socialised and educated, which is

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18 There are other theories that are not relevant to the current study. For example, Schwartz (1992), Inglehart (1990, 1997) and House et al. (1999). Inglehart’s study is related to political science, whereas House’s study is related to leadership.
reinforced by his/her own culture (Harris & Moran, 1987). Negotiators from similar backgrounds tend to share similar ways of thinking, feeling and reacting, which is in accordance with their own culture. Therefore, behaviour in negotiation is consistent within cultures and each culture has its own distinctive negotiation style (Simintiras & Thomas, 1998). Hamner (1980) suggested that the cultural differences that exist in cross-cultural negotiations can affect the process and its outcomes.

A study by Roth et al. (1991) found significant cultural differences in the size of offers, percentage of rejected offers and outcomes between Israel, Japan, the former Yugoslavia and the US. However, these differences in the outcomes became smaller as the bargainers gained experience in negotiation and bargaining. It is suggested that culture influences negotiation through its effects on communication. Culture influences negotiators’ perceptions and expectations, reservation levels, concessions made during the negotiation and satisfaction with the agreements and their own performance (Elgstrom, 1990).

In cross-cultural sales negotiations, Graham (1988) believed that sellers and buyers needed to understand that different cultures attach different degrees of importance to status in negotiations. Herbig and Kramer (1992) found that high-context cultures such as that of Mexicans, Brazilians and Japanese are status oriented. In these cultures, interpersonal relationships are distanced based on one’s status, that is, the words used in negotiations are not as important as the negotiator’s status. The influence of status dictates what is said and how it is said (Simintiras & Thomas, 1998). In low-context cultures, negotiation is carried out in a more democratic

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19 In a high context culture, individual communication is expressed by using body language and other non-verbal behaviour (Gudykunst & Ting-Toomey, 1988). Unambiguous messages are important in low context cultures (Hall, 1976; Cateora, 1983).
manner (Herbig & Kramer, 1992). Graham and Herberger (1983) concluded that the status of the seller and buyer in negotiation is the single most important factor in determining negotiation outcomes. Communication is considered as an important variable in cross-cultural studies. For example, Triandis (1960) found that communication between individuals from the same culture led to more successful negotiations. This success is, however, dependent on whether individuals from the same culture have cognitive similarities or dissimilarities\(^{20}\) (Stening, 1979). Dissimilarities may lead to a breakdown in the negotiation outcome. This is important for the current study because organisations are becoming international and auditing firms have offices around the world. According to international accounting standards and international auditing standards, auditors around the world are required to have common standards, both in form and substance.

**Culture, Accounting and Auditing**

Culture influences the development of accounting systems in a particular country (Collins & Bloom, 1997) and culture explains why there are differences between accounting standards in different countries (Wingate, 1997). In addition, culture also explains differences in perceptions of accounting problems (Cohen et al., 1995; Arnold & Bernardi 1997; Siegel et al., 1997). These studies indicate that even if auditing standards and audit methodology are the same in different countries, their implementation may differ.

Hofstede (1991, p. 112) refers to culture as the “likely reactions of citizens with a common mental programming”. While there are differences in responses between

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\(^{20}\) Individuals with similar cognition “perceived their environment in a similar fashion and in fact achieved greater communication effectiveness than those dyads in which the two parties were cognitively dissimilar” (Stening, 1979, p. 271).
individuals in the same culture, differences are more likely across cultures than within a culture (Hofstede, 1991).

The auditing literature reports that an audit is a social product that is influenced by society, group and individual behaviour (Flint, 1988). Similarly, it has been recognised in the international accounting literature that accounting is a socio-technical activity where the values and judgments of accountants are significant (Jaggi, 1979; Gray, 1988). Culture influences values and judgments of individuals in different countries (Cohen et al., 1995; 1996). Cohen et al. (1993a, p. 3) stated:

Values are the tendency of an individual to prefer certain states of affairs over others. For any number of social behaviours, societies put different weights on different outcomes. Often these factors require a ‘guns or butter’ trade-off, and elements in the society are strongly anchored to preferences for one outcome over the other.

There are many cross-cultural studies reported in the accounting literature in the area of financial accounting and auditing (e.g., Frucot & Shearon 1991, Harrison, 1993; Schultz et al., 1993; Chow et al., 1994; Chow et al. 1995; O’Connor 1995; Kachelmeier & Shehata, 1997). Ferris et al. (1980) used a survey questionnaire to compare auditors in Australia and the US with respect to personal values, motivation and work environment. The study did not find any differences between the two cultures and concluded that, “accountants from linguistically, culturally, and economically similar countries tend to have similar personal value structures and work environment perceptions” (p. 367). Similarly, in management accounting, Chow et al. (1994) found similarities between Japan and the US with respect to a preference for control system components. In contrast, Amernic et al. (1983) found significant cross-cultural differences in work-related values between Anglophone and Francophone professional accountants in Canada.
Prior empirical studies found differences between Anglo-American countries on accounting concepts and rules (Belkaoui & Picur, 1991). Perceptions of auditors from the Big 6 firms in Canada, the US and the UK were tested on a set of accounting concepts (Belkaoui & Picur, 1991). They found a significant relation between culture and concept perception. They stated that “the culture of a given country determines the choice of its accounting techniques and the perception of its various accounting phenomena” (p. 118). This implies that culture influences the accounting systems of a country through the choice of accounting methods and accounting techniques. These differences are a result of different cognitions (Belkaoui & Picur 1991). Differences were also found between American accountants and Australian accountants with respect to classification of items as either ordinary or extraordinary (Bagranoff et al., 1994). These findings suggest that auditors from different cultures may make different judgments when evaluating fraud and error risk because auditors from different cultures may apply the auditing standards differently.

**Using Cultural Dimensions**

Gul and Tsui (1993) used the five dimensions of the culture framework developed by Hofstede (1980) and Hofstede and Bond (1988) to compare the perceptions of Hong Kong and Australian auditors with respect to audit opinions. They found support for Hofstede’s theory of uncertainty avoidance, that is, Hong Kong auditors do not like to lose clients and, therefore, were more likely to issue a “subject to” audit opinion rather than an “inability to issue an opinion”. Their study has some limitations. For

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21 These studies are from the nineties because the use of international standards has tended to hide the preferences of individual countries and to discourage research in this area.
example, Gul and Tsui (1993) did not measure uncertainty avoidance to confirm whether Hofstede’s scores were still valid in the sample used in their study. Another limitation was the use of uncertainty avoidance, and its relevance to Chinese culture, which was found not to be an important dimension in Smith et al. (1996).

The effect of culture on independence was first examined by Agacer and Doupnik (1991). The subjects were external auditors from the US, the Philippines, and West Germany. While the authors’ conclusion was that independence was affected by culture, they did not provide any explanation for this relationship. That is, no cultural dimension was used to explain the reasons for these differences. Similarly, Lyons and Tong (1992) found that it was acceptable in Hong Kong for auditors to provide management advisory services to their client bank officers. They argued that culture impacted on bank officers decisions. Again, this study failed to provide detailed insight into this relationship.

While some studies showed that judgments in accounting and auditing are dependent on values and culture, some studies\(^\text{22}\) failed to use and measure a particular cultural dimension(s) on which to build their theory. Culture is a complex concept because it contains many components. In order to understand culture, it is important to identify the components of culture and study the relationships and inter-relationships between these components and an auditor’s judgment. In order to improve the understanding of the impacts of culture, a link is needed between the cultural components and the particular dependent variable(s) under study (Child, 1981; Berry et al., 1992).

\(^{22}\) For example, Ferris et al. (1980); Amernic et al. (1983) and Agacer and Doupnik (1991).
Barrett et al. (2005) examined the impact of globalisation on the coordination of work in multinational audits in three countries, namely, the US, Canada and Ruritania. In December 1996 and January 1997, they conducted a field study in the three countries. They found that, even in auditing firms using inter-office instructions on how to perform the audit, the focus was different in each country. They stated that:

fundamentally, despite the specifications in the inter-office instructions, the North American auditors viewed the focus of their work quite differently from the perspective of the worldwide engagement team in Ruritania. Moreover, the Canadian and US auditors had significantly different views about the authority of the inter-office instructions and how the audit work should be carried out". (p. 10)

They suggested that the reasons for these differences were the different risks of litigation, and the variation in the degrees of commercialisation of the audit business between countries.

Other studies have examined cross-cultural differences and their relationship to ethics (Karnes et al., 1990; Schultz et al., 1993; Choen et al., 1995; Patel, 2003).

The relationship between nationality and ethical behaviour are an indication of differences between accountants and auditors in different nations. For example, Patel (2003) compared professional judgments in relation to whistle-blowing behaviour in auditors in Australia, India and Malaysia. The study used three dimensions (individualism, power distance and long-term)23 to examine their effect on whistle-blowing behaviour. He finds support for Hofstede’s theory. Australian auditors were more likely to report on wrong-doing than Indian and Malaysian auditors. Patel

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23 Patel discusses the reason for using long-term dimension as it relates to Chinese culture (Hofstede & Bond, 1988).
explained his result on the fact that Indian and Chinese cultures are different from the Australian culture in that Indians and Chinese avoid confrontation, instead preferring to cover up a supervisor’s unethical actions.

The present study considers the dimension of individualism and collectivism, and power distance in the different cultures such as Australia and Egypt because it is relevant to accounting settings (Kachelmeier & Shehata, 1997). Individualism/collectivism impacts on decision-making because an individual in an individualistic society is trying to maximise his/her own benefit, and their decisions will be based on “self-gain”. In contrast, an individual in a collectivism society is likely to act in a way to maximise the benefit to the group rather than the “self”. For example, in an auditing context, an auditor’s judgments in Egypt are likely to be based on group success and advancement rather than an individual’s success. This indicates that an auditor’s judgments are based on the needs of the group rather than the needs of the individual. This supports the argument in Triandis et al.’s (1995) study that in collectivism cultures, individuals are trying to act appropriately rather than making the right decision. For example, friendships are more important than discovering fraud and error in the financial statements. Therefore, in collectivism there is no “cognitive dissonance” in making judgments in such a situation (Bharati, 1985; Patel, 2004).

The dimensions of individualism and collectivism and power distance will be the focus of the current study and the justification for the choice is summarised next. First, Hofstede (1980) has stated that these dimensions are related to individual judgments. As this study is focused on fraud and error risk assessment tasks and judgments performed by individual auditors, those cultural dimensions are highly relevant. Second, recent study suggests that Egypt and Australia are significantly
different on these dimensions (Endrawes & Matawie, 2002). Third, the dimensions of individualism/collectivism and power distance are the most commonly used dimensions in cross-cultural psychology and cross-cultural accounting. Fourth, Triandis et al. (1995) have described a collectivism culture as a tight culture and individualism culture as a loose culture. Similarly, Vinken et al. (2004, pp. 10-11) have stated:

in tight cultures people tend to have consensus [emphasis added] about what correct action is, to behave according to cultural norms, and to be confronted with severe countermeasures if they deviate from these norms…in a loose country [individuals] have a large number of choices for action leading to a higher number of different decisions [emphasis added].

Fifth, individualism/collectivism is considered a strong dimension in which to measure differences between cultures in management, psychology and social psychology (Ronen & Shenkar, 1985; Triandis et al., 1988; Yang & Bond, 1990; Ralston et al., 1997). Sixth, the power distance dimension will be employed because arguably it is related to accountability, which is one of the independent variables in the current study. For example, according to Hofstede (1991), in a high power distance culture, individuals’ futures are in the hands of their supervisors and they will try to satisfy and protect such a relationship. In low power distance cultures, individuals are not afraid of their supervisors and, therefore, the impact of accountability will be less. Prior research has shown that auditors experience obedience pressure from supervisors in the US (DeZoort & Lord, 1994; Lord & DeZoort, 2001). Finally, prior studies (e.g., Smith et al., 1996; Patel, 2003) suggest that the dimensions of individualism/collectivism, power distance and long-term orientations are proven, and are effective dimensions to compare between Western and Asian cultures. The current study uses only the first two dimensions because my sample does not include an Asian culture. Therefore, the dimensions of
individualism/collectivism and power distance are the main focus of the current study. In addition, it has been suggested that relying on cultural dimensions is not enough to distinguish between cultures, but it is important to supplement the dimensions with the sociology, or psychology, or historical literature (McKinnon, 1984; Patel, 2003). In the current study, religion and education systems will be used to better understand both cultures. This will increase the understanding of the particular cultures.

These dimensions are well-developed and have been used in cultural studies (e.g., Hofstede, 1980; Triandis, 1972) and they have relevance to social behaviours and group work.

**Religion and Its Relation to Power Distance and Individualism/Collectivism**

Historically, the dominant religion in Australia has been Christianity (Edgar et al., 1993; Patel, 1999). Although attendance at Christian churches is not as dominant currently, Christian values have been widely absorbed into the culture. Christianity does not have the same impact on individuals’ daily lives as does Islam. Islam is considered as religion and law but Christianity is considered as just religion. Religion is more important than freedom in Muslim countries. However, freedom is more important in the Australian culture, and is certainly more important than religion in Australian society (Withers, 1989; Patel, 2003).

Islam is considered to be more than religion and may be considered law. If you do not follow the Islamic law, you are not considered to be a real Muslim. Women respecting men and obeying men’s decisions are very important in the Muslim culture as normally practised in Egypt. Similarly, younger people are required to obey older people. Individuals are taught from a young age that breaching these rules
will bring “shame” to the individual, the family and to the workplace. This may be related to power distance, as Islam requires unequal rights between individuals in a Muslim society. At schools and universities, students cannot challenge their teachers and lecturers because respect is more important than getting the right information. In the workplace, the relationship between supervisors and employees is based on obedience, respect and following the rules of supervisors without question. There are more areas for individual interpretation in the major forms of Christianity practised in Australia than in the Egyptian Muslim society, and hence more expectations that items can be queried. Thus, orders can be questioned if the subordinate believes there are valid reasons for doing so such as the subordinate having better knowledge of the situation being dealt with. While these statements may appear to be extreme stereotypes, the point is that individuals in Egypt, on average, have a greater tendency to comply with authoritative directions than do individuals in Australia although both groups follow orders most of the time.

Islam encourages consistency rather than flexibility in following the Islamic law. The Koran rules are required to be followed word for word. Therefore, consistency in a Muslim culture becomes very important in making decisions and judgments. In contrast, in a Christian society, there is more flexibility and choices when making decisions.

As a Muslim nation, the Egyptian culture stresses the importance of the extended family and working in a group rather than working as an individual. For example, it is a “shame” for an individual to leave the family before marriage. A father and grandfather usually live together in the same house. The extended family is very important in a low individualism culture (Hofstede, 1980), and individuals within the group are likely to trust each other. In contrast, early Australian settlers were forced
to live alone and depend on “self reliance” and individualism (Borrie, 1989; Patel, 2003). Individualism has increased in the Australian culture as a result of accepting from other individualist societies (Withers, 1989; Patel, 2003). Unlike the Egyptian culture, the extended family is uncommon in Australia (Patel, 2003). Sharing power is important in individualism and individual achievement is very important (Withers, 1989). Being independent and satisfying “self need” rather than “group need” is an important goal for an individualistic culture such as that of Australia (Edgar et al., 1993; Patel, 2003).

In Egypt people tend to trust their group, family, and relatives (Yamagishi et al., 1999). In the work environment, individuals trust each other and their relationship with their customers are based on trust. If an individual leaves an organisation, it is expected that the customer will leave that organisation too, because the customer trusted that particular individual. Voronov and Singer (2002) have stated:

> How big an advantage in-group favouritism provides is a positive function of the degree to which social relations are closed to the outsiders. When most relationships are closed to the outsiders, it is in the member’s own self-interest not to exploit partners in continuing relations in search of short-term quick profits because it is hard to find alternative relations to turn to after the collapse of the current relationship. In-group favouritism is thus more commonly practiced in a society characterized by relations closed to outsiders. And thus, the group heuristics or expectations of such reciprocal in-group favouritism are expected to be more strongly shared by people who have been raised and are living in such a social environment than those who live in a social environment characterized by relations open to outsiders (p. 322).

In contrast, in Western nations such as the UK, the US and Australia, trust is extended beyond the group. For example, a loving relationship can be built between two strangers, even from different cultures (Gergen & Gergen, 1995).
In summary, Islam encourages individuals to obey and submit to supervisors, work in harmony, avoid embarrassment and make decisions that are of benefit to the group as a whole. In an auditing environment, Egyptian auditors are more likely to do as they are told and agree with their audit managers and audit partners because of high power distance.

**Individualism/Collectivism and Power distance**

The dimension of individualism is based on the notion that the individual is mainly responsible for himself/herself. Collectivism refers to a preference for a more closely controlled societal network in which individuals participate in a reciprocal type of care and loyalty relationship with relatives and other “in-group” members.

The relationship between the individual and the collective in human society is not only a matter of ways of living together, but it is intimately linked with societal norms. It therefore affects both people’s mental programming and the structure and functioning of many other types of institutions besides the family …. (Hofstede 1980, p. 149)

An examination across societies shows that there are differences in the “family” units in which people live and which programs their thinking. The results of the research reported by Hofstede (1984, 148-175) indicated that some societies regarded individualism in a positive light, while others did not.

A collectivism society is very group oriented, and this governs all areas of life. The society is held together by a composite system of inter-relationships and inter-dependencies. (Arpan & Radebaugh, 1985). Such a society scores relatively low on the individualism measure, indicating a collectivist preference. Jaggi (1975) used universalistic and particularistic value orientations. Universalistic value is similar to individualism, which “emphasises individual independence”. In contrast, the
particularistic value is similar to the collective concept as it “seems to be strongly influenced by the existence of the extended family system” (1975, p. 79).

Individualism and collectivism are fundamental values that people hold with regard to their communication with others and the world around them. It refers to culture or the nation, whichever is being compared. These values can be referred to as value orientations (Kluckhohn, 1951) and exist because of the physical and social environment.

Hofstede (1991) distinguished between individualism and collectivism:

Individualism stands for a society in which the ties between individuals are loose; everyone is expected to look after himself or herself and his or her immediate family only. Collectivism stands for a society in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people’s lifetime, continue to protect them in exchange for unquestioning loyalty. (pp. 260-261)

Individualistic nations have been described as democratic nations, Western nations, and nations that enforce individuals’ freedoms. In contrast, collectivistic nations have been described as countries that enforce social harmony for their people such as Asian and Middle Eastern countries.

Kim et al. (2003) argued that independent versus interdependent self-concept is relevant to people’s beliefs about themselves and “it concerns a dimension capturing the distinction between thinking of oneself as an individual, autonomous being, versus viewing one’s self as linked with others with their roles and status in society.” (p. 278). Independent individuals believe that their own rights are more important than those of the group, however, interdependent individuals are concerned about stability and the whole group (Markus & Kitayama, 1991a; Singelis, 1994).
Anthropologists such as Geertz (1988) have linked the concept of culture to the concept of self. The concept of self is important because of its strong link to cultural values (Geertz, 1975; Shweder & Bourne, 1984; Marsella et al., 1985; Triandis, 1989; Markus & Kitayama, 1991b; Singelis & Brown, 1995). Geertz (1988) believes that self differs from culture to culture. He states that:

The Western conception of the person as a bounded, unique, more or less integrated motivational and cognitive universe, a dynamic centre of awareness, emotion, judgment and action organised into a distinctive whole and set contrastively both against other such wholes and against a social and natural background is, however, as incorrigible as it may seem to us, a rather peculiar idea within the context of the world’s cultures. (p. 21)

The power distance dimension relates to the extent to which the members of a nation accept the unequal power found in hierarchical institutions and organisations. Supervisors in a collectivism culture can influence a subordinate's rewards, career and future. Developing countries are considered as having large power distance compared to industrialised countries, which are considered as having small power distance. Hofstede (1980, p. 98) believes that power distance is “a measure of the interpersonal power of influence between B (boss) and S (subordinate) as perceived by the less powerful of the two”. In some situations an auditor may face pressure either from a large business client or from superiors. They are sometimes forced to complete an audit within a tight budget time, which may result in under-reporting (Ponemon 1992). Cohen et al. (1993a) stated that: “in countries where power distance is high, the subordinate is even more likely to feel compelled to acquiesce to a superior’s request to either under-report or under-perform the extent of audit work” (p. 9).

Yamamura et al. (1996) studied the relation between audit decision-making and power distance. They used senior auditors working in the Big 6 firms in Japan and
the US. Surprisingly, Japanese auditors were more questioning of management in the case of bad debt, while, US auditors were more questioning of management in the case of construction projects. The limitations of Yamamura et al.'s (1996) study are related to the absence of a theoretical explanation of using power distance, as there was no measure of the power distance between the subjects used in the study.

**The effect of Power Distance and Accountability on Professional Scepticism**

Lerner and Tetlock (1999) have contended that accountability is not just one construct. Accountability has multiple sources and includes “others in the audit team, hierarchical superiors, clients and third parties” (Gibbins & Newton, 1994, p. 168).

Accountability as used in auditing requires justification which causes auditors to be cautious when performing analytical procedures since the audience’s views are unknown (Asare et al., 2000). Justification can form an auditor’s mental representation (Waller & Felix, 1984). Auditors consider justification as soon as they start a judgment and decision-making task (Gibbins & Newton, 1994). While auditors may rely on many cues to justify their decisions, they rely only on cues that relate to the preference of their supervisor, directors, profession (Peecher, 1996) and society. Auditors cannot ignore the preference of the supervisor (Camerer et al. 1989) who will make them select evidence that is likely to be related to their supervisor’s preferences (Peecher, 1996) and limit auditors from obtaining evidence that supports more correct judgments (Dukerich & Nichols, 1991).

24 Prior research reports that accountability and justification are different concepts (e.g., Johnson and Kaplan, 1991) and they have different effects (Koonce et al., 1995; Peecher 1996). The current study focuses on the combined effects of accountability and justification since the two concepts are linked in auditing practice (Asare et al., 2000).

25 For example, to a supervisor who prefers to consider a client as a non-error client, explanations by auditors for fluctuations of balances are likely to be acceptable without any consideration of fraud or errors as alternative explanations (Hirst & Koonce, 1995).
However, auditors will discount their supervisor’s preference when they are faced with “red flags” (Peecher, 1996) because of the self-discovery strategy\textsuperscript{26} (Gibbins & Newton, 1994). Power distance may moderate the effects of accountability. For example, in a collective society, auditors are likely to give preference to their supervisor and disregard self-discovery because of the importance of satisfying supervisors. Hofstede (1980) has stated that in a large power distance society (such as Egypt), power and “its legitimacy is irrelevant” (p. 119) and “whoever holds the power is right and good” (Hofstede, 1994, p. 43). Since unequal power is acceptable in a high power distance culture such as Egypt, the justification of employees’ decisions to the supervisor is of paramount importance. In such a culture, employees are respectful of managers and likely to be obedient to them (Hofstede, 1980), and the accountability pressure will be higher. Lord and DeZoort (2001) found that hierarchical power distance increased obedience pressure. In low power distance cultures, such as Australia, employees can disagree with their managers and their justifications do not come under the same pressure as in Egypt. In addition, subordinates in low power distance cultures are accorded a higher status than subordinates in high power distance cultures (Kell et al., 1986).

Tetlock (1983) defined accountability as a social pressure to support decisions with some explanations. What this social pressure entails is likely to vary from one culture to another. In a culture with high power distance, such as Egypt, such social pressure will be higher given the distance between staff and supervisors. Egyptian culture, as in other collectivism cultures, avoids conflict and confrontation with supervisors and Egyptians prefer living in harmony. Therefore, this social pressure may increase if

\textsuperscript{26} Self-discovery is an attempt to act objectively in response to environmental factors regardless of supervisors’ preference (Tetlock et al., 1989).
staff are accountable to a higher level of management. In contrast, in a culture where power distance is low, such as in Australia, individuals will experience pressure but not to the same degree as equivalent individuals in a high power distance culture. Therefore, accountability pressure may vary according to culture. Accountability pressure arguably will make Egyptian auditors experience more cognitive effort, and in the absence of instructions from above, to be less trusting of the directors’ explanations, and be more sceptical than Australian auditors. As discussed above, in a low individualism culture such as Egypt, commitment, loyalty, respect, fear and protection of supervisors are always enforced because individuals exist as a result of being part of a group hierarchy.

Pressure from supervisors in the Australian culture is likely to be less than in the Egyptian culture because employees in Australia are less threatened by their supervisors.

The effect of Individualism/Collectivism on Professional Scepticism

The dimension of collectivism/individualism “describes the relationship between the individual and the collective that prevails in a given society … Because they are tied to value systems shared by the majority, issues of collectivism versus individualism carry strong moral overtones” (Hofstede, 1980, p. 213). In individualism, or autonomous cultures, there are weak connections between individuals, a strong independent self pursuing his/her own goals, with low loyalty and low dependency on others. However, in a collectivism culture there are strong ties between individuals, high loyalty to their organisation, people work to achieve the organisation’s objectives, and there are preferences to be part of a group. From the above discussion it can be argued that auditors’ decisions are likely to be dependent
on their culture and their values. For example, in collectivism cultures, auditors are likely to behave and conduct their work in a similar way because they respect traditions, law, the group and religion. For example, low individualism suggests:

Emotional dependence of individuals or organisations and institutions; greater emphasis on belonging to organisations and the social importance of organisational membership; private life invaded by the organisations and clans to which one belongs; opinions that are predetermined; expertise, order, duty, security are provided by organisation or clan; belief in in-group decisions; and value standards that differ for in-groups and out-groups. (Hofstede, 1980, p. 235)

Uniqueness and being different is considered important in an individualism culture. However, comparability and homogeneity are important in a collectivism culture. According to Rahman et al. (2002), auditors in Egypt pay little attention to conflicts of interest and independence issues. This suggests that professional scepticism will be affected. Hui (1984, p. 31) states that collectivism is “especially concerned with comparison with others”. Similarly, with respect to copyright, sharing is acceptable in a collectivism culture such as in Singapore, China and Egypt. The similarity of judgment between auditors in a collectivism culture is likely to be higher than auditors in an individualism/autonomy culture, where they are more flexible and independent and have the right to pursue their own intellectual directions and decisions. In a collectivism society, such as Egypt and China, individuals “lose face” by not meeting the social needs of the group (Ho, 1976; Chow et al., 2000). This suggests that auditors’ judgment is a function of individualism/collectivism.

Professional scepticism relates to “the importance of independence from the client and the client’s demands, and duty to the public over duty to the client” (Kadous, 2000, p. 335). There is a positive relation between professional scepticism and duty of care because of the severe consequence for the public of audit failure. Kadous
(2000) finds that achieving a higher standard of care by auditors depends on the type of audit test performed and the level of professional scepticism. This is because auditors are likely to discover material misstatements when they perform more extensive tests, which increases the level of their professional scepticism (Kadous, 2000). However, the meaning of duty of care may differ from culture to culture. For example, in a collective culture a close relationship with the client is important and desirable because of the importance of group harmony. In contrast, in an individualist culture, such a close relationship with the client is an example of breaching the duty of care because auditors are likely to lose their independence.

In Western cultures, an auditor’s independence may be compromised if they audit the same client for many years (Arnold et al., 1999), which leads to a close relationship with the client with the result that auditors are likely to be less sceptical. This leads to smoothing over transactions that may indicate fraud or error in order to keep the client (Brody & Moscove, 1998) or failing to discover problems because the auditor is looking at the problem from the client’s perspective (Arnold et al., 1999) or supporting management (Bazerman et al., 1997) by using unreliable evidence (Schuetze, 1994).

Parlin and Bartlett (1994) reported that auditors who knew that the financial controller of a client used to be a former audit manager were less conservative (because of a high level of trust of a colleague) and increased the materiality level; on the other hand, auditors who had no such knowledge were more conservative. This finding indicates that when auditors feel less social connection and hence are more independent, they are more sceptical.
Individualism may be related to independence. Hofstede (1984) indicated that people in individualistic cultures tended to have a sceptical view of others. That is, a person in an individualistic culture is likely to be more sceptical than those in a collectivistic culture. Individuals in collectivist nations perceive the environment as stable and themselves as changeable, ready to “fit in” (Chiu et al., 1997; Chiu & Hong, 2006). In contrast, individuals in individualist cultures perceive the self as stable and the environment as changeable (Su et al., 1999). An auditors’ decision in Egypt will depend on the condition under which the decision is made. On the other hand, an auditors’ decision in Australian will depend on their beliefs. As a result, Australian auditors’ level of scepticism will be largely based on beliefs, values and attitudes, while Egyptian auditors’ judgments will depend more on norms, situations and social structures. “Situational attributions” occur more often in collectivist cultures than in individualist cultures (Norenzayan et al., 1999). As a result, in Egypt, judgments related to scepticism are dependent on the circumstances under which these are made. In Australia, on the other hand, judgments are an individual choice and usually will result in presenting the “truth” (Patel, 2003). As a result, an Egyptian auditor’s decision and judgment are not based on individual choice but, rather, are based on the situation under which the decision is made.

Confrontation in Australia is considered healthy and acceptable because it resolves personal differences (Patel, 2003). Australian auditors, therefore, are more likely to confront the client because they are more sceptical. Auditors in Egypt would prefer an examination of documents rather than confronting the client because

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27 One of the limitations of the study must be inability to envisage the types of situations that are likely to occur and to incorporate them into the research design. An opportunity exists to undertake research into the major types of situations in which Egyptian auditors make decisions. In the absence of such information this study looks at a limited number of context variables affecting decisions.
confrontation is considered rude and embarrassing to both the client and the auditors. This assumption is consistent with collectivism theory. In contrast, Australian auditors would prefer to obtain information through enquiries, questioning the client and asking for more documentation.

**H3: Culture moderates the relationship between accountability and professional scepticism (Egyptian auditors will be more sceptical than Australian auditors when accountability is high).**

**H 4: Professional scepticism will differ between cultures (Egyptian auditors will be more sceptical than Australian auditors in regard to perceived fraud risk, perceived error risk, distrust, non-confrontational audit procedures and less sceptical in relation to confrontational audit procedure).**

**Audit knowledge, Education system and Islam**

The importance of audit knowledge in audit judgment has been recognised in the auditing literature (e.g., Libby, 1983; Waller & Felix, 1984; Thibodeau, 2003). Knowledge is defined as an “internal mental state which cannot be directly observed” (Frederick & Libby, 1986, p 429). The impact of knowledge on the effectiveness and efficiency of decision-making has been considered in the psychology literature (e.g., Lesgold, 1984; Lurigio & Carroll, 1985). This research suggests that prior knowledge helps in acquiring and processing new knowledge and retrieving related information (Alba & Hasher, 1983). However, auditors’ knowledge may differ from culture to culture due to the difference in education systems and differences in religion.

Education is dependent on culture. Hofstede (1986, p. 304) argued that culture may impact on the education system because “mental programming that represents a culture is a way to acquire, order, and use concepts”. Similarly, Hofstede (1984) argued that the education system is a product of societal norms and “consisting of a
value system...shared by the majority of the population” (p. 22). Child (1981) defined culture in terms of differences in values, preferences and knowledge.

An auditor’s knowledge is likely to depend on both his/her accounting education and their auditing training in a particular country. Each country has particular values and these values depend on “society’s institutions such as family patterns, social stratification, education, and political structure” (Doupnik & Tsakumis, 2004, p. 6). Studies show that a person’s behaviour is guided by the values that relate to a particular culture. Values are “broad tendencies to prefer certain states of affairs over others” (Hofstede, 1980, p. 19); “they lead to feelings of good and evil, right and wrong, rational and irrational, proper and improper; feelings of which we seldom recognise the cultural relativity thereof. This means that cross-cultural learning situations are rife with premature judgments” (Hofstede, 1986, p. 305).

Other studies have shown that the environment impacts on an individual’s cognitive development (Cole et al., 1971; Cole & Bruner, 1971; Scribner & Cole, 1981). For example, Redding (1980) argued that, in China, the nature of the script impacts on the ability to recognise patterns and imposes a capacity for rote learning.

Students’ learning styles, preferred teaching/learning methods, gender, age, motivation to learn, and attitudes towards learning are influenced by students’ ethnicity. For example, Asian and Middle Eastern students prefer the didactic way of learning, based on being the recipient of information (Redding, 1980). They prefer the lecture and exam form over group discussion and the participatory model of learning (Rutz et al., 2003). On the other hand, in individualist cultures, students are familiar with, and are encouraged to use, critical thinking and problem-solving in their learning (Penner, 1995; Defeng, 1998; Rutz et al., 2003).
Perceptions of errors in the classroom are different between cultures. Errors are viewed in individualist countries as developmental and educational; whereas, in collectivist countries errors in the classroom are considered negative and not viewed as part of the learning process (Penner, 1995).

Education systems in Korea and China have been influenced by Confucian traditions (Scovel, 1983), which emphasise the importance of grammar, rather than communication, and the memorisation of rules (Penner, 1995; Defeng, 1998). In collectivist cultures, teachers and students see communicative tasks as a game rather than serious educational learning, because they consider grammar and linguistics as more important (Burnaby & Sun, 1989).

According to Penner (1995), students in individualist cultures, are responsible for their own learning and are active in the classroom. However, students in collectivist cultures expect that teachers take full responsibility for their learning. In China, for example, “the teacher should dominate the classroom while students listen passively and engage in exercises on command. A teacher who does not dominate the classroom is seen as lazy or incompetent by all concerned.” (Campbell & Zhao, 1993, p. 5). Students are not encouraged to ask questions or to argue with teachers because it is not acceptable to doubt the teacher’s knowledge (Boyle, 2000). In an individualist culture, it is acceptable for a professor to say ‘I do not know the answer’ to a student’s question, however, it is not acceptable in a collectivist culture. For example, Defeng (1998, p. 687) stated that “In Korea, when you can’t answer all of the students’ questions right away, you cannot be a teacher”.

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Islam impacts the education system and, therefore, upon a person’s knowledge. For example, Cook (2000) argued that Islam influenced the educational system. He stated that “Islam’s comprehensive blueprint for both the individual and society contains important ramifications for how education should be imparted” (p. 477) and that Islam professes to be different from Christianity because Islam is a complete way of life. This is reflected in the education system in Egypt.

The education system in Egypt is affected by Islamic principles which govern life in Egyptian society (Hammad, 1956; Faksh, 1976; Soliman, 1977; Rice, 2006). Islam encourages rote learning that requires memorising information, known as “Nahfaze”28. For example, Hammad (1956, p. 307) stated: “Rote learning was the chief device in Islamic education, owing to the sacredness of the subjects taught, and the undesirability of any change or possibility of change in the letter of texts studied. …learning by heart became the main educational device even when they plunged into subjects naturally unfitted for such memorization”.

Egypt and Australia are also different with respect to factors such as the perceived teacher and student roles in school and university, class size, and resources available. Lecture size in developing countries is between 300 to 2,000 students with no aids such as overhead transparencies, power point presentations or any technologies or library facilities (Selmi, 1989; Shann, 1992; Hughes & Ooms, 2004; Muysken & Nour, 2006).

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28 Nahfaze means memorising word by word. Students’ answers in examinations are identical to what is in the text.
The teacher-student ratio in accounting schools of Egyptian universities is about 1 to 1,000 and tutorial sizes in Egypt are about 70 or 80 as universities accept more students than they can cope with (Benderly, 1976; Herrera, 2003), which impacts on the quality of the education system in Egypt (Rahman et al., 2002). Given the size of the classroom, group activities are not possible; and participation in the classroom is also unlikely. An examination is the easiest way to assess students and usually requires essay answers based of rote learning (Shann, 1992; Holmes & McGregor, 2007). In addition, due to underpaid lecturers, there is a heavy reliance on private tutoring (Helmy, 1983; Atteh, 1996). This may impact on accounting and auditing knowledge. In Australia, the average tutorial size is about 25\textsuperscript{29}. Indeed, the audit knowledge between Egypt and Australia may differ due to class size, relying more on private tutoring in Egypt\textsuperscript{30}, and the way of acquiring the knowledge whether using the rote learning method or using critical thinking and problem-solving methods. Given these differences between the education systems in the two countries, the audit knowledge of individuals is expected to differ between Egyptian auditors and Australian auditors.

The effect of education systems, audit knowledge, and culture on professional scepticism

Consistent with Nelson (2009), the current study examines the relationship between professional scepticism and audit knowledge. Research on audit knowledge suggests that knowledge is affected by the number of years of experience (Chi et al., 1982; O’Leary, 2003). This indicates that individuals with more experience are likely to

\textsuperscript{29} These are approximate sizes based on personal observations.

\textsuperscript{30} Private tutoring may partially reduces the differences in teaching styles.
have more audit knowledge (Libby & Frederick, 1990; Tubbs, 1992; Christ, 1993; Knapp, 1995). Experienced individuals are able to understand relationships between variables (Chi et al., 1982; Moeckel, 1990; Frederick, 1991) and identify the underlying problems (Chi et al., 1982; Biggs et al., 1988; Moeckel, 1990; Christ, 1993). These characteristics of audit knowledge are important in order to assess fraud and error risks. The current study uses auditors with experience of between 6 months and 5 years.

Christ (1993) examined auditors’ planning knowledge with a recall task. She found significant differences between the audit knowledge structures of audit managers and audit partners. Similarly, Knapp (1995) found significant differences between audit managers and senior auditors using a fraud task. Managers were able to recall more factors that suggest fraud in a set of financial statements.

The audit literature suggests that education and audit knowledge are important factors affecting consensus in audit judgments. For example, Joyce (1976, p. 30) suggested that:

> Because strict guidelines for information collection and evaluation do not exist, there are no clear-cut right judgments available with which to compare individual professional judgments in most audit tasks; yet, if there exists a common core of audit knowledge germane to auditing, and if the education, certification, and training process auditors undergo are successful in imparting that knowledge, one would expect to find agreement among the judgments of different auditors in the same audit situations.

Accounting students and auditors from different cultures will have different audit knowledge. This is due to different accounting education curricula, and current differences in professional bodies’ requirements in different cultures.

Individuals of the same culture are likely to share similar audit knowledge because they acquired this knowledge through their unique education system and
socialisation. Learning style is expected to differ from country to country (Hofstede, 1980). For example, Claxton, (1990, p. 7) states:

learning style and behavioural tendency do exist, and students from a particular socialization and cultural experience often possess approaches to knowledge that are highly functional in the indigenous home environment and can be capitalized upon to facilitate performance in academic settings.

People from different cultures may see ideas or cues in different ways. This assumption is supported by Shade (1989, p. 21), who commented that “perceptual development differs within various cultural groups. It is an erroneous assumption in the teaching-learning process to assume children ‘see’ the same event, idea, or object in the same way”. Church and Schneider (1994) found differences between Australian and US auditors with respect to the evaluation of internal controls. They found that differences in audit knowledge about accounting and auditing are the reason for differences in internal control evaluation. They did not explain their results. The differences in audit knowledge may be due to differences in education systems and training programs. Reckers and Taylor (1979, p. 45) stated that “if technical competence …varies across auditors, decision responses will also vary”. Joyce (1976, p. 36) suggests:

the auditor’s perception of the appropriate cue-criterion relationships is a function of his experience-education, training, work. Different auditors, of course, bring different backgrounds into an audit engagement. They have gone to various universities, taken somewhat different courses, and worked on different engagements.

As discussed above, problem-solving is not an important part of the education system in Egypt. However, prior studies (e.g., Norman & Schmidt 1992; Carpenter & Reimers, 2005) suggest that problem-solving helps individuals to learn and recall information, and apply concepts learnt in many settings. Problem-solving is very
important in dealing with complex tasks such as fraud risk and fraud detection (Carpenter & Reimers, 2005). It seems both culture and the education system are important for decision making because they impact on the development of certain skills. An education system “could be considered as a subculture that emphasizes the development of certain skills instead of others.” (Ostrosky-Solis et al., 2004, p. 45). For example, the emphasis is on developing both technical and other skills such as critical thinking and problem solving in the Australian education system. In contrast, technical skills are very important in Egypt. This difference in skills may lead to differences in judgment and behaviour of an individual (Dulaimi, 2005).

The selection of relevant information may depend on the person’s knowledge. If individuals differ in their knowledge, their decisions and judgment may differ accordingly. Individuals select a particular piece of information because of the meaning attached to the information for that individual. For example, individuals “give different meanings to the same information since it is interpreted within different conceptualizations or models of the world” (Hogarth, 1987, p. 8). Information that has been selected by an individual will be used to form a judgment and make a decision. This is done by coding the information into memory in a way that corresponds to its meaning. These differences in processing information may impact auditors’ decisions, such as fraud and error risk evaluations.

Experiments have shown that people differ in processing information because they are from different countries and because there are “differences in the manner in which subject groups perceived environmental complexity, in terms of the number of alternatives sampled and weights assigned to sample information, are culturally induced” (Schkade et al., 1978, pp. 61-62). Therefore, learners from different cultures process information differently and experience the act of learning differently.
because they will differ with respect to “choosing search criteria and levels of integrative complexity” (Schkade et al., 1978 p. 62). Thus, an Egyptian auditor’s knowledge is likely to differ from an Australian auditor’s knowledge and, in turn, their levels of professional scepticism on fraud and errors tasks are likely to be different.

In addition, Gray’s (1988) theory is that accountants are expected to apply accounting reporting rules in a way consistent with their cultural values and their decisions may differ if they are from different cultures. Hofstede (2001) supports this argument. He proposes that the more judgment that a task requires, the more it is ruled by values and thus affected by cultural differences. Given the audit knowledge varies according to experience and culture, audit knowledge differences will most likely affect the interpretation of information during fraud and error tasks and, therefore, the assessment of fraud and error risk.

It is reasonable to argue that culture will moderate the relation between audit knowledge and professional scepticism. Education reinforces cultural differences, however, that assumes that education is successful. Where it is less successful, then the cultural differences will not be so pronounced. High levels of knowledge would produce a clearer assessment of the need for scepticism, whereas low knowledge auditors would have more variable results so you would expect knowledge to have a significant impact on scepticism. Alternatively, those with low knowledge might be more sceptical if they are aware of their own shortcomings and, therefore, adopt a more sceptical stance.

**H5: Culture moderates the relation between audit knowledge and professional scepticism. (Egyptian auditors will exhibit a much lower confrontational audit process relative to Australian auditors in the high knowledge group than in the low knowledge group).**
CHAPTER 3
Research Method

Introduction
This chapter: (1) describes the experimental design and materials used in the study; (2) discusses the experimental task development and justifications; (3) describes the choice of and measurement of the independent and dependent variables; and (4) describes the data collection process including the selection of the target countries and solicitation of participants.

Experimental materials and tasks
The experimental design was a 2 x 2 x 2 between-participants design plus a covariate for auditor knowledge. The independent variables were culture (individualist with low power distance vs. collectivist with high power distance), accountability (high or low) and the risk of fraud and error (high or low). Accountability and the risk of fraud and error were manipulated. Culture was pre-determined by each participant’s country of residence, however, culture was verified by having the participants complete the Value Survey Model (VSM) developed by Hofstede (1994). Knowledge was assessed using a knowledge test. Participants were randomly assigned to one of the four manipulated treatments.

The experimental materials included three cases: a bad debt case; a construction case; and an inventory case. The cover page included brief instructions and the accountability manipulation. Each of the three cases included client background information, which included the manipulation of the risk of fraud and error, and the client’s explanation justifying the accounting treatment described in the case
material. After reading each case, the participants assessed the truthfulness of the client’s explanations justifying the accounting treatment described in that case using a seven-point response scale ranging from “not at all truthful” to “completely truthful”. For that case, they then separately assessed the level of the risk of fraud and the risk of error using seven-point scales ranging from “extremely low risk of fraud” to “extremely high risk of fraud” and “extremely low risk of error” to “extremely high risk of error”. For that case, they then rated the importance of a variety of substantive audit procedures using a seven-point response scale ranging from “not important” to “very important”. After this, they then moved on to the second case, read it and made the same assessments with respect to that case and then repeated the process for the third case. After completing the assessments for the three cases, they answered 14 multiple-choice questions, the results of which were used to assess their knowledge of auditing. Following this, they completed the Value Survey Model (VSM) developed by Hofstede (1994). Next, they answered a series of questions to capture demographic information about the participants. Finally, the participants answered accountability manipulation check questions and a question about whether they had ever discovered fraud during an audit.

See Appendices 1 to 4 for a copy of the case materials.

The following is the sequence of tasks performed by the participants during the experiment. Firstly, participants read instructions about the objectives of the study and the accountability manipulation. Secondly, they read case one about bad debt and then (a) assessed the truthfulness of the client’s explanation, (b) assessed the risk of fraud, (c) assessed the risk of error, and (d) rated the importance of audit procedures. Thirdly, they answered 14 multiple choice questions about audit knowledge related to fraud and errors. Fourthly, they completed Hofstede’s Value
Survey Module Version 1994. The final part of the procedure related to questions about personal and professional demographic information and some accountability manipulation check questions. This procedure was repeated for case two about construction, and case three about inventory.

The next sections describes the use of experimental materials and tasks in the current study and provide a more in-depth description of the case materials and the independent and dependent variables and their justification.

The cases were based on cases originally developed and pilot tested by Yamamura et al. (1996) with some changes to suit the objectives of the current study. Two important concerns were considered before selecting the cases. The first concern was that the tasks met the study’s objective. The objective was to focus the auditor’s interest on an area in which scepticism was a key variable. Maintaining such a focus required a choice of auditing problems that did not entail the use of detailed industry audit knowledge. The cases also had to have an appropriate auditor judgment so as to ascertain how culture and other factors impinge on the application of auditing standards.

The second concern was that the tasks be functionally/content equivalent across both cultural settings (Patel, 2004). Content equivalence refers to “the equivalence of rules and concepts at issue among the countries being studied and is a pre-requisite for cross-cultural theory development and hypotheses formulation .... because it enables a study to rule out some confounding explanations for differences found in subjects’ judgments among the countries that are examined” (Patel, 2004, p. 67). Content

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31 More details about the changes to the experiments are described in the manipulation sections.
equivalence requires careful evaluation of setting, task, meanings and participants (Sekaran, 1983; Patel, 2003, 2004).

Content equivalence in the current study is likely to be achieved because in both countries: (1) international accounting and auditing standards are followed; and (2) British Commonwealth rules are followed. Australia is considered to follow British Commonwealth rules with respect to accounting systems (Radebaugh & Gray, 1997). Egypt also follows British Commonwealth rules due to the British occupation of Egypt for many years (Ovendale, 2001) and, therefore, the Egyptian accounting system is predominantly affected by British Commonwealth rules; (3) auditors, partners and managers are normally members of a local professional body (e.g., CPA Australia or The Institute of Chartered Accountants in Australia; Egyptian Society of Accountants). Junior and senior auditors are normally members or studying to be members of one of these bodies. Membership in both countries requires an accounting degree and a professional year with a relevant professional body.

Since junior and senior auditors in the two countries would have similar but not identical educational backgrounds and would be supervised by accountants who also have equivalent qualifications, it was assessed that sufficient equivalence of rules and concepts had been met. To double check, the individual accounting and auditing principles applicable to the specific cases were reviewed to ensure they were the same in the two countries. As expected, since they were both using international accounting and auditing standards, there were no differences and no instances where local requirements added any additional requirements above and beyond the international standards.

Therefore, it is likely that Egypt and Australia satisfy the content equivalence principle with respect to the experiment. As a result, any significant differences in
decision-making in the case studies between the auditors in the two countries are unlikely to be as a result of differences in accounting or auditing or professional requirements but rather due to differences in the hypothesised differences in selected cultural dimensions and educational styles.

Having established that the cases would involve equivalent rules and regulations in both countries, it was then necessary to evaluate the cases in terms of addressing their suitability for addressing decision-making where the level of scepticism would be relevant.

Fraudulent financial reporting can occur by deliberately biasing assumptions and judgments used to estimate account balances (Apostolou & Crumbley, 2008). All cases involve accounting estimations. As stated by Hirst (1994, p. 409), “it is particularly important for the auditor to maintain an attitude of professional scepticism when evaluating the subjective factors on which accounting estimates are based”. The valuation of these accounts required subjective judgments by clients and, therefore, they would be subject to the possibility of innocent errors, biased judgment or fraudulent misstatement. Multiple cases were used to detect changes in professional scepticism due to changes in the risk of fraud and error, knowledge and accountability to superiors. Case one is associated with valuation of accounts receivable at net realisable value, case two is related to revenue recognition in the construction industry and case three is related to inventory valuation.

Accounts receivable was selected since fraud may be perpetrated through mismeasurement of accounts receivable (Knapp, 1996; Caster et al., 2008) and because problems in accounts receivable are most often the cause of audit failures and lawsuits against auditors (Asare & Davidson 1995; Beasley et al., 2000). Accounts receivable and inventory normally represent material areas and often contain many
errors (Wright & Ashton, 1989; Gay & Simnett, 2010). Thirty-four percent of identified fraud cases were related to accounts receivable or the revenue cycle (Loebbecke et al., 1989).

The inventory case was selected because Loebbecke et al. (1989) reported that 57.7% of fraud cases were related to overvaluation of assets and inventory represented 22.4% of asset overvaluation cases. In addition, Bonner et al. (1998) reported that fraud is frequently found in the inventory account. In addition, it has been recognised that it is difficult to estimate the net realisable value of inventory which auditors need to do when testing the valuation of inventory (Gay & Simnett, 2010).

The construction case is considered relevant because ASA 240 stresses assessing fraud risk in revenue recognition, which is subject to estimates, in the construction industry. If estimates are inaccurate, gross profit will be affected. In addition, revenue recognition cases (such as the construction case) are considered substantial risks to auditors as a result of the risk subsequent cost overruns whose likelihood was hidden by fraudulent activities (LePatner et al., 2007).

**Bad Debt Case**

According to Australian and Egyptian Accounting Standards, accounts receivable are to be reported in the financial statements at net realisable value. This case is about the valuation of accounts receivable at net realisable value. The client is an import and export business that has related parties. They have a new customer in Indonesia with a material accounts receivable balance for which no payment has been received since year end. There are concerns about the collectability of the account given the late payment and difficulties in communication due to distance and language differences.
The participants were required to assess truthfulness of senior management’s explanations to determine the collectability of the accounts receivable. The participants were told that senior management had informed them “that all balances on these new accounts are considered collectible”. Senior management “do not believe that a bad debt provision for these accounts is considered necessary”. This created an uncertain situation as the auditor may rely on the senior management evaluation of accounts receivable to determine the allowance for bad debt, which may be incorrect.

**Construction Case**

This case involves a construction company that changed their operations from commercial construction to residential construction. The company used actual cost to date, along with estimated total costs, to calculate the percentage-of-completion. The chief financial officer personally managed the calculation of the estimates. However, one of the weaknesses of the percentage-of-completion is its dependence on estimated total costs. The participants were required to assess the truthfulness of the estimates made by senior management. Both Egypt and Australia use the percentage-of-completion method to determine revenue and profit for construction contracts because it is required by international accounting standards.

**Inventory Case**

This case is related to the valuation of inventory for a manufacturing client. The inventory is considered material. The market experienced fluctuations in prices during the year. The senior management thought it appropriate to value inventory at cost as in the prior years. Senior management informed the auditor that the prices would stabilise at higher prices and therefore, no adjustments were made to reduce
inventory from cost to net realisable value. The participants were required to assess the truthfulness of senior management’s explanations for not adjusting the inventory value. Both Australian and Egyptian accounting standards require the valuation of inventory to be at “lower of cost and net realisable value”.

**Validation**

As the cases were validated in a prior study, no pilot study was undertaken. However, to ensure that the cases were realistic, the experiment was reviewed and validated by two auditing professors: one professor in Egypt and one professor with an Arabic background and experience in both Australia and Arabic countries.

They considered that the cases were realistic and relevant to the objectives of the study. Some minor modifications in terminology were made such as the name of the professional body in Egypt.

In addition, feedback was given by the three supervisors of the current study and, although minor editorial changes were made, no substantive changes were made to the instruments. The purpose of the validation procedures was to ensure clarity of the meanings so that they would be easily understood by the participants.

**Manipulations and measurement of the independent and dependent variables**

The current study has four independent variables: (1) the risk of fraud and error; (2) accountability; (3) audit knowledge; and (4) culture (individualism and power distance).

**The risk of fraud and error**

The risk of fraud and error was manipulated at two levels: high and low. Auditors in the high risk of fraud and error condition were told that internal control was
ineffective, there were related parties, and the client was a new client. Auditors in the low risk of fraud and error condition were told that the internal control system of the client was effective and the client was a continuing client. The current study uses internal control because it is considered a significant factor that affects the risk of fraud and error (e.g., Matsumura & Tucker 1992; Caplan, 1999; Bierstaker et al., 2009). Matsumura and Tucker (1992) expected that managers were less likely to commit fraud when internal control was strong and when there was a lot of audit testing. They conducted an experiment using accounting students and their expectation was confirmed.

Weak internal control is a significant “red flag” in Caplan’s (1999) study. He found that weak internal controls could lead to audit failure and fraud. In addition, a client with weak internal controls is likely to have higher material misstatements and a higher probability of financial failure (Houston et al., 1999; Hsueh et al., 2007).

Errors are a function of control risk, that is, internal control (Messier et al., 2006). Few errors are found when there are strong internal controls and, therefore, the risk of material errors in the financial reports decreases when internal controls are effective (Asare & Davidson, 1995; Janvrin et al., 2009).

Related parties are considered an important red flag (Nieschwietz et al., 2000; Hoffman & Zimbelman, 2009) and are associated with a high risk of material misstatement (Apostolou & Crumbley, 2008). Related party transactions are subject to manipulation to make financial statements look healthier than they otherwise would and the possibility of fraud is high. Related parties were one of the major issues associated with the collapse of Enron and Lincoln (Albrecht et al., 2008). Albrecht et al. (2008) noted that “related-party relationships are problematic because
they allow for transactions other than arm’s length” (p. 11). For example, profits can be transferred between related companies or borrowings may be obtained at different interest rates than market rates of interest (Gay & Simnett, 2010).

Prior research shows that audit risk for a new client is higher than for a continuing client because auditors are familiar with management integrity, financial statements and internal control systems of their continuing clients (Craswell & Francis, 1999; Beaulieu, 2001). Integrity of management is related to misstatements and, therefore, auditors assign a high risk of fraud and error to a new client (Beaulieu, 2001; Houston et al., 2005). The trust levels, therefore, will be higher with respect to continuing clients than new clients (Shaub & Lawrence, 1996; Beaulieu, 2001; Nagy, 2005). Auditors usually terminate relationships with clients that are risky and continue relationships with clients that are less risky (Johnstone & Bedard, 2004). This suggests that new clients are more likely to be risky than continuing clients with respect to the risk of fraud and error. Professional scepticism will differ between new clients and continuing clients because of the higher audit risk for new clients and this leads to distrust, more audit procedures or confrontation.

**Accountability**

Johnson and Kaplan (1991) stated that accountability makes auditors more vigilant and this leads to higher effort expenditure. To manipulate accountability, an instruction sheet was attached to the front page of the package containing the three tasks. In the low accountability manipulation, the participants were told that “This information would be strictly confidential. I will use the information only for the purpose of this research. I will not disclose any information to another party”. In the high accountability version, the participants were told that “Your judgment will be
reviewed by your supervisor and your partner”. This manipulation is consistent with prior studies (e.g., Hoffman & Patton, 1997; Tan & Kao, 1999; DeZoort et al., 2006). Prior research has found such a manipulation to be successful in affecting judgment (Hoffman & Patton 1997; DeZoort et al., 2006). The accountability manipulation was designed to increase or decrease personal pressure and motivation, which, in turn, might lead to an increase or decrease in professional scepticism.

**Audit knowledge**

Audit knowledge was measured using 14 multiple-choice questions that tested the auditors’ knowledge of auditing (five questions) and fraud and error (nine questions). Many studies have used multiple-choice questions to measure auditors’ knowledge (e.g., Bonner & Lewis, 1990; Bonner et al., 1992; Tan & Libby, 1997; Cloyd, 1997; Tan & Kao, 1999). These questions were selected from a pool of questions developed by examiners from CPA Australia that measured general audit knowledge, fraud knowledge and error knowledge.

**Culture (Power distance and individualism)**

Measurement of the impact of cultural differences on judgment and decision-making presumed that such cultural differences exist. Measurements of power distance and individualism were made to determine if cultural differences existed between Egyptian and Australian auditors. The VSM developed by Hofstede (1994) was used. It has been used extensively to measure five dimensions of cultural differences: power distance, uncertainty avoidance, individualism, long term and masculinity. Two of the dimensions, power distance and individualism are of interest in the current study.
**Dependent variables**

Professional scepticism is measured five ways: distrust, perceived fraud risk, perceived error risk, audit procedures (confrontational vs. non-confrontational).

A highly sceptical auditor would be more likely to disbelieve and the less sceptical auditor more likely to believe what the client says. A highly sceptical auditor may be more likely to infer manipulative intent (fraud/error).

Professional scepticism is also measured according to the nature of the audit procedures (i.e., confrontational\(^\text{32}\) or non-confrontational auditing procedures). Confrontational audit procedures include inquiries of the client, interviews and discussions with client personnel (ASA 500). Confrontation is defined in the counselling literature as a diagnostic process (Hermans, et al., 1990), a direct statement that encourages reality testing (Leaman, 1978), and intense interaction between two parties, where the confronter is involved more deeply with the person he is confronting (Johnson, 1972). Confrontation requires the client to interpret what the behaviour means. It may be described as a mixture of an interview and a series of questions (Hermans & Oles, 1999). Inquiries help auditors to obtain written or oral information from the client in response to specific questions during the audit. For example, inquiry may be used by auditors to gain an understanding of a client’s assessment of the valuation of important accounts, such as the collectability of accounts receivable or the valuation of inventory. Responses to inquiries may cause auditors to adjust the nature and/or the extent of audit procedures.

\(^\text{32}\) The current study divides audit procedures into (1) confrontational (i.e., inquiries and/or discussion with clients) and (2) non-confrontational (i.e., physical examination, confirmation, recalculation, and analytical procedures).
Non-confrontational auditing procedures include physical examination, confirmation, recalculation, and analytical procedures (ASA 500). Physical examination of assets can be used to validate their existence or their values. Confirmation is usually used to verify the existence of accounts receivable. Recalculation includes footing (verify totals), cross-footing (check columns total to a grant total), extensions (recalculate items involving multiplication), and recalculation (recalculate estimates such as allowance for doubtful debt). Analytical procedures involve comparing amounts or ratios with the auditor’s expectations.

These confrontational and non-confrontational audit procedures are related to auditors’ beliefs about the possibility of the existence of fraud and errors (Koonce, 1993; Peecher, 1996). For example, if auditors believe that clients’ explanations are acceptable, then they are unlikely to search for competing explanations. On the other hand, if auditors do not believe clients, they are likely to obtain extra evidence as a result of a high level of scepticism. This, in turn, causes auditors to reduce detection risk by performing more tests such as confrontational and non-confrontational audit procedures. An auditors’ level of scepticism will be considered high if they confront clients and/or perform additional audit procedures (Shaub & Lawrence, 1996).

To measure professional scepticism levels (distrust), participants were required to first assess the truthfulness of senior management’s explanation for each of the three cases and rate it on a scale of 1 (“the explanation is not truthful”) to 7 (“the explanation is truthful”). The participants then assessed the perceived risk of fraud and the perceived risk of error on a scale 1 (“low risk”) to 7 (“high risk”). With

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33 Shaub and Lawrence (1999) and Payne and Ramsay (2005) measured trust the same way.
34 See Appendices 1 to 4 for more details.
respect to audit procedures, participants rated the importance of a variety of audit procedures on a scale of 1 (“not important”) to 7 (“very important”).

**Demographic data**

After completing the experimental tasks the participants were asked to complete demographic questions such as current position; years of experience in the current position; age; gender; country of birth; degree; professional membership; first language spoken; and religion. The participants then answered manipulation check questions.

**Manipulation Checks**

Manipulation checks for the accountability manipulation were included in two ways. First, auditors were asked to indicate the amount of pressure they felt when making their judgments. Pressure was measured using a 7-point anchored scale with “no pressure” (coded as 1) and “very strong pressure” (coded as 7).

Second, the effectiveness of the accountability manipulation was assessed by asking the auditors how motivated they were to perform well on the task. The question was measured using a seven-point scale (1 = not motivated at all; 7 = extremely motivated). As expected, the auditors in the two situations perceived the accountability pressure differently. The accountability group felt significantly more pressure than the low accountability group. Significant differences between accountable and non-accountable groups are reported in Chapter 4.

**Participants and data collection**

A contact was made with audit partners and managers from the Big 4 audit firms in Egypt. Following an invitation to participate in the study, three of the Big 4 firms
participated in the study. The author personally met the audit partners and audit managers of the three participating firms to explain the objectives of the experiment. Partners and audit managers in Cairo and Alexandria provided administrative assistants to organise collection of the data. The participants were undertaking their professional year. In Egypt, the author and administrative assistants in the training room of each auditing firm conducted the experiment.

In Australia, a contact was made with a professor teaching in the CA professional year who agreed to conduct the experiments. The participants were from the same three Big 4 audit firms as in Egypt. Data collection was undertaken in Sydney, Canberra and Melbourne. The experiment was conducted in the training rooms where the participants were undertaking a CA training course. The participants spent 25-35 minutes completing the experiment.

The participants were chosen from several auditing firms to reduce the effect of organisational culture, such as a firm’s specific training methods to detect fraud and errors that may have impacted on the result (Cushing & Loebbecke, 1986; Braun, 2000). This enhances the generalisability of the findings. In addition, random assignment of the participants to the treatment level was used in order to control for firm effects. Prior research has reported that multinational accounting firms are similar in organisational culture (Ponemon, 1990, 1992; Patel et al., 2002) because they have a similar code of professional conduct (Cohen et al. 1993a; Greenwood et al., 2002) and are similar in their selection criteria for new employees (Soeters & Schreuder, 1988; Chia, 2005). These similarities indicate that any differences in professional scepticism judgment can more probably be attributed to national cultural differences.
To make sure there was consistency in conducting the experiment in both countries, the participants were given one page of written information about the objectives of the study and its requirements. All participants were informed that they had the right not to participate or to withdraw from the experiment at any time. This was in conformity with the ethics protocol submitted to and approved by the University of Western Sydney. All participants received one set of materials containing the audit knowledge questions, the three cases, and personal and professional demographic and debriefing questionnaires (see Appendices). All participants received the same materials except for instructions relating to the accountability and fraud/error risk manipulation. The participants were asked to make judgments based on the information provided in the instrument. The participants in the low accountability group were guaranteed confidentiality.

**Summary**

This study was an experiment involving auditors from three of the Big 4 auditing firms. Development of the research instrument and validation of the instrument were discussed. The current study argues that in an auditing decision-making context, accountability, fraud risk levels, errors risk levels, audit knowledge and culture considerably influenced individual actions. Prior comparison of the Egyptian and the Australian cultures has resulted in the discovery of differences in national qualities which are expected to result in differences in auditor judgments. The national qualities of interest are power distance and individualism. Both qualities represent essential components of the relevant cultures. The effects of each cultural quality on audit judgment were tested using cases and questionnaires completed by Egyptian and Australian auditors. The results are discussed in the next chapter.
CHAPTER 4

Statistical Analysis and Results

This chapter reports on the statistical methods used and the results of hypotheses testing. The chapter is organised as follows. The first part reports on descriptive information about the demographic data and provides descriptive information about professional scepticism. The second part presents the results of the hypotheses testing. The final part presents conclusions about the overall results.

Demographic information

Table 1 summarises the demographic information for the participants. The table includes information about employment positions, experience, age and gender in the two countries.

Table 1 Demographic Statistics

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th>Egypt</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Position</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior auditors</td>
<td>89 (61%)</td>
<td>67 (54.5%)</td>
<td>156 (58%)</td>
</tr>
<tr>
<td>Senior auditors</td>
<td>57 (39%)</td>
<td>56 (45.5%)</td>
<td>113 (42%)</td>
</tr>
<tr>
<td>Total</td>
<td>146 (100%)</td>
<td>123 (100%)</td>
<td>269 (100%)</td>
</tr>
<tr>
<td><strong>Experience</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than one year</td>
<td>33 (22.6%)</td>
<td>57 (46.3%)</td>
<td>90 (33.5%)</td>
</tr>
<tr>
<td>1-3 years</td>
<td>103 (70.5%)</td>
<td>57 (46.3%)</td>
<td>160 (59.5%)</td>
</tr>
<tr>
<td>3-6 years</td>
<td>10 (6.8%)</td>
<td>9 (7.3%)</td>
<td>19 (7.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>146 (100%)</td>
<td>123 (100%)</td>
<td>269 (100%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 30 years</td>
<td>132 (90.4%)</td>
<td>98 (79.7%)</td>
<td>230 (85.5%)</td>
</tr>
<tr>
<td>31-40</td>
<td>14 (9.6%)</td>
<td>25 (20.3%)</td>
<td>39 (14.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>146 (100%)</td>
<td>123 (100%)</td>
<td>269 (100%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>62 (42.5%)</td>
<td>69 (56.1%)</td>
<td>131 (48.7%)</td>
</tr>
<tr>
<td>Female</td>
<td>84 (57.5%)</td>
<td>54 (43.9%)</td>
<td>138 (51.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>146 (100%)</td>
<td>123 (100%)</td>
<td>269 (100%)</td>
</tr>
</tbody>
</table>
Overall, 131 (49%) of the participants are male and 138 (51%) are female. More females participated in the study in Australia than in Egypt. In Australia, 62 (42.5%) are males and 84 (57.5%) are females. More males than females participated in the study in Egypt. Sixty-nine (56.1%) are males and 54 (43.9%) are females. This is a reflection of the fact that more males work in the accounting and auditing profession in Egypt than females.\(^\text{35}\)

Overall, 156 (58%) of the participants are junior auditors and 113 (42%) are senior auditors. The Egyptian sample has a higher proportion of senior auditor than the Australian sample. In Australia, 89 (61%) of the participants are junior auditors and 57 (39%) of the participants are senior auditors. While in Egypt, 67 (54.5%) of the participants are junior auditors and 56 (45.5%) of the participants are senior auditors.

In Australia, 33 (22.6%) participants have less than one year of experience, 103 (70.5%) participants have between 1-3 years of experience and 10 (6.8%) have 3-6 years of experience. In Egypt, 57 (46.3%) participants have less than one year of experience, 57 (46.3%) participants have between 1-3 years of experience, and 9 (7.3%) participants have between 3-6 years of experience. Overall, in both countries, 90 (33.5%) participants have less than 1 year of experience, 160 (59.5%) participants have between 1-3 years of experience and 19 (7.1%) participants have 3-6 of years of experience.

The age of the participants is predominantly under 30 years in both countries. For both countries, 230 (85.5%) participants are under the age of 30 years and 39 (14.5%) participants are aged between of 31-40 years. Table 1 shows the different age distributions. One hundred and thirty-two (90.4%) of the Australian participants

\(^{35}\)This information was disclosed in a discussion with audit managers in Egypt.
are under the age of 30 years and 14 (9.6%) are aged between 31-40 years. Ninety-eight (79.7%) of the Egyptian participants are under the age of 30 years and 25 (20.3%) of the participants are aged between of 31-40 years.

In view of the different age distributions a statistical analysis was undertaken to see if there were any significant relationships between age or experience, and professional scepticism scores; no significant relationships were found. Similarly, there were no significant relationships between gender and professional scepticism scores.

**Professional scepticism**

The participants were required to consider three cases involving decision-making in relation to bad debt, construction accounting (valuation of work in progress), and inventories. For each case, the participants were required to report their level of professional scepticism by assessing the level of fraud risk, error risk, truthfulness of senior management’s explanation, the importance to undertake non-confrontational audit procedures and the importance to undertake confrontational audit procedures. Average scores were calculated for both the non-confrontational audit procedures and confrontational audit procedures. The results are set out in Table 2. The means and standard deviation are reported in Table 3.

Fraud risk and error risk are measured on a scale of 1 to 7 where 1 indicates low level of risk and 7 indicates high level of risk. Distrust is measured on a scale of 1 to 7 where 1 indicates the senior management’s explanation is not all trustworthy and 7
represents that senior management’s explanation is completely trustworthy\textsuperscript{36}. The importance of undertaking non-confrontational audit procedures was measured on a scale of 1 to 7 where 1 indicates low importance and 7 indicates a high importance to undertake non-confrontational audit procedures. The importance of undertaking confrontational audit procedures is measured on a scale of 1 to 7 where 1 represents low importance and 7 represents high importance.

Table 2 Descriptive Statistics for professional scepticism

<table>
<thead>
<tr>
<th>Panel A : Bad debt</th>
<th>Australia</th>
<th>Egypt</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived fraud risk</td>
<td>4.32</td>
<td>4.36</td>
<td>4.34</td>
</tr>
<tr>
<td>Perceived error risk</td>
<td>4.90</td>
<td>5.11</td>
<td>5.00</td>
</tr>
<tr>
<td>Distrust</td>
<td>4.51</td>
<td>4.62</td>
<td>4.56</td>
</tr>
<tr>
<td>Non-confrontational audit procedures</td>
<td>4.99</td>
<td>5.54</td>
<td>5.24</td>
</tr>
<tr>
<td>Confrontational audit procedures</td>
<td>4.82</td>
<td>4.69</td>
<td>4.76</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B : Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived fraud risk</td>
</tr>
<tr>
<td>Perceived error risk</td>
</tr>
<tr>
<td>Distrust</td>
</tr>
<tr>
<td>Non-confrontational audit procedures</td>
</tr>
<tr>
<td>Confrontational audit procedures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C : Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived fraud risk</td>
</tr>
<tr>
<td>Perceived error risk</td>
</tr>
<tr>
<td>Distrust</td>
</tr>
<tr>
<td>Non-confrontational audit procedures</td>
</tr>
<tr>
<td>Confrontational audit procedures</td>
</tr>
</tbody>
</table>

Response scales for distrust, confrontational and non-confrontational audit procedures ranged from 1 to 7 (where 1 refers to high distrust/less of importance audit procedures and 7 to low distrust (please refer to footnote 35)/ high importance audit procedures, respectively).

\textsuperscript{36} A reverse score is calculated. That is, a high score indicates a distrust of senior management’s explanation (high scepticism) and a low score indicates trust of senior management’s, explanation (low scepticism).
Table 3 provides the mean and standards deviation for professional scepticism of participants by conditions for, (1) high risk of fraud risk and error and high/ low accountability, and (2) low risk of fraud and error and high/low accountability for the three cases. The results in general are consistent with hypotheses.

Panels A, B, C, D and E of Table 3 indicate that professional scepticism (perceived fraud risk, perceived error risk, distrust, non-confrontational audit procedures and confrontational audit procedures) is mainly higher for high risk of fraud and error than for low risk of fraud and error across countries in the three cases. In general, high risk of fraud and error increases professional scepticism in the majority of cases.

Professional scepticism judgment is examined in details using ANOVAs reported in Tables 7 to 11.
Table 3  Descriptive Statistics – mean (standard deviation)

<table>
<thead>
<tr>
<th></th>
<th>Bad debt</th>
<th>Construction</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Australia</td>
<td>Egypt</td>
<td>Australia</td>
</tr>
<tr>
<td><strong>Panel A: Dependent variable – Perceived fraud risk</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk of fraud and error</td>
<td>High accountability</td>
<td>5.05 (1.22)</td>
<td>5.72 (0.88)</td>
</tr>
<tr>
<td></td>
<td>Low accountability</td>
<td>5.11 (1.02)</td>
<td>4.79 (1.04)</td>
</tr>
<tr>
<td>Low risk of fraud and error</td>
<td>High accountability</td>
<td>3.29 (1.02)</td>
<td>3.40 (0.96)</td>
</tr>
<tr>
<td></td>
<td>Low accountability</td>
<td>3.73 (0.98)</td>
<td>3.50 (0.97)</td>
</tr>
<tr>
<td><strong>Panel B: Dependent variable – Perceived error risk</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk of fraud and error</td>
<td>High accountability</td>
<td>5.23 (0.95)</td>
<td>5.72 (0.91)</td>
</tr>
<tr>
<td></td>
<td>Low accountability</td>
<td>5.14 (1.14)</td>
<td>5.79 (1.25)</td>
</tr>
<tr>
<td>Low risk of fraud and error</td>
<td>High accountability</td>
<td>4.88 (1.11)</td>
<td>4.73 (1.00)</td>
</tr>
<tr>
<td></td>
<td>Low accountability</td>
<td>4.35 (1.10)</td>
<td>4.22 (1.12)</td>
</tr>
<tr>
<td><strong>Panel C: Dependent variable – Distrust</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk of fraud and error</td>
<td>High accountability</td>
<td>4.59 (1.20)</td>
<td>5.28 (1.36)</td>
</tr>
<tr>
<td></td>
<td>Low accountability</td>
<td>4.64 (1.16)</td>
<td>4.76 (1.36)</td>
</tr>
<tr>
<td>Low risk of fraud and error</td>
<td>High accountability</td>
<td>4.35 (1.14)</td>
<td>5.17 (1.16)</td>
</tr>
<tr>
<td></td>
<td>Low accountability</td>
<td>4.46 (0.98)</td>
<td>3.31 (1.34)</td>
</tr>
</tbody>
</table>
Table 3  Descriptive Statistics – mean (standard deviation) – Continued

<table>
<thead>
<tr>
<th>Panel D: Dependent variable – Non-confrontational audit procedures</th>
<th>Bad debt</th>
<th>Construction</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Australia</td>
<td>Egypt</td>
<td>Australia</td>
</tr>
<tr>
<td>High accountability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk of fraud and error</td>
<td>5.35 (0.79)</td>
<td>5.99 (0.74)</td>
<td>5.53 (0.81)</td>
</tr>
<tr>
<td>Low accountability</td>
<td>5.27 (0.61)</td>
<td>5.46 (0.87)</td>
<td>5.58 (0.65)</td>
</tr>
<tr>
<td>Low risk of fraud and error</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High accountability</td>
<td>5.10 (0.91)</td>
<td>6.03 (0.89)</td>
<td>5.30 (0.88)</td>
</tr>
<tr>
<td>Low accountability</td>
<td>4.23 (0.96)</td>
<td>4.68 (0.97)</td>
<td>4.25 (0.93)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel E: Dependent variable – Confrontational audit procedures</th>
<th>Bad debt</th>
<th>Construction</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Australia</td>
<td>Egypt</td>
<td>Australia</td>
</tr>
<tr>
<td>High accountability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk of fraud and error</td>
<td>5.36 (0.75)</td>
<td>4.92 (1.11)</td>
<td>5.61 (0.75)</td>
</tr>
<tr>
<td>Low accountability</td>
<td>4.98 (0.64)</td>
<td>4.67 (0.85)</td>
<td>5.53 (0.71)</td>
</tr>
<tr>
<td>Low risk of fraud and error</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High accountability</td>
<td>4.85 (0.93)</td>
<td>5.11 (0.86)</td>
<td>5.26 (0.85)</td>
</tr>
<tr>
<td>Low accountability</td>
<td>4.05 (0.97)</td>
<td>4.09 (0.87)</td>
<td>4.50 (0.77)</td>
</tr>
</tbody>
</table>
Cultural Dimensions

Table 4 reveals that there are differences between the two countries with respect to the dimensions of power distance and individualism.

Table 4 Cultural score

<table>
<thead>
<tr>
<th>Cultural dimensions</th>
<th>(Hofstede’s score 1988)</th>
<th>The current study (2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arab</td>
<td>Australia</td>
</tr>
<tr>
<td>Power distance</td>
<td>80</td>
<td>36</td>
</tr>
<tr>
<td>Individualism</td>
<td>38</td>
<td>90</td>
</tr>
</tbody>
</table>

Power Distances

Questions 3, 6, 14 and 17 of the VSM are used to calculate the power distance score (see Appendices 1 to 4 for details). The calculation of the power distance score is based on the Values Survey Module Manual formula. (1994, p .3):

Power Distance Index = \(-35M(Q3) + 35M(Q6) + 25M(Q14) – 20M(Q17)\).

M indicates the mean score for the relevant question.

Question 3 and question 6 ask the participants to indicate the importance of the following statement respectively “have good working relationships with direct superior” and “be consulted by your direct superior in his/her decisions”. Question 3 and 6 are measured by 1 (of utmost importance) and 7 (of very little or no importance)\(^{38}\). Question 14 asks participants, “How frequently, in your experience, are subordinates afraid to express disagreement with their superiors?” The question is

\(^{37}\) The use of individual scores was not appropriate because my study examines differences at the cultural level rather than the individual level following Hofstede (1980).

\(^{38}\) The Values Survey Module Manual (1994) uses 1-5 rather than 1-7 scales. As the experiment of the current study used 1-7 scales for all the other questions, we used 1-7 rather than 1-5 scales to measure power distance and individualism in order to be consistent with the experiment. However, the result was multiplied by 5/7 to be consistent with the Values Survey Module Manual.
measured by 1 (very seldom) and 7 (very frequently). Question 17 asks participants to indicate their agreement with respect to “An organisation structure in which certain subordinates have two bosses should be avoided at all cost”. The question is measured by 1 (strongly agree) and 7 (strongly disagree).

As Hofstede did not calculate a score for Egypt, but rather for all Arab countries, it is not possible to produce the absolute differences between the score of the current study and Hofstede’s score. However, the scores in the current study support the theory that Egyptians have a higher power distance than Australians.

The table also reports the scores calculated by Hofstede (1980; 1983). A high score indicates a high power distance (i.e., inequality in the workplace); a low score indicates a low power distance (i.e., equality in work place). The score for Australia in this study is -3. Patel (1999) used the VSM and reported a score of negative 23 for power distance with respect to an Australian sample of accountants. Higher power distance means than Hofstede’s means are reported in Pratt and Beaulieu (1992) and Kantor and Sharp (1993). Lower power distance means than Hofstede’s means are reported in Richardson (2006) with respect to postgraduate business students in Hong Kong. The differences between the power distance score in the current study and Hofstede’s (1980) scores may be due to: (1) changes in the national wealth (Hofstede, 1991). Since 1970\(^39\) there has been significant growth in the national wealth, which could perhaps reduce the power distance scores and\(^{40}\), (2) “there are

\(^{39}\) Hofstede completed his collection of data in 1970.

\(^{40}\) Richer countries score low in power distance (Hofstede, 1980). Indeed, both Egypt and Australia have experienced economic growth since 1970.
considerable differences between the questions used in the two formulae\textsuperscript{41}, (Patel, 1999, p. 179).

In addition, Hofstede (1994, p. 7) states that the “Index calculated with the old and new formulas are not necessarily the same! However, they should produce approximately the same score differences between countries”. Also, Tsakumis (2007, p. 39) states that it is important in cross-cultural studies that cultural values scores are “directionally consistent with Hofstede’s original study”.

**Individualism**

The following formula is used to calculate the individualism score (Values Survey Module Manual, 1994, p. 3):

\[
\text{Individualism Index} = -50M(Q1) + 30M(Q2) + 20M(Q4) - 25M(Q8) + 130
\]

The mean score for questions 1, 2, 4 and 8 is used to calculate the individualism score in the above formula. The questions required the participants to indicate the importance (1 of “utmost importance” and 7 of “very little or no importance”) of the following statements: “have sufficient time left for your personal or family life” (question 1); “have good physical working conditions” (question 2); “have security of employment” (question 4); and “have an element of variety and adventure in the job” (question 8). Table 4 reports Hofstede’s (1980; 1983) scores and those of the current study. The current study scores are different from Hostede’s scores due to differences in the formula and questions (Hofstede, 1994; Patel, 1999). However, the scores of the current study are in the same direction as those of Hofstede (1980).

\textsuperscript{41} The questions used in Hofstede’s (1980) study are different to the questions used in the VSM.
Australian auditors are highly individualistic while Egyptian auditors are less individualistic.

As expected, power distance is higher in Egypt than in Australia and individualism is higher in Australia than in Egypt. These results support the existence of cultural differences. To test for significant differences between the two cultures with respect to power distance and individualism, a t-test (2-tailed) was performed. The results show that there are significant differences ($p = 0.000$) between auditors from Egypt and auditors from Australia with respect to power distance and individualism.

**Manipulation checks**

As reported in Table 5 the accountability manipulation\(^{42}\) was successful. When accountability is high the amount of pressure is higher (for Australia, $p = 0.002$ and for Egypt, $p = 0.001$). In addition, the participants are significantly more motivated in the high accountability manipulation ($p = 0.000$ for Australia; $p = 0.000$ for Egypt).

---

\(^{42}\) There is no manipulation check for the risk of fraud and error because they are measured as dependent variables.
Table 5  Accountability manipulation check

<table>
<thead>
<tr>
<th></th>
<th>Australia</th>
<th></th>
<th></th>
<th>Egypt</th>
<th></th>
<th></th>
<th>Overall</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Acc*</td>
<td>High Acc</td>
<td>t-test</td>
<td>Sig</td>
<td>Low Acc</td>
<td>High Acc</td>
<td>t-test</td>
<td>Sig</td>
</tr>
<tr>
<td>1. Indicate the amount of pressure</td>
<td>3.18</td>
<td>3.88</td>
<td>3.14</td>
<td>0.002</td>
<td>3.95</td>
<td>5.16</td>
<td>3.52</td>
<td>0.001</td>
</tr>
<tr>
<td>you felt when making your decision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>regarding cases one, two and three.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. How motivated you were to perform</td>
<td>3.75</td>
<td>5.19</td>
<td>6.58</td>
<td>0.000</td>
<td>4.22</td>
<td>5.44</td>
<td>4.07</td>
<td>0.000</td>
</tr>
<tr>
<td>well on the task.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Higher scores indicate higher pressure and motivation to perform well on the task.

*Acc = accountability
Hypothesis Tests

Five hypotheses were developed in Chapter 2 concerning whether professional scepticism is affected by: (1) the risk of fraud and error levels; (2) accountability levels; (3) cultural differences (individualism and power distance); and (4) audit knowledge.

Multivariate analysis of variance (MANOVA) and analysis of variance (ANOVA) are used to test hypotheses 1, 2, 3 and 5. Hypothesis 4 is tested using a t-test to detect differences in mean scores on professional scepticism. MANOVA is used to test the effect of independent variables on the dependent variables collectively.

Table 6  Multivariate Analysis of Variance (MANOVA - one-tailed) of association between the risk of fraud and error, culture, accountability, knowledge and professional scepticism (perceived fraud risk, perceived error risk, distrust, non-confrontational and confrontational audit procedures)

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Bad debt</th>
<th></th>
<th>Construction</th>
<th></th>
<th>Inventory</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wilks</td>
<td>F</td>
<td>Sig</td>
<td>Wilks</td>
<td>F</td>
<td>Sig</td>
</tr>
<tr>
<td>Fraud/error risk</td>
<td>0.626</td>
<td>27.98</td>
<td>0.000</td>
<td>0.673</td>
<td>22.78</td>
<td>0.000</td>
</tr>
<tr>
<td>Culture</td>
<td>0.854</td>
<td>8.01</td>
<td>0.000</td>
<td>0.790</td>
<td>12.42</td>
<td>0.000</td>
</tr>
<tr>
<td>Accountability</td>
<td>0.860</td>
<td>7.62</td>
<td>0.000</td>
<td>0.820</td>
<td>10.26</td>
<td>0.000</td>
</tr>
<tr>
<td>Knowledge</td>
<td>0.843</td>
<td>1.37</td>
<td>0.046</td>
<td>0.781</td>
<td>1.99</td>
<td>0.001</td>
</tr>
<tr>
<td>Fraud/error risk*Accountability</td>
<td>0.852</td>
<td>8.14</td>
<td>0.000</td>
<td>0.868</td>
<td>7.12</td>
<td>0.000</td>
</tr>
<tr>
<td>Culture*Accountability</td>
<td>0.907</td>
<td>4.82</td>
<td>0.000</td>
<td>0.878</td>
<td>6.49</td>
<td>0.000</td>
</tr>
<tr>
<td>Accountability*Knowledge</td>
<td>0.829</td>
<td>1.50</td>
<td>0.022</td>
<td>0.874</td>
<td>1.07</td>
<td>0.184</td>
</tr>
<tr>
<td>Fraud/error risk*Culture</td>
<td>0.903</td>
<td>5.03</td>
<td>0.000</td>
<td>0.863</td>
<td>7.46</td>
<td>0.000</td>
</tr>
<tr>
<td>Fraud/error risk*Knowledge</td>
<td>0.880</td>
<td>1.02</td>
<td>0.221</td>
<td>0.873</td>
<td>1.08</td>
<td>0.179</td>
</tr>
<tr>
<td>Culture*Knowledge</td>
<td>0.847</td>
<td>1.32</td>
<td>0.058</td>
<td>0.816</td>
<td>1.63</td>
<td>0.009</td>
</tr>
</tbody>
</table>

The MANOVA results reported in Table 6 indicate a significant main effect in bad debt case for the risk of fraud and error (F = 27.98, p = 0.000), culture (F = 8.01, p = 0.000), accountability (F = 7.62, p = 0.000) and knowledge (F = 1.37, p = 0.046) and in the construction case (F = 22.78, p = 0.000); (F = 12.42, p = 0.000), (F = 10.26, p
Hypothesis 1 states that professional scepticism will be higher when the risk of fraud and error is high compared to when the risk of fraud and error is low. The MANOVA (Table 6) shows that the level of fraud and error is related to the level of professional scepticism in all cases with a high significance level (p = 0.000). The relationship revealed by the MANOVA will be subject to further examination by looking at the ANOVA and post hoc testing for each measure of scepticism to ascertain the direction of the relationship and to gain further insights into the drivers of the relationship. Similar follow up analysis will be made in respect of all the hypotheses following the overview in the MANOVA testing.

Hypothesis 2 states that there is a positive relationship between accountability and professional scepticism. The MANOVA (Table 6) shows that accountability is related to the level of professional scepticism in all cases with a high significance level (p = 0.000) in all cases.

Hypothesis 3 states that Culture moderates the relationship between accountability and professional scepticism (Egyptian auditors will be more sceptical than Australian auditors when accountability is high). The MANOVA (Table 6) shows that culture x accountability is related to the level of professional scepticism in all cases with a high significance level (p = 0.000) in the bad debt and construction cases and with a high significance level (p = 0.001) in the inventory case.

Hypothesis 4 states that Professional scepticism will differ between cultures (Egyptian auditors will be more sceptical than Australian auditors with regard to
perceived fraud risk, perceived error risk, distrust, non-confrontational audit procedures and less sceptical in relation to confrontational audit procedures).

The MANOVA (Table 6) shows that culture is related to the level of professional scepticism in all cases with a high significance level (p = 0.000) in all cases.

Hypothesis 5 states that Culture moderates the relation between audit knowledge and professional scepticism. (Egyptian auditors will exhibit a much lower confrontational audit process relative to Australian auditors in the high knowledge group than in the low knowledge group). The MANOVA (Table 6) shows that culture x knowledge is related to the level of professional scepticism in all cases with a high significance level (p = 0.058) in the bad debt case, (p = 0.009) in the construction case and (p = 0.002) in the inventory case.

These results support hypotheses 1, 2 and 4. As predicted in hypotheses 3 and 5, the MANOVA shows: a significant culture x accountability interaction (F = 4.82, p = 0.000) in the bad debt case, the construction case (F = 6.49, p = 0.000), and the inventory case (F = 4.34, p = 0.001); a significant culture x knowledge interaction (F = 1.32, p = 0.058) in the bad debt case, the construction case (F = 1.63, p = 0.009), and the inventory case (F = 1.89, p = 0.002); and a significant fraud/error risk x culture in the bad debt case (F = 5.03, p = 0.000), the construction case (F = 7.46, p = 0.000) and the inventory case (F = 5.19, p = 0.000). The results shown in Table 6 are consistent with the expectations.
<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
<th>Df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
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<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraud/error risk</td>
<td>1</td>
<td>132.93</td>
<td>132.93</td>
<td>132.15</td>
<td>0.000</td>
<td>1</td>
<td>99.17</td>
<td>99.17</td>
<td>94.01</td>
<td>0.000</td>
<td>1</td>
<td>102.66</td>
<td>102.66</td>
<td>81.06</td>
<td>0.000</td>
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<tr>
<td>Culture</td>
<td>1</td>
<td>1.74</td>
<td>1.74</td>
<td>1.73</td>
<td>0.095</td>
<td>1</td>
<td>15.11</td>
<td>15.11</td>
<td>14.32</td>
<td>0.000</td>
<td>1</td>
<td>6.36</td>
<td>6.36</td>
<td>5.02</td>
<td>0.013</td>
</tr>
<tr>
<td>Accountability</td>
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<td>0.16</td>
<td>0.16</td>
<td>0.16</td>
<td>0.344</td>
<td>1</td>
<td>1.92</td>
<td>1.92</td>
<td>1.87</td>
<td>0.089</td>
<td>1</td>
<td>0.47</td>
<td>0.47</td>
<td>0.37</td>
<td>0.272</td>
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<tr>
<td>Knowledge</td>
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<td>14.64</td>
<td>2.44</td>
<td>2.43</td>
<td>0.013</td>
<td>6</td>
<td>25.42</td>
<td>4.24</td>
<td>4.02</td>
<td>0.001</td>
<td>6</td>
<td>11.05</td>
<td>1.84</td>
<td>1.45</td>
<td>0.097</td>
</tr>
<tr>
<td>Fraud/error risk*Accountability</td>
<td>1</td>
<td>10.57</td>
<td>10.57</td>
<td>10.51</td>
<td>0.001</td>
<td>1</td>
<td>3.18</td>
<td>3.18</td>
<td>3.01</td>
<td>0.042</td>
<td>1</td>
<td>0.23</td>
<td>0.23</td>
<td>0.18</td>
<td>0.335</td>
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<tr>
<td>Culture*Accountability</td>
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<td>6.04</td>
<td>6.04</td>
<td>6.00</td>
<td>0.007</td>
<td>1</td>
<td>2.99</td>
<td>2.99</td>
<td>2.83</td>
<td>0.094</td>
<td>1</td>
<td>8.85</td>
<td>8.85</td>
<td>6.99</td>
<td>0.004</td>
</tr>
<tr>
<td>Accountability*Knowledge</td>
<td>6</td>
<td>7.16</td>
<td>1.19</td>
<td>1.19</td>
<td>0.157</td>
<td>6</td>
<td>5.33</td>
<td>0.89</td>
<td>0.84</td>
<td>0.269</td>
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<td>3.80</td>
<td>0.63</td>
<td>0.50</td>
<td>0.404</td>
</tr>
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<td>Fraud/error risk*Culture</td>
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<td>2.45</td>
<td>2.45</td>
<td>2.44</td>
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<td>1</td>
<td>16.20</td>
<td>16.20</td>
<td>15.36</td>
<td>0.000</td>
<td>1</td>
<td>5.51</td>
<td>5.51</td>
<td>4.35</td>
<td>0.019</td>
</tr>
<tr>
<td>Fraud/error risk*Knowledge</td>
<td>6</td>
<td>6.01</td>
<td>1.00</td>
<td>1.00</td>
<td>0.214</td>
<td>6</td>
<td>6.71</td>
<td>1.12</td>
<td>1.06</td>
<td>0.193</td>
<td>6</td>
<td>9.94</td>
<td>1.66</td>
<td>1.31</td>
<td>0.127</td>
</tr>
<tr>
<td>Culture*Knowledge</td>
<td>6</td>
<td>10.63</td>
<td>1.77</td>
<td>1.76</td>
<td>0.054</td>
<td>6</td>
<td>4.88</td>
<td>0.81</td>
<td>0.77</td>
<td>0.296</td>
<td>6</td>
<td>6.67</td>
<td>1.11</td>
<td>0.88</td>
<td>0.255</td>
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<td>Error</td>
<td>238</td>
<td>239.42</td>
<td>1.01</td>
<td>238</td>
<td>251.05</td>
<td>1.06</td>
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<td>301.41</td>
<td>1.27</td>
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</table>

### Simple Effects and Pairwise Comparison - two-tailed

#### Panel B

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<tr>
<th>Accountability</th>
</tr>
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<tbody>
<tr>
<td>High Accountability</td>
</tr>
<tr>
<td>High vs. low risk of fraud &amp; error</td>
</tr>
<tr>
<td>Low Accountability</td>
</tr>
<tr>
<td>High vs. low risk of fraud &amp; error</td>
</tr>
</tbody>
</table>

### Panel C

<table>
<thead>
<tr>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian culture</td>
</tr>
<tr>
<td>High vs. low risk of fraud &amp; error</td>
</tr>
<tr>
<td>Egyptian culture</td>
</tr>
<tr>
<td>High vs. low risk of fraud &amp; error</td>
</tr>
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### Table 7  Results of ANOVA - Dependent: Perceived fraud risk – Continued

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<thead>
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<th>MS</th>
<th>F</th>
<th>Sig</th>
<th>Df</th>
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<th>Sig</th>
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<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel D</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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NS - no significant interaction.

*knowledge scores above the mean (9.6) are considered high, however, knowledge scores below the mean are considered low. This made the analysis is more manageable.

R Squared = 0.508 for bad debt case; 0.454 for construction case and 0.387 for inventory case.
Table 8  Results of ANOVA - Dependent: Perceived error risk

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Simple Effects and Pairwise Comparison - two-tailed

Panel B

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Panel C

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Panel D

Australian group

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Egyptian group

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**Results of ANOVA - Dependent: Perceived error risk – Continued**

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NS - no significant interaction

R Squared = 0.289 for bad debt case; 0.298 for construction case and 0.248 for inventory case.
Table 9 ANOVA - Dependent: Distrust

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Simple Effects and Pairwise Comparison – two-tailed

Panel B

High Accountability

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Panel C

Australian group

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Egyptian group

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Panel D

Australian group

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Egyptian group

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* Sensitivity test was undertaken and accordingly, no post hoc undertaken because the interaction was not significant when knowledge classified as high and low.
Table 9  ANOVA - Dependent: Professional scepticism (distrust) – Continued

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R Squared = 0.226 for bad debt case; 0.405 for construction case and 0.234 for inventory case.
Table 10  ANOVA - Dependent: non-confrontational audit procedures

| Source of variation | Bad debt | | | Construction | | | Inventory | | |
|---------------------|---------|---------|---------|-------------|---------|---------|-------------|---------|
|                     | Df      | SS      | MS      | F       | Sig     | Df      | SS      | MS      | F       | Sig     | Df      | SS      | MS      | F       | Sig     |
| Fraud/error risk    | 1       | 11.29   | 11.29   | 15.94   | 0.000   | 1       | 14.38   | 14.38   | 21.84   | 0.000   | 1       | 3.38    | 3.38    | 5.30    | 0.011   |
| Culture             | 1       | 21.23   | 21.23   | 29.98   | 0.000   | 1       | 8.73    | 8.734   | 13.27   | 0.000   | 1       | 12.12   | 12.12   | 19.01   | 0.000   |
| Accountability      | 1       | 16.94   | 16.94   | 23.93   | 0.000   | 1       | 17.18   | 17.18   | 26.09   | 0.000   | 1       | 17.87   | 17.87   | 28.03   | 0.000   |
| Knowledge           | 6       | 2.74    | 0.46    | 0.64    | 0.347   | 6       | 4.82    | 0.80    | 1.22    | 0.148   | 6       | 6.30    | 1.05    | 1.65    | 0.067   |
| Fraud/error risk*Accountability | 1 | 9.15 | 9.15 | 12.93 | 0.000 | 1 | 16.77 | 16.77 | 25.47 | 0.000 | 1 | 13.50 | 13.50 | 21.18 | 0.000 |
| Culture*Accountability | 1 | 1.33 | 1.33 | 1.88 | 0.086 | 1 | 0.84 | 0.84 | 1.28 | 0.129 | 1 | 0.67 | 0.67 | 1.05 | 0.153 |
| Accountability*Knowledge | 6 | 10.61 | 1.77 | 2.50 | 0.011 | 6 | 8.91 | 1.49 | 2.26 | 0.019+ | 6 | 6.80 | 1.13 | 1.78 | 0.052+ |
| Fraud/error risk*Culture | 1 | 1.16 | 1.16 | 1.63 | 0.100 | 1 | 2.19 | 2.19 | 3.32 | 0.035 | 1 | 6.36 | 6.36 | 9.97 | 0.001 |
| Fraud/error risk*Knowledge | 6 | 1.13 | 0.19 | 0.27 | 0.476 | 6 | 1.57 | 0.26 | 0.40 | 0.440 | 6 | 5.57 | 0.93 | 1.46 | 0.097+ |
| Culture*Knowledge | 6 | 7.48 | 1.25 | 1.76 | 0.054+ | 6 | 7.24 | 1.21 | 1.83 | 0.046+ | 6 | 4.59 | 0.77 | 1.20 | 0.153 |
| Error               | 238     | 168.52  | 0.71    |       |        | 238     | 156.68  | 0.66    |       |        | 238     | 151.74  | 0.64    |       |        |

Simple Effects and Pairwise Comparison - two-tailed

Panel B

High Accountability
High vs. low risk of fraud & error | 1 | 0.37 | 0.37 | 0.45 | 0.501 | 1 | 0.19 | 0.19 | 0.20 | 0.608 | 1 | 0.07 | 0.07 | 0.09 | 0.770 |

Low Accountability
High vs. low risk of fraud & error | 1 | 28.09 | 28.09 | 34.46 | 0.000 | 1 | 43.13 | 43.13 | 59.41 | 0.000 | 1 | 30.50 | 30.50 | 39.35 | 0.000 |

Panel C

Australian group
High vs. low risk of fraud & error | 1 | 16.35 | 16.35 | 18.26 | 0.000 | 1 | 23.33 | 23.33 | 26.32 | 0.000 | 1 | 22.17 | 22.17 | 25.79 | 0.000 |

Egyptian group
High vs. low risk of fraud & error | 1 | 4.97 | 4.97 | 5.56 | 0.019 | 1 | 6.14 | 6.14 | 6.93 | 0.009 | 1 | 0.74 | 0.74 | 0.86 | 0.356 |

+ Sensitivity test was undertaken and accordingly, no post hoc undertaken because the interaction was not significant when knowledge classified as high and low.
### Table 10  ANOVA - Dependent: Professional scepticism (non-confrontational audit procedures) – Continued

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NS - no significant interaction.

R Squared = 0.395 for bad debt case; 0.422 for construction case and 0.445 for inventory case.
Table 11 Results of ANOVA - Dependent: Confrontational audit procedures

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Simple Effects and Pairwise Comparison - two-tailed

Panel B

High Accountability

High vs. low risk of fraud & error
1 1.20 1.20 1.50 0.221 1 0.03 0.03 0.04 0.838 1 0.17 0.17 0.18 0.668

Low Accountability

High vs. low risk of fraud & error
1 19.72 19.72 24.75 0.000 1 25.76 25.76 33.62 0.000 1 25.06 25.06 27.71 0.000

Panel C

Australian group

High vs. low risk of fraud & error
1 20.09 20.09 22.57 0.000 1 18.32 18.32 21.80 0.000 NS NS NS NS NS NS

Egyptian group

High vs. low risk of fraud & error
1 1.39 1.39 1.57 0.212 1 1.08 1.08 1.29 0.257 NS NS NS NS NS NS

Panel D

Australian group

High vs. low Accountability
NS NS NS NS NS 1 6.93 6.96 8.76 0.003 1 3.26 3.26 3.38 0.067

Egyptian group

High vs. low Accountability
NS NS NS NS NS 1 25.55 25.55 32.29 0.000 1 19.10 19.10 19.81 0.000
Table 11  Results of ANOVA - Dependent: Confrontational audit procedures – *Continued*

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</table>

NS - no significant interaction.

R Squared = 0.285 for bad debt case; 0.410 for construction case and 0.326 for inventory case.
Table 12  Comparison between Australian and Egyptian auditors

t-test for professional scepticism

<table>
<thead>
<tr>
<th></th>
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<th>Egypt</th>
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<tr>
<td>Perceived error risk</td>
<td>146</td>
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<td>Distrust</td>
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<tr>
<td>Non-confrontational</td>
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<td>audit procedures</td>
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<tr>
<td>Panel B: Construction</td>
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<td>audit procedures</td>
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<td>Panel C: Inventory</td>
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<tr>
<td>Perceived fraud risk</td>
<td>146</td>
<td>4.32</td>
<td>1.37</td>
</tr>
<tr>
<td>Perceived error risk</td>
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<td>1.34</td>
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<tr>
<td>Distrust</td>
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<td>Confrontational</td>
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</table>

Tables 7 to 11 present ANOVAs for hypotheses 1, 2, 3 and 5. Table 12 reports the t

test results for hypothesis 4. Each hypothesis is tested 15 times as there are three
different cases and five different surrogates for scepticism, namely perceived fraud
Hypothesis 1 states that professional scepticism will be higher when the risk of fraud and error is high compared to when the risk of fraud and error is low. The hypothesis is supported. The risk of fraud and error is significant in the MANOVA and in 15 out of 15 times for the ANOVAs. This suggests that the risk of fraud and error increases professional scepticism.

Hypothesis 2 states that there is a positive relationship between accountability and professional scepticism. The hypothesis is supported. Accountability is significant in the MANOVA and in 11 out of 15 times for the ANOVAs.

Hypothesis 3 states that Culture moderates the relationship between accountability and professional scepticism. Egyptian auditors will be more sceptical than Australian auditors when accountability is high. The hypothesis is supported in general. Culture moderates the relationship between accountability and professional scepticism in the MANOVA and in 10 out of 15 times for the ANOVAs.

Hypothesis 4 states that Professional scepticism will differ between cultures (Egyptian auditors will be more sceptical than Australian auditors with regard to perceived fraud risk, perceived error risk, distrust, non-confrontational audit procedures and less sceptical in relation to confrontational audit procedure). The hypothesis is supported in general. The difference between Australian auditors and Egyptian auditors are significant in 8 out of 15 times (see Tables 12).

Hypothesis 5 states that Culture moderates the relation between audit knowledge and professional scepticism. (Egyptian auditors will exhibit a much lower confrontational
audit process relative to Australian auditors in the high knowledge group than in the low knowledge group). The hypothesis is supported in general. Culture moderates the relation between audit knowledge and professional scepticism in the MANOVA in all cases and in 8 out of 15 times for the ANOVAs as shown by the interaction between knowledge and culture. The implication of looking at greater detail and getting a less clear result suggests this more complex than first thought.

Having completed the overview of the results in terms of their implications for the five hypotheses, the analysis will now focus on each of the five measures of scepticism in turn and will analyse the findings in relation to each of them.

1. The risk of fraud and error

Hypothesis 1

Hypothesis 1 states that professional scepticism will be higher when the risk of fraud and error is high compared to when the risk of fraud and error is low.

Hypothesis 1 is tested by asking auditors to assess fraud risk and error risk on a scale from 1 to 7 (where 1 represents low fraud risk and low error risk and 7 represents high fraud risk and high error risk). The hypothesis is confirmed in general as shown in Table 13. Differences in professional scepticism are expected as a result of the levels of the risk of fraud and error for auditors in both Egypt and Australia. When the risk of fraud and error are high, the auditors’ professional scepticism is higher in both Egypt and Australia.

Professional scepticism (perceived fraud risk)

Panel A of Table 13 summarises the results of the ANOVAs for the risk of fraud and error. The table shows a significant relationship between the risk of fraud and error
on professional scepticism (perceived fraud risk) in the bad debt case ($F = 132.15$, $p = 0.000$), the construction case ($F = 94.01$, $p = 0.000$) and the inventory case ($F = 81.06$, $p = 0.000$). Post hoc tests are used to see which levels of the independent variable contributed to such significant results. Professional scepticism (perceived fraud risk) is higher when the risk of fraud and error is high than when that risk is low in the bad debt case ($M = 5.1$ vs. $3.4$), the construction case ($M = 4.8$ vs. $3.4$) and the inventory case ($M = 5.1$ vs. $M = 3.6$).
Table 13  Summary of ANOVA and Post hoc tests for the risk of fraud and error

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Perceived fraud risk</th>
<th>Perceived error risk</th>
<th>Distrust</th>
<th>Non-confrontational audit procedures</th>
<th>Confrontational audit procedures</th>
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<td>Fraud/error risk</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>Fraud/error risk*Accountability</td>
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<td>Fraud/error risk*Culture</td>
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<td>Panel B</td>
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<td>High Accountability</td>
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<td>High vs. Low risk of fraud &amp; error</td>
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<td>High vs. Low risk of fraud &amp; error</td>
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<td>NS</td>
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<td>0.001</td>
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<td>Panel C</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.001</td>
</tr>
</tbody>
</table>

BD = Bad debt case  
CO = Construction case  
IN = Inventory case  
NS - The interaction was not significant. This item did not display a significant relationship in the previous statistical analysis (ANOVA) and will thus not be subjected to further analysis.  
Panel A summarises the relevant information from tables 7 to 11.
In addition, Panel A of Table 13 and Figures 1 and 2 illustrate that the risk of fraud and error moderates the relationship between accountability and professional scepticism (perceived fraud risk) in the bad debt case ($F = 10.51, p = 0.001$) and the construction case ($F = 3.01, p = 0.042$) but not in the inventory case ($F = 0.18, p = 0.335$). As shown in Panel B of Table 13, Bonferroni post hoc comparison tests\textsuperscript{43} show that the influence of the risk of fraud and error risk on professional scepticism (perceived fraud risk) is significant when accountability is high in the bad debt case ($F = 124.59, p = 0.000$) and the construction case ($F = 71.93, p = 0.000$) and when accountability is low in the bad debt case ($F = 55.64, p = 0.000$) and the construction case ($F = 40.87, p = 0.000$). In the bad debt case, professional scepticism (perceived fraud risk) is significantly different between high risk of fraud and error ($M = 4.9$) and low risk of fraud and error ($M = 3.6$) when accountability is low. Similarly, there is a significant difference between the high risk of fraud and error case ($M = 5.3$) and the low risk of fraud and error case ($M = 3.3$) when accountability is high. With respect to the construction case, professional scepticism (perceived fraud risk) is significantly different between high risk of fraud and error ($M = 4.6$) and low risk of fraud and error ($M = 3.4$) when accountability is low. In addition, professional scepticism (perceived fraud risk) is significantly different between the high risk of fraud and error condition ($M = 5.1$) and the low risk of fraud and error condition ($M = 3.5$) when accountability is high.

\textsuperscript{43} The Bonferroni adjustment is preferred for unequal sample size and to control for Type 1 errors (Doupnik & Richter, 2003).
Figure 1  Bad debt case – interaction between accountability and the risk of fraud and error (perceived fraud risk)

![Figure 1 - Bad debt case](image1)

Figure 2  Construction case - interaction between accountability and the risk of fraud and error (perceived fraud risk)

![Figure 2 - Construction case](image2)
In addition, panel A of Table 13 and Figures 3 to 5 demonstrate that the relationship between the risk of fraud and error and professional scepticism (perceived fraud risk) is dependent on culture in the bad debt case (F = 2.44, p = 0.060), the construction case (F = 15.36, p = 0.000) and the inventory case (F = 4.35, p = 0.019). Panel C of Table 13 reveals that the effect of the risk of fraud and error on professional scepticism (perceived fraud risk) is significant for both Australian and Egyptian auditors in the bad debt case (F = 79.66, p = 0.000), (F = 92.25, p = 0.000); the construction case (F = 32.89, p = 0.000), (F = 98.10, p = 0.000); and the inventory case (F = 43.79, p = 0.000), (F = 71.51, p = 0.000) respectively. Post hoc tests show that there are significant differences in professional scepticism (perceived fraud risk) between the high and low risk of fraud conditions in the Australian group (M = 5.1 vs. M = 3.5) and the Egyptian group (M = 5.2 vs. M = 3.4) in the bad debt case. A similar result is found in the construction case and the inventory case. That is, the average level of professional scepticism (perceived fraud risk) in the construction case is significantly different between the high and low risk of fraud and error conditions in the Australian group (M = 4.5 vs. M = 3.4) and the Egyptian group (M = 5.3 vs. M = 3.4). In the inventory case, professional scepticism (perceived fraud risk) is significantly different between the high and low risk of fraud and error conditions in both the Australian (M = 4.9 vs. M = 3.6) and the Egyptian group (M = 5.3 vs. M = 3.6). These results indicate that the risk of fraud and error moderates the relationship between culture and professional scepticism (perceived fraud risk).
Figure 3  Bad debt case – interaction between culture and the risk of fraud and error (perceived fraud risk)

Figure 4  Construction case – interaction between culture and the risk of fraud and error (perceived fraud risk)
Panel A of Table 13 reports the result of the ANOVA for professional scepticism (perceived error risk). The results indicate that a significant relationship exists between the risk of fraud and error and professional scepticism (perceived error risk) for the bad debt case \((F = 46.35, p = 0.000)\), the construction case, \((F = 43.14, p = 0.000)\), and the inventory case, \((F = 28.55, p = 0.000)\). Perceived error risk is higher when the risk of fraud and error is high in the bad debt case \((M = 5.4 \text{ vs. } M = 4.5)\), the construction case \((M = 5.1 \text{ vs. } M = 4.2)\) and the inventory case \((M = 5.4 \text{ vs. } M = 4.6)\). In addition, the level of professional scepticism (perceived error risk) is dependent on the interaction between the risk of fraud and error and accountability in the bad debt case \((F = 3.06, p = 0.040)\), the construction case \((F = 1.77, p = 0.092)\) but not in the inventory case \((F = 0.37, p = 0.273)\) (see panel A of Table 13 and
Figures 6 and 7). A post hoc test on the interaction between the risk of fraud and error and accountability shows that the influence of the risk of fraud and error on professional scepticism (perceived error risk) is significant when accountability is high in the bad debt case (F = 11.37, p = 0.001) and in the construction case (F = 11.13, p = 0.001), and when accountability is low in the bad debt case (F = 36.14, p = 0.000) and in the construction case (F = 25.97, p = 0.000) (see panel B of Table 13). The effect of the risk of fraud and error on professional scepticism (perceived error risk) is significantly different when accountability is high rather than low in the bad debt case, (M = 5.4 vs. M = 4.8), (M = 5.4 vs. M = 4.2) and in the construction case (M = 5.1 vs. 4.3), (M = 5.2 vs. M = 4.0), respectively.

**Figure 6  Bad debt case – interaction between accountability and the risk of fraud and error (perceived error risk)**
The relationship between professional scepticism (perceived error risk) and culture is dependent on whether the risk of fraud and error is high or low in the bad debt case ($F = 8.84, p = 0.001$), the construction case ($F = 14.65, p = 0.000$), and the inventory case ($F = 2.54, p = 0.056$). Panel C of Table 13 and Figures 8 to 10 reveal that the effect of risk of fraud and error on professional scepticism (perceived error risk) is significant for Australian auditors and for Egyptian auditors in the bad debt case ($F = 10.29, p = 0.002$), ($F = 42.52, p = 0.000$), the construction case ($F = 6.55, p = 0.011$), ($F = 39.91, p = 0.000$), and the inventory case ($F = 9.11, p = 0.003$), ($F = 17.20, p = 0.000$). This suggests that professional scepticism (perceived error risk) is significantly different between the high risk of fraud and error and low risk of fraud and error conditions in both Australia and Egypt. Post hoc tests indicate that the mean of professional scepticism (perceived error risk) is significantly different between high and low risk of fraud and error for the Australian group in the bad debt
case (M = 5.1 vs. M = 4.6) and for the Egyptian group (M = 5.7 vs. 4.4) in the construction case (M = 4.8 vs. M = 4.2), (M = 5.5 vs. M = 4.1) and in the inventory case (M = 5.3 vs. M = 4.7), (M = 5.6 vs. M = 4.6).

Figure 8  Bad debt case – interaction between culture and the risk of fraud and error (perceived error risk)
Figure 9  Construction case – interaction between culture and the risk of fraud and error (perceived error risk)

Figure 10  Inventory case – interaction between culture and the risk of fraud and error (perceived error risk)
Panel A of Table 13 and Figures 11 and 12 report the results of the ANOVAs for the risk of fraud and error and professional scepticism (distrust). The main effect of the risk of fraud and error on professional scepticism (distrust) is significant in the bad debt case ($F = 13.22, p = 0.000$), the construction case ($F = 12.27, p = 0.001$), and the inventory case ($F = 8.20, p = 0.002$). Professional scepticism (distrust) is higher when the risk of fraud and error is high in the bad debt case ($M = 4.8$ vs. $M = 4.3$), the construction case ($M = 4.3$ vs. $M = 3.8$) and the inventory case ($M = 4.9$ vs. $M = 4.7$). In addition, the level of professional scepticism (distrust) is affected by the interaction between the risk of fraud and error risk and accountability in the bad debt case ($F = 2.84, p = 0.046$) and in the inventory case only ($F = 4.38, p = 0.018$). Post hoc tests reported in Panel B of Table 13 reveal that the impact of the risk of fraud and error on professional scepticism (distrust) is significant when accountability is low in the bad debt case ($F = 11.98, p = 0.001$) and in the inventory case ($F = 4.85, p = 0.029$) but not when accountability is high in the bad debt case ($F = 0.57, p = 0.449$) and the inventory ($F = 0.87, p = 0.351$). The mean of professional scepticism (distrust) is significantly different between high and low risk of fraud and error when accountability is low ($M = 4.7$ vs. $M = 3.9$) in the bad debt case and in the inventory case ($M = 5.2$ vs. $M = 4.3$). This means that the risk of fraud and error affects professional scepticism (distrust) only when accountability is low.
Figure 11  Bad debt case – interaction between accountability and the risk of fraud and error (distrust)

Figure 12  Inventory case – interaction between accountability and the risk of fraud and error (distrust)
In addition, the level of professional scepticism (distrust) is dependent on both the risk of fraud and error levels and on whether auditors are from Egypt or Australia. This means that the risk of fraud and error moderates the relationship between professional scepticism (distrust) and culture. Panel A of Table 13 reports a significant interaction between the risk of fraud and error and culture in the bad debt case (F = 6.65, p = 0.005), the construction case (F = 14.61, p = 0.000), and the inventory case (F = 6.73, p = 0.005). The effect of the risk of fraud and error on professional scepticism (distrust) in the Egyptian group is significant in the bad debt case (F = 12.29, p = 0.001), the construction case (F = 22.60, p = 0.000) and the inventory case (F = 2.74, p = 0.099). This effect is not significant in the Australian group. Thus, the effect of the risk of fraud and error on professional scepticism (distrust) is only significant for the Egyptian auditors (see panels C of Table 13 and Figures 13 to 15). The mean of professional scepticism (distrust) is significantly different between the high and low risk of fraud and error conditions in the Egyptian group in the bad debt case (M = 5.0 vs. M = 4.2), the construction case (M = 5.1 vs. M = 4.0) and the inventory case (M = 5.0 vs. M = 4.6). It seems that when the risk of fraud and error is high, Egyptian auditors are less likely to trust senior managements’ explanations. On the other hand, Australian auditors are likely to trust senior managements’ explanations regardless of the level of the risk of fraud and error. The mean of professional scepticism (distrust) is not significantly different between the high and low risk of fraud and error conditions in the Australian group in the bad debt case (M = 4.6 vs. M = 4.4), the construction case (M = 3.7 vs. M = 3.7) and the inventory case (M = 4.8 vs. M = 4.8). This result supports prior literature that has found trust differs from culture to culture. For example, in collectivist societies such as Asian and the Middle Eastern culture groups, relationships are very close and
stable and it is unlikely that people will accept alternative relationships (Yamagishi et al., 1999; Takahashi et al., 2008). Therefore, individuals in collectivist societies trust only the in-group members even if there is unequal treatment between the group members (Yamagishi et al., 1999; Takahashi et al., 2008). People trust their group, family, and relatives. Trusting outsiders is not easy; it takes a long time to gain that trust. In the work environment, therefore, individuals trust each other and their relationship with their customers are based on that trust. Yamagishi et al. (1999) cited in Voronov & Singer (2002) states:

> How big an advantage in-group favouritism provides is a positive function of the degree to which social relations are closed to the outsiders. When most relationships are closed to the outsiders, it is in the member’s own self-interest not to exploit partners in continuing relations in search of short-term quick profits because it is hard to find alternative relations to turn to after the collapse of the current relationship. In-group favouritism is thus more commonly practiced in a society characterized by relations closed to outsiders. And thus, the group heuristics or expectations of such reciprocal in-group favouritism are expected to be more strongly shared by people who have been raised and are living in such a social environment than those who live in a social environment characterized by relations open to outsiders. (p. 322)

In contrast, in Western nations such as the UK, the US and Australia, trust is extended beyond the in-group. For example, a loving relationship can be built between two strangers and even between two people from different cultures (Gergen & Gergen, 1995). Some researcher has concluded that the level of trust in the individualist societies is very high (e.g., Huff & Kelley, 2005).
Figure 13  Bad debt case – interaction between culture and the risk of fraud and error (distrust)

Figure 14  Construction case – interaction between culture and the risk of fraud and error (distrust)
Panel A of Table 13 indicates that the risk of fraud and error impacts on professional scepticism (non-confrontational audit procedures). According to Table 13 there is a significant effect for the risk of fraud and error on professional scepticism (non-confrontational audit procedures) in the bad debt case ($F = 15.94$, $p = 0.000$), the construction case ($F = 21.84$, $p = 0.000$), and the inventory case ($F = 5.30$, $p = 0.011$). Non-confrontational audit procedures are rated as more important when the risk of fraud and error is high compared to low in the bad debt case ($M = 5.5$ vs. $M = 4.9$), the construction case ($M = 5.6$ vs. $M = 4.9$) and the inventory case ($M = 5.4$ vs. $M = 4.9$). The results also indicate that there is a significant interaction between the risk of fraud and error and accountability in the bad debt case ($F = 12.93$, $p = 0.000$), the construction case ($F = 25.47$, $p = 0.000$) and the inventory case ($F = 21.18$, $p = 0.000$). In other words, the relationships between accountability and professional scepticism (non-confrontational audit procedures)
scepticism (non-confrontational audit procedures) depend on the level of the risk of fraud and error. Post hoc tests reveal that the impact of the risk of fraud and error on professional scepticism (non-confrontational audit procedures) is significant when accountability is low in the bad debt case ($F = 34.46, p = 0.000$), the construction case ($F = 59.41, p = 0.000$) and the inventory case ($F = 39.35, p = 0.000$). However, such significant relationships do not exist when accountability is high (see Table 13 Panel B and Figures 16 to 18). In other words, professional scepticism (non-confrontational audit procedures) is affected by a high vs. low risk of fraud and error when accountability is low in the bad debt case ($M = 5.3$ vs. $M = 4.4$), the construction case ($M = 5.5$ vs. $M = 4.3$) and the inventory case ($M = 5.5$ vs. $M = 4.3$).

**Figure 16 Bad debt case – interaction between accountability and the risk of fraud and error (non-confrontational audit procedures)**
Figure 17  Construction case – interaction between accountability and the risk of fraud and error (non-confrontational audit procedures)

Figure 18  Inventory case – interaction between accountability and the risk of fraud and error (non-confrontational audit procedures)
The relationship between the two cultures and professional scepticism (non-confrontational audit procedures) is also dependent on the levels of the risk of fraud and error. That is, the risk of fraud and error risk moderates the relationship between the culture and professional scepticism (non-confrontational audit procedures) in the bad debt case ($F = 1.63, p = 0.100$), the construction case ($F = 3.32, p = 0.035$) and the inventory case ($F = 9.97, p = 0.001$). Panel C of Table 13 and Figures 19 to 21 indicate that the influence of the risk of fraud and error on professional scepticism (non-confrontational audit procedures) is significant for the Australian group in the bad debt case ($F = 18.26, p = 0.000$), the construction case ($F = 26.32, p = 0.000$) and the inventory case ($F = 25.79, p = 0.000$). Such a relationship is also significant for the Egyptian group in the bad debt case ($F = 5.56, p = 0.019$), and the construction case ($F = 6.93, p = 0.009$), but not in the inventory case. Professional scepticism (non-confrontational audit procedures) is higher when the risk of fraud and error is higher for the Australian group and the Egyptian group in the bad debt case ($M = 5.3$ vs. $M = 4.6$), ($M = 5.7$ vs. $M = 5.3$) and the construction case ($M = 5.5$ vs. $M = 4.7$), ($M = 5.7$ vs. $M = 5.2$), respectively. However, in the inventory case the professional scepticism (non-confrontational audit procedures) score is higher when the risk of fraud and error is higher for the Australian group ($M = 5.3$ vs. $M = 4.5$) but not for the Egyptian group. However, Egyptian auditors rate non-confrontational audit procedures as more important (more sceptical) regardless of the levels of the risk of fraud and error ($M = 5.6$ vs. $M = 5.4$). Also see table 12. This may indicate that Egyptian auditors consider the inventory case more risky than Australian auditors.
Figure 19  Bad debt case – interaction between culture and the risk of fraud and
error (non-confrontational audit procedures)

Figure 19 - Bad debt case

Figure 20  Construction case – interaction between culture and the risk of fraud
and error (non-confrontational audit procedures)

Figure 20 - Construction case
Figure 21 Inventory case – interaction between culture and the risk of fraud and error (non-confrontational audit procedures)

**Professional scepticism (confrontational audit procedures)**

Panel A of Table 13 and Figures 22 to 24 report that the level of risk of fraud and error impact on the importance of confronting senior management. That is, auditors may consider it important to confront senior management when fraud/error risk is high. The main effect of the risk of fraud and error on professional scepticism (confrontational audit procedures) is significant in the bad debt case ($F = 9.66, p = 0.001$), the construction case ($F = 10.03, p = 0.001$) and the inventory case ($F = 12.51, p = 0.000$). The importance of confrontation is rated higher when the risk of fraud and error is higher in the bad debt case ($M = 5.0$ vs. $M = 4.5$), the construction case ($M = 5.2$ vs. $M = 4.7$) and the inventory case ($M = 5.1$ vs. $M = 4.6$). The table also reports a significant interaction between the risk of fraud and error and accountability in the bad debt case ($F = 5.60, p = 0.009$), the construction case ($F = 10.03, p = 0.001$) and the inventory case ($F = 12.51, p = 0.000$).
13.43, p = 0.000) and the inventory case (F = 11.08, p = 0.001). This result indicates that the relationship between accountability and professional scepticism (confrontational audit procedures) is dependent on the risk of fraud and error. Panel B of Table 13 indicates that such a relationship is significant only when accountability is low in the bad debt case (F = 24.75, p = 0.000), the construction case (F = 33.62, p = 0.000) and the inventory case (F = 27.71, p = 0.000). However, a significant relationship does not exist when accountability is high. Post hoc tests show that the means of professional scepticism (confrontational audit procedures) are significantly different between high and low risk of fraud and error only when accountability is low in the bad debt case (M = 4.8 vs. M = 4.0), the construction case (M = 5.1 vs. M = 4.2) and the inventory case (M = 5.0 vs. M = 4.2). This result indicates that high risk of fraud and error makes auditors rate the importance of confrontational audit procedures higher regardless of accountability levels.
Figure 22  Bad debt case – interaction between accountability and the risk of fraud and error (confrontational audit procedures)

Figure 22 - Bad debt case

Figure 23  Construction case – interaction between accountability and the risk of fraud and error (confrontational audit procedures)

Figure 23 - Construction case
In addition, the relationship between the risk of fraud and error and professional scepticism (confrontational audit procedures) is affected by culture in the bad debt case ($F = 4.78$, $p = 0.015$) and the construction case ($F = 4.96$, $p = 0.013$) but not in the inventory case. This suggests that, the variance in professional scepticism (confrontational audit procedures) is at least partly due to the differences in reactions to different levels of risk of fraud and error between the two cultures. Panel C of Table 13 and Figures 25 and 26 reveal that the effects on the level of the risk of fraud and error on professional scepticism (confrontational audit procedures) is significant for the Australian group only in the bad debt case ($F = 22.57$, $p = 0.000$) and the construction case ($F = 21.80$, $p = 0.000$). Confrontational audit procedures are rated as more important for the Australian group when the risk of fraud and error is higher in the bad debt case ($M = 5.1$ vs. $M = 4.4$) and the construction case ($M = 5.5$ vs. $M = 5.0$).
= 4.8). The importance of confrontation is low for the Egyptian group and is not significantly different when the risk of fraud and error is high or low in the bad debt case (M = 4.8 vs. M = 4.5) and the construction case (M = 4.8 vs. M = 4.6). This indicates that Australian auditors have rated confrontational audit procedures as more important response to possible risk than their Egyptian counterparts for bad debt and construction cases. These results demonstrate that differences in professional scepticism (confrontational audit procedures) are possibly partly attributable to differences in the responses to the levels of risk of fraud and error across cultures. In conclusion, while professional scepticism (confrontational audit procedures) depends on the levels of the risk of fraud and error (supporting Hypothesis 1), the level of accountability and the culture can moderate the relationship. Thus, it is reasonable to argue that there are significant relationships between the risk of fraud and error, culture, accountability and professional scepticism (confrontational audit procedures) in many cases.
Figure 25  Bad debt case – interaction between culture and the risk of fraud and error (confrontational audit procedures)

Figure 26  Construction case – interaction between culture and the risk of fraud and error (confrontational audit procedures)
2.  **Accountability and culture**

Hypothesis 2 states that there is a positive relationship between accountability and professional scepticism. Hypothesis 3 states that Culture moderates the relationship between accountability and professional scepticism (Egyptian auditors are more sceptical than Australian auditors when accountability is high).

Differences in professional scepticism are expected as a result of variations in accountability levels in both Egypt and Australia. When accountability is higher, the auditors are more sceptical in both Egypt and Australia in relation to scepticism (perceived error risk, distrust, non-confrontational audit procedures, and confrontational audit procedures) but less likely for scepticism (perceived fraud risk). Table 14 provides a summary of the results of the ANOVAs with respect to culture and accountability.
Table 14  Summary of ANOVA and Post hoc tests for Accountability

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Perceived fraud risk</th>
<th>Perceived error risk</th>
<th>Distrust</th>
<th>Non-confrontational audit procedures</th>
<th>Confrontational audit procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accountability</td>
<td>BD 0.344 0.089 0.272</td>
<td>CO 0.087 0.392 0.467</td>
<td>IN 0.001 0.000 0.000</td>
<td>BD 0.000 0.000 0.000</td>
<td>CO 0.000 0.000 0.000</td>
</tr>
<tr>
<td>Culture*Accountability</td>
<td>0.007 0.094 0.004</td>
<td>0.267 0.216 0.001</td>
<td>0.000 0.000 0.001</td>
<td>0.086 0.129 0.153</td>
<td>0.369 0.029 0.025</td>
</tr>
<tr>
<td>Panel B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High vs. low Accountability</td>
<td>0.424 0.443 0.086</td>
<td>NS NS 0.021</td>
<td>0.744 0.892 0.393</td>
<td>0.001 NS NS</td>
<td>NS 0.003 0.067</td>
</tr>
<tr>
<td>Egyptian group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High vs. low Accountability</td>
<td>0.048 0.023 0.088</td>
<td>NS NS 0.026</td>
<td>0.000 0.000 0.000</td>
<td>0.000 NS NS</td>
<td>NS 0.000 0.000</td>
</tr>
</tbody>
</table>

BD = Bad debt case  
CO = Construction case  
IN = Inventory case  
NS - No significant interaction. This item did not display a significant relationship in the previous statistical analysis (ANOVA) and will thus not be subjected to further analysis.
**Professional scepticism (perceived fraud risk)**

As reported in Panel A of Table 14, accountability does not affect the perceived level of fraud risk in the bad debt case and the inventory case. However, accountability increases professional scepticism (perceived fraud risk) in the construction case ($F = 1.82, p = 0.089$). Post hoc tests show that when accountability is high, professional scepticism (perceived fraud risk) is higher ($M = 4.3$) than when accountability is low ($M = 4.0$) in the construction case. This may be because the construction industry is more complex or volatile, and requires specialised knowledge. Additionally, the auditors may expect more fraud in such an industry or may think that fraud is easier to achieve because of the reliance on managers’ assessment of the stage of completion.

Panel A of Table 14 and Figures 27 to 29 demonstrate that there are significant interactions between culture and accountability with respect to professional scepticism (perceived fraud risk) in the bad debt case ($F = 6.00, p = 0.007$), the construction case ($F = 2.83, p = 0.094$) and the inventory case ($F = 6.99, p = 0.004$). Thus, the level of professional scepticism (perceived fraud risk) across the different accountability levels differs between Australian and Egyptian auditors. Panel B of Table 14 indicates that the influence of accountability on professional scepticism (perceived fraud risk) is significant for the Egyptian group in the bad debt case ($F = 3.96, p = 0.048$), the construction case ($F = 5.19, p = 0.023$) and the inventory case ($F = 2.93, p = 0.088$). The only significant result for the Australian group is in the case of inventory ($F = 2.97, p = 0.086$). With respect to bad debt case, post hoc tests indicate that there is a significant difference in professional scepticism (perceived fraud risk) in high ($M = 4.6$) versus low ($M = 4.1$) accountability in the Egyptian group.
The Egyptian group is apparently more sceptical than the Australian group when accountability is high (M = 4.6 vs. M = 4.2). However, there is no significant difference between the Australian group when accountability is high (M = 4.2) or low (M = 4.4). This may be due to the fact that auditors in Egypt perceive accountability differently from auditors in Australia. It could be that Egyptian auditors (see also table 12), in a high power distance culture, consider accountability as more important than Australian auditors (low power distance).

Similarly, post hoc tests show that the Egyptian group is significantly more sceptical when accountability is high (M = 4.7) rather than low (M = 4.0) in the construction case. However, there is no significant difference between high and low accountability in the Australian group. In addition, there are no significant differences between the Australian group and the Egyptian group when accountability is low (M = 3.9 vs. M = 4.0) in the construction case.

With respect to the inventory case, post hoc tests indicate that professional scepticism scores differ between high (M = 4.7) and low (M = 4.2) accountability in the Egyptian group and high (M = 4.1) and low (M = 4.5) accountability in the Australian group. The result for the Australian culture is unexpected as in high accountability the scepticism is lower than for low accountability. It seems that Australian auditors may expect to find fraud in the inventory case and, therefore, accountability does not affect their judgment. In addition, Egyptian auditors are more sceptical than Australian auditors when accountability is high (M = 4.7 vs. M = 4.1), however, there is no significant difference between the Egyptian group and the Australian group when accountability is low (M = 4.3 vs. M = 4.5). This indicates, as in other cases, that accountability has a larger effect for Egyptian auditors than for Australian auditors.
Figure 27  Bad debt case – interaction between culture and accountability
(perceived fraud risk)

Figure 28  Construction case – interaction between culture and accountability
(perceived fraud risk)
Professional scepticism (perceived error risk)

There is no main effect for accountability on professional scepticism (perceived error risk) in the construction case ($F = 0.08, p = 0.392$) and the inventory case ($F = 0.01, p = 0.467$). However, the effect of accountability on professional scepticism (perceived error risk) is significant in the bad debt case ($F = 1.85, p = 0.087$). Post hoc tests indicate that professional scepticism (perceived error risk) is significantly higher when accountability is high ($M = 5.1$) rather than low ($M = 4.8$). This result indicates that increased accountability makes auditors more suspicious of errors especially in the bad debt case. The only significant interaction between culture and accountability (reported in panel A of Table 14 and Figure 30) is for the inventory case ($F = 10.93, p = 0.001$). Panel B of Table 14 reports that the influence of accountability on professional scepticism (perceived error risk) is significant in both
the Australian group ($F = 5.36, p = 0.021$) and the Egyptian group ($F = 5.02, p = 0.026$) in the inventory case only. Post hoc tests confirm that professional scepticism (perceived error risk) is significantly different when accountability is high comparing to low in the Australian group ($M = 4.8$ vs. $M = 5.3$) and in the Egyptian group ($M = 5.4$ vs. $M = 4.9$). In addition, Egyptian auditors are more sceptical than Australian auditors only when accountability is high ($M = 5.4$ vs. $M = 4.8$). Conversely, Australian auditors are more sceptical than Egyptian auditors when accountability is low ($M = 5.3$ vs. 4.9). This result indicates that high accountability increase professional scepticism between Egyptian auditors. In addition, the Australian group expected to find errors in the inventory case regardless of accountability levels. There are two possible explanations for the unexpected results of why professional scepticism (perceived error risk) is not affected by culture and accountability in the bad debt and construction cases. One explanation is that perceived error risk has little impact on business risk because litigation related to errors is more likely to be discharged and result in lower payments (Palmrose, 1987). However, litigation involving fraud perpetrated by senior management increases business risk because it is “most frequently resolved through payment of damages by auditors, and [they] are the primary type of cases with large auditor payments” (Palmrose, 1987, p. 102). Perceived fraud risk also increases business risk because of the likelihood that auditors may experience losses related to litigation (Palmrose, 1987). Prior researchers (Stice, 1991; Houston, et al., 1999) argue that many factors such as a high level of accounts receivable and inventory, and excessive sales increases are related to material misstatements. The second possible explanation is that that perceived errors in the financial statements would be diminished because of
technology and future demand for audits would be more related to fraud detection (Elliott, 2002).

**Figure 30 Inventory case – interaction between culture and accountability**

*(perceived fraud risk)*

![Graph showing interaction between culture and accountability](image)

**Professional scepticism (distrust)**

The level of professional scepticism is shown to be significantly affected in all case studies by the level of accountability and the country of participants. Further examination shows that the results are strongly influenced by the sensitivity of the Egyptian group to the levels of accountability and are not influenced by the Australian group. Post hoc tests reveal that when accountability is high than when accountability is low. The auditors are significantly more sceptical in the bad debt case ($M = 4.8$ vs. $M = 4.2$) the construction case ($M = 4.4$ vs. $M = 3.7$) and the inventory case ($M = 5.0$ vs. $M = 4.5$). This result supports the expectation that
holding an auditor accountable tends to increase an auditor’s level of professional scepticism (distrust).

In addition, there is significant interaction between accountability and culture in the bad debt case ($F = 17.62, p = 0.000$), the construction case ($F = 30.30, p = 0.000$) and the inventory case ($F = 9.00, p = 0.001$) (see Panel A of Table 14). This result indicates that differences in professional scepticism (distrust) depend on the level of accountability across cultures (see Figures 31 to 33). Panel B of Table 14 indicates that there is a significant effect for accountability on professional scepticism (distrust) for the Egyptian group but not for the Australian group in the bad debt case ($F = 28.80, p = 0.000$), the construction case ($F = 45.98, p = 0.000$) and the inventory case ($F = 19.85, p = 0.000$).

Post hoc tests indicate that professional scepticism (distrust) is significantly different for the Egyptian group when accountability is high in the bad debt case ($M = 5.2$ vs. $M = 4.0$) the construction case ($M = 5.3$ vs. $M = 3.8$) and the inventory case ($M = 5.3$ vs. $M = 4.3$). However, for the Australian group, high or low accountability does not affect professional scepticism (distrust) levels in the bad debt case ($M = 4.5$ vs. $M = 4.4$), the construction case ($M = 3.7$ vs. $M = 3.6$) or the inventory case ($M = 4.9$ vs. $M = 4.7$).

In addition, post hoc tests confirm that the Egyptian group ($M = 5.2$ ; $M = 5.3$ ; $M = 5.3$) is significantly more sceptical than the Australian group ($M = 4.5$ ; $M = 3.7$ ; $M = 4.9$) when accountability is high in the bad debt case, the construction case and the inventory case, respectively. This indicates that high accountability makes Egyptian auditors more sceptical than Australian auditors. This suggests that the variance in professional scepticism (distrust) is attributable to differences in responses to high
accountability in the two countries. This result supports the assumption that cultural differences impact on audit decision-making especially where auditors are accountable to their supervisors.

**Figure 31 Bad debt case – interaction between culture and accountability**

(distrust)
Figure 32 Construction case – interaction between culture and accountability
(distrust)

Figure 33 Inventory case – interaction between culture and accountability
(distrust)
**Professional scepticism (non-confrontational audit procedures)**

Panel A of Table 14 suggests that there is a significant relationship in all case studies between professional scepticism (non-confrontational audit procedures) and the level of accountability and the country of the auditor. This is applicable in the bad debt case ($F = 23.93, p = 0.000$), the construction case ($F = 26.09, p = 0.000$) and the inventory case ($F = 28.03, p = 0.000$). Post hoc tests indicate that professional scepticism (non-confrontational audit procedures) is higher when accountability is high rather than when accountability is low in the bad debt case ($M = 5.2$ vs. $M = 4.8$), the construction case ($M = 5.6$ vs. $M = 4.9$) and the inventory case $M = 5.5$ vs. $M = 4.8$). These results support Hypothesis 3. However, culture does not moderate the relationship between accountability and professional scepticism (non-confrontational audit procedures) in the construction and inventory cases, but does in the bad debt case ($F = 1.88, p = 0.086$). Panel B of Table 14 and Figure 34 indicate that the effect of accountability on professional scepticism (non-confrontational audit procedures) is significant for the Australian group ($F = 10.64, p = 0.001$) and the Egyptian group ($F = 34.22, p = 0.000$) in the bad debt case. Post hoc tests indicate that the Egyptian group is more sceptical (non-confrontational audit procedures) than the Australian group when accountability is high ($M = 6.0$ vs. $M = 5.2$) and when accountability is low ($M = 5.0$ vs. $M = 4.7$). In addition, there is a significant difference with respect to the importance of non-confrontational audit procedures of the Australian group between high and low accountability ($M = 5.2$ vs. $M = 4.7$) and a similarly in the Egyptian group ($M = 6.0$ vs. $5.0$). However, the importance of non-confrontational audit procedures is higher between the Egyptian auditors than the Australian group when accountability is high than when it is low. This result confirms that Egyptian auditors rate the importance of non-confrontational audit
procedures higher than the Australian group regardless of whether accountability is high or low.

**Figure 34  Bad debt case – interaction between culture and accountability (non-confrontational audit procedures)**

![Figure 34 - Bad debt case](image)

**Professional scepticism (confrontational audit procedures)**

Panel A of Table 14 shows that accountability increases professional scepticism (confrontational audit procedures) in the bad debt case ($F = 26.29, p = 0.000$), the construction case ($F = 26.28, p = 0.000$) and the inventory case ($F = 15.04, p = 0.000$). Therefore, Hypothesis 2, which states that culture moderates the relationship between professional scepticism and accountability, is supported. It seems that being more accountable makes auditors rate more highly the importance of confronting senior managements. Simple effects tests confirm that there is an increase in the importance of confrontation when accountability is high ($M = 5.0$; $M = 5.3$; $M = $
5.1) rather than when accountability is low (M = 4.4 ; M = 4.6 ; M = 4.6) in the bad debt case, the construction case and the inventory case.

With respect to Hypothesis 3, culture moderates the relationship between professional scepticism and accountability in the construction case (F = 3.64, p = 0.029) and the inventory case (F = 3.90, p = 0.025), but not in the bad debt case as identified in the first set of statistical analysis and in table 14 where the two significant ones are reanalysed. This indicates in those cases that the effect of accountability on the importance of confrontation depends on whether auditors are from Egypt or Australia. Panel B of Table 14 and Figures 35 and 36 report that the effect of accountability on professional scepticism (confrontational audit procedures) is significantly different between the high and low accountability groups in the separate Australian and Egyptian groups. For the Australian and the Egyptian groups the differences between the low and high accountability case the results are for the construction case (F = 8.76, p = 0.003), (F = 32.29, p = 0.000) and in the inventory case (F = 3.38, p = 0.067), (F = 19.81, p = 0.000). Also the Post hoc tests for the construction case indicates that the importance of confrontation is significantly higher in the high compared to low accountability groups in the Australian group (M = 5.4 vs. M = 5.0 ) than the Egyptian group (M = 5.2 vs. M = 4.3). However, the importance of confrontation is significantly higher for the Australian group (M = 4.9) than the Egyptian group (M = 4.3) when accountability is low in the inventory case. However, the importance of confrontation is the same in the Australian group (M = 5.2) as in the Egyptian group (M = 5.1) when accountability is high. This indicates that high accountability increases scepticism in the Egyptian group more than in the Australian group, especially in the construction and inventory cases.
Figure 35 Construction case – interaction between culture and accountability
(confrontational audit procedures)

Figure 35 - Construction case

Figure 36 Inventory case – interaction between culture and accountability
(confrontational audit procedures)

Figure 36 - Inventory case
In conclusion, there is support for Hypothesis 2 in that in most cases increased accountability increases professional scepticism.

Egyptian auditors are more sceptical than Australian auditors when accountability is high (M = 4.7 vs. M = 4.1), however, there is no significant difference between the Egyptian group and the Australian group when accountability is low (M = 4.3 vs. M = 4.5).

Culture moderates the relationship between accountability and professional scepticism (confrontational audit procedures). In other words, the relationship between accountability and professional scepticism (confrontational audit procedures) is in most cases dependent on whether the auditors are from Egypt or from Australia. The results indicate high accountability made Egyptian auditors more sceptical than Australian auditors with respect to the inventory case (M = 4.7 vs. M = 4.1), as Australian auditors expect to assess error risk as high regardless of the accountability levels (high accountability M = 4.8 vs. low accountability M = 5.3). However, Egyptian auditors expect to assess error risk as high only when accountability is high (high accountability M = 5.4 vs. low accountability M = 4.9). This suggests that high levels of accountability may increase most types of scepticism in Egyptian auditors.

With respect to trust, Australian auditors do not trust senior managements’ explanations in the bad debt case even if accountability is low. With respect to non-confrontational audit procedures, the results demonstrate that regardless of accountability levels, Egyptian auditors rate the importance of non-confrontational audits procedures higher than Australian auditors. However, Australian auditors rate the importance to confront senior management higher than the Egyptian auditors.
In the main, it appears that when auditors are more accountable in Egypt, they are more sceptical than Australian auditors possibly because their power distance score is higher. This may be due to cultural differences. Egyptian auditors scored higher with respect to power distance than Australian auditors. In the main, the results indicate that the effect of accountability depends on whether the auditors are from Egypt or Australia. This means that the relationship between accountability and professional scepticism is dependent on the culture of the country.

3. **Professional scepticism in Egypt and Australia**

Hypothesis 4 states that Professional scepticism will differ between cultures (Egyptian auditors are more sceptical than Australian auditors with regard to perceived fraud risk, perceived error risk, distrust, non-confrontational audit procedures and less sceptical in relation to confrontational audit procedure).

This is based on the assumption that Australian and Egyptian auditors are different with respect to individualism and power distance. The results mainly support the hypothesis. A comparison of the two means of professional scepticism for Egyptian and Australian group are conducted using t-tests. T-test results reported in Table 12 show significant differences between Australia and Egypt in some cases.

**Professional scepticism (perceived fraud risk and perceived error risk)**

Table 12 reports higher, but insignificant, scores for professional scepticism (perceived fraud risk and perceived error risk) for Egyptian auditors (M = 4.36; M = 5.11) than Australian auditors (M = 4.32; M = 4.90) for the bad debt case. Similarly, in the inventory case, while the mean score of Egyptian auditors is higher (M = 4.47; M = 5.14) than Australian auditors (M = 4.32; M = 5.03), these differences are not significant with respect to professional scepticism (perceived fraud risk and
perceived error risk). The only significant difference is in the construction case. Egyptian auditors are significantly more sceptical (M = 4.35; M = 4.87) than Australian auditors (M = 4.00; M = 4.55) with respect to perceived fraud risk and perceived error risk. Three possible explanations for this result are that: (1) the construction industry is a unique industry and requires specialisation; (2) the nature of the work, the type and size of the contracts vary across countries and the history of fraud is substantially different across the two countries; and (3) Egyptian auditors lack experience in such an industry because it is controlled by government and therefore subject to government audit.

**Professional scepticism (distrust)**

The level of distrust is higher for Egyptian auditors for bad debt and inventory (M = 4.62; M = 4.84) than for Australian auditors (M = 4.51; M = 4.80) but they are not significantly different. However, distrust is significantly higher for the Egyptian group (M = 4.62) than for the Australian group (M = 3.67) in the construction case. This may be due to cultural differences and/or different environments in the construction industry.

**Professional scepticism (non-confrontational audit procedures)**

The measure of individualism shows that Australian auditors are more individualistic while Egyptian auditors are more collectivistic. Also power distance is greater in Egypt than in Australia. Therefore, taking both of these factors into consideration, Australian auditors are expected to rate non-confrontational audit procedures as less important than Egyptian auditors. But Australians auditors are expected to place more importance on confrontational audit procedures than Egyptian auditors. This assumption is supported by Egyptian auditors rating the importance to conduct more non-confrontational audit procedures more highly (M = 5.55; M = 5.48; M = 5.51)
than Australian auditors ($M = 4.98; M = 5.17; M = 4.93$) in the bad debt case, the
construction case and the inventory case respectively. These results are significant in
all cases. This supports the prediction that Egyptian auditors rate non-confrontational
audit procedures as more important.

**Professional scepticism (confrontational audit procedures)**

With respect to confrontational audit procedures, in all cases the Australian auditors
have higher values than the Egyptian auditors but the differences are significant in
only two of the three cases, namely in respect to the construction case and the
inventory case, but not in the bad debt case. Egyptian auditors’ scores are
significantly lower ($M = 4.74; M = 4.73$) than Australian auditors ($M = 5.23; M =
5.02$) in the construction case and the inventory case respectively. These results are
probably due to cultural differences between the two countries. As mentioned above,
Australian auditors rate the importance of confrontation of senior managements as
more important. These results demonstrate that the nature of the audit may differ
from culture to culture.
Table 15  Summary of ANOVA and Post hoc tests for the Knowledge

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Perceived fraud risk</th>
<th>Perceived error risk</th>
<th>Distrust</th>
<th>Non-confrontational audit procedures</th>
<th>Confrontational audit procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BD</td>
<td>CO</td>
<td>IN</td>
<td>BD</td>
<td>CO</td>
</tr>
<tr>
<td>Knowledge</td>
<td>0.013</td>
<td>0.001</td>
<td>0.097</td>
<td>0.431</td>
<td>0.049</td>
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<tr>
<td>Culture*Knowledge</td>
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<td>0.296</td>
<td>0.255</td>
<td>0.236</td>
<td>0.067</td>
</tr>
<tr>
<td>Fraud/error risk*Knowledge</td>
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<td>0.193</td>
<td>0.127</td>
<td>0.080</td>
<td>0.012</td>
</tr>
<tr>
<td>Accountability*Knowledge</td>
<td>0.157</td>
<td>0.269</td>
<td>0.404</td>
<td>0.009</td>
<td>0.399</td>
</tr>
</tbody>
</table>

Panel B

<table>
<thead>
<tr>
<th>High vs. low knowledge</th>
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<th></th>
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<th></th>
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<tr>
<td>Australian</td>
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<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>0.087</td>
<td>0.100</td>
<td>NS</td>
<td>NS</td>
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<td>NS</td>
<td>NS</td>
<td>0.461</td>
<td>0.308</td>
</tr>
<tr>
<td>Egyptian</td>
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<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>0.171</td>
<td>0.274</td>
<td>NS</td>
<td>NS</td>
<td>0.084</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>0.020</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Panel C

<table>
<thead>
<tr>
<th>High vs. low knowledge</th>
<th></th>
<th></th>
<th></th>
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<th></th>
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<tbody>
<tr>
<td>High fraud and error risk</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>0.400</td>
<td>0.008</td>
<td>0.020</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
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<tr>
<td>Low fraud and error risk</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>0.028</td>
<td>0.551</td>
<td>0.504</td>
<td>NS</td>
<td>NS</td>
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<td>NS</td>
<td>NS</td>
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</table>

Panel D

<table>
<thead>
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<th>Accountability (high vs, low)</th>
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<th></th>
<th></th>
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<th></th>
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<th></th>
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<tbody>
<tr>
<td>High knowledge</td>
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<td>NS</td>
<td>NS</td>
<td>0.184</td>
<td>NS</td>
<td>NS</td>
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<tr>
<td>Low knowledge</td>
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<td>NS</td>
<td>0.055</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
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<td>0.001</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
</tbody>
</table>

+ Sensitivity test was undertaken and accordingly no post hoc undertaken because the interaction was not significant when knowledge classified as high and low

BD = Bad debt case
CO = Construction case
IN = Inventory case
NS - No significant interaction. This item did not display a significant relationship in the previous statistical analysis (ANOVA) and will thus not be subjected to further analysis
4. **Audit knowledge**

Hypothesis 5 states that Culture moderates the relation between audit knowledge and professional scepticism. (Egyptian auditors will exhibit a much lower confrontational audit process relative to Australian auditors in the high knowledge group than in the low knowledge group). The results partially support the hypothesis.

**Professional Scepticism (Perceived fraud risk)**

ANOVA results reported in panel A of Table 15 indicate that the relationship between audit knowledge and professional scepticism (perceived fraud risk) only depends on culture for the bad debt case (F = 1.76, p = 0.054). However, the main effect of audit knowledge on professional scepticism (perceived fraud risk) is significant in all cases, in the construction case (F = 4.02, p = 0.001) and the inventory case (F = 1.45, p = 0.097). In the case of bad debt, Post hoc tests reveal that auditors with low knowledge scores show more scepticism but not significant (compared to high knowledge scores) (M = 4.3 vs. M = 4.2) in the construction case and (M = 4.6 vs. M = 4.4) the inventory case. Thus, auditors with low audit knowledge scores are more sceptical (perceived fraud risk) but not significant. Panel B of Table 15 and Figure 37 reveal that the effect of audit knowledge on professional scepticism (perceived fraud risk) is significant only for Australian auditors, (F = 3.098, p = 0.080) in the bad debt case. Post hoc tests indicate that when audit knowledge scores are low, the Australian group is more sceptical (M = 4.6) with respect to perceived fraud risk than when the audit knowledge scores are high (M =

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44 Because there are not many scores under 7 and none of the participants achieved a score of 14, audit knowledge scores are reduced to between 7 and 13. This also made the interpretation of results more manageable. Therefore, there are 7 levels of audit knowledge.
This indicates that culture moderates the relationship between professional scepticism (perceived fraud risk) and audit knowledge.

**Figure 37 Bad debt case – interaction between culture and knowledge**

(defined risk)

Panel A of Table 15 shows that there is no interaction between audit knowledge and culture in the bad debt case and the main effect is not significant. However, there is a significant interaction between audit knowledge and culture in the construction case ($F = 1.65, p = 0.067$), and the inventory case ($F = 1.46, p = 0.096$) (see panel A of Table 15 and Figures 38 and 39). With respect to the construction case, the effect of audit knowledge on professional scepticism (perceived error risk) is dependent on culture. ($F = 2.95, p = 0.087$ for Australian auditors; and $F = 1.88, p = 0.171$ for Egyptian auditors). Post hoc tests indicate that when the audit knowledge score is low, the Egyptian group is more sceptical ($M = 5.2$) than the Australian group ($M =$
4.3). However, when the audit knowledge score is high, there is no significant difference between Egyptian group (M = 4.8) and the Australian group (M = 4.7). This indicates that when audit knowledge is low Australian auditors are less sceptical than Egyptian auditors, however, when audit knowledge is high, there is no significant difference between the Egyptian auditors and Australian group. There are at least two possible explanations for this result: first, highly knowledgeable auditors in Australia and Egypt are more aware of the impact of the current economic situation on the construction industry than low knowledge auditors; second, high knowledge auditors in Australia and Egypt are less sceptical because they have been working with clients for longer periods than low knowledge auditors and, therefore, they are considered as part of the in-group.

In the inventory case, the effect of audit knowledge on professional scepticism (perceived error risk) is dependent on culture. Post hoc tests show that culture affects on professional scepticism (perceived error risk) is significant for the Australian group only (F = 2.70, p = 0.100). When audit knowledge scores are low, the Egyptian group is more sceptical (M = 5.4) than the Australian group (M = 4.8). This indicates that culture moderates the relationship between audit knowledge and professional scepticism (perceived error risk) only when audit knowledge scores are low. There is no significant difference between Australian auditors and Egyptian auditors when the audit knowledge scores are high.
Figure 38  Construction case – interaction between culture and knowledge
(perceived error risk)

Figure 39  Inventory case – interaction between culture and knowledge
(perceived error risk)
Panel A of Table 15 reports that there is a significant interaction between the risk of fraud and error and knowledge in the bad debt case ($F = 1.56, p = 0.080$), the construction case ($F = 2.49, p = 0.012$), and the inventory case ($F = 1.78, p = 0.052$). Panel C of Table 15 and Figures 40 to 42 show that the influence of audit knowledge on professional scepticism (perceived error risk) is significant when the risk of fraud and error is low ($F = 4.91, p = 0.028$) in the bad debt case. Post hoc tests indicate that professional scepticism (perceived error risk) is higher when the risk of fraud and error is low ($M = 4.8$) than when the risk of fraud and error is high ($M = 4.4$).

With respect to the construction case, the effect of audit knowledge on professional scepticism (perceived error risk) is significant when the risk of fraud and error is high ($F = 7.06, p = 0.008$) only. Post hoc tests indicates that when the risk of fraud and error is high, there is a significant difference between high knowledge and low knowledge scores ($M = 5.4$ vs. $4.7$). It seems that when a high risk of fraud and error is present, auditors with high scores of audit knowledge are more sceptical than auditors with low audit knowledge scores in the construction case. This may due to the fact that auditors with high knowledge are more sensitive to fraud and implies that a high risk of fraud and error makes auditors more sceptical when audit knowledge scores are high.

In the inventory case, the impact of audit knowledge scores on professional scepticism (perceived error risk) is significant when the risk of fraud and error is high only ($F = 5.45, p = 0.020$). Similar to the construction case, post hoc tests indicate that the mean of professional scepticism (perceived error risk) is significantly higher when audit knowledge is high rather than when low ($M = 5.7$ vs. $5.1$). Thus, high audit knowledge increases professional scepticism when the risk of fraud and error is high.
Figure 40  Bad debt case – interaction between knowledge and the risk of fraud
and error (perceived error risk)

Figure 41  Construction case – interaction between knowledge and the risk of fraud and error (perceived error risk)
In addition, Panel A of Table 15 and Figure 43 show that there is a significant interaction between audit knowledge and accountability in the bad debt case only ($F = 2.62, p = 0.009$). Post hoc tests reveal that the effect of accountability on professional scepticism (perceived error risk) depends only on low audit knowledge ($F = 3.70, p = 0.055$). Thus, when audit knowledge is low, there is a significant difference between high accountability and low accountability. The mean of professional scepticism (perceived error risk) is lower when accountability is low ($M = 4.9$) than when accountability is high ($M = 5.4$). Thus, high accountability increases professional scepticism when audit knowledge is low. There are at least two possible explanations for this result: (1) it may be that due to the financial crisis around the world, auditors consider the bad debt case as more risky than the construction and inventory cases; or (2) auditors may consider the significant impact
of the collection of accounts receivable as having a significant impact on working capital and client’s going concern position.

**Figure 43 Bad debt case – interaction between knowledge and accountability**

*(perceived error risk)*

![Figure 43 - Bad debt case](image)

**Professional scepticism (distrust)**

Table 15 Panel A and Figure 44 report ANOVA results with respect to audit knowledge and culture. The main effects of audit knowledge on professional scepticism (distrust) is significant in the bad debt case \( (F = 1.74, P = 0.57) \), the construction case \( (F = 2.05, p = 0.030) \) and the inventory case \( (F = 2.91, p = 0.004) \). However, the interaction between culture and audit knowledge is only significant in the inventory case \( (F = 2.88, p = 0.005) \). Panel B of Table 15 and Figure 44 show that the effect of audit knowledge on professional scepticism (distrust) is significant and sometimes depends on culture in the inventory case only. Post hoc tests in the inventory case indicate that professional scepticism (distrust) is significantly
different between the Egyptian and the Australian groups regardless of whether audit knowledge scores are high or low (M = 4.7 vs. M = 4.8) and (M = 5.2 vs. M = 4.8). Lower audit knowledge makes the Egyptian group more sceptical than higher audit knowledge (M = 5.2 vs. M = 4.7). Thus, in the inventory case, knowledge moderates the relationship between professional scepticism (distrust) for Egyptian auditors only.

**Figure 44 Inventory case – interaction between knowledge and culture**

(distrust)

![Figure 44 Inventory case](image)

**Professional scepticism (non-confrontational audit procedures)**

Panel A of Table 15 shows a significant interaction between audit knowledge and accountability in the bad debt case (F = 2.50, p = 0.011). Panel D of Table 15 and Figure 45 indicate that the effect of accountability on professional scepticism (non-confrontational audit procedures) is significant when audit knowledge scores are high and low (F = 25.69, p = 0.000); (F = 10.86, p = 0.001) in the bad debt case. The
mean for high accountability is higher (high and low knowledge respectively) (M = 4.9; M = 5.6) than the mean for low accountability (M = 4.9; M = 5.6). Thus, professional scepticism (non-confrontational audit procedures) is high when accountability is higher regardless of audit knowledge scores.

**Figure 45 Bad debt case – interaction between knowledge and accountability (non-confrontational audit procedures)**

**Professional scepticism (confrontational audit procedures)**

Panel A of Table 15 reveals that there is a significant interaction between audit knowledge and culture in the construction case (F = 3.39, p = 0.001), and the inventory case (F = 3.69, p = 0.001) but there is no significant interaction between audit knowledge and culture in the bad debt case. However, the main effect of audit knowledge on professional scepticism (confrontational audit procedures) is significant in the bad debt case (F = 2.41, p = 0.014).
The results indicate that the relationship between culture and professional scepticism (confrontational audit procedures) depends on audit knowledge in the majority of cases. Panel B of Table 15 and Figure 46 indicate that the effect of knowledge on professional scepticism (confrontational audit procedures) is significant for the Egyptian group only (F = 5.51, p = 0.020) in the construction case. Post hoc tests in that case show that the impact of knowledge on professional scepticism (confrontational audit procedures) is significant for the Egyptian group (low knowledge M = 5.1 vs. high knowledge M = 4.6) but not for the Australian group (low knowledge M = 5.1 vs. high knowledge M = 5.2). Australian auditors with high audit knowledge rate confronting senior management as more important (M = 5.2) than the Egyptian group (M = 4.6).

**Figure 46 Construction case – interaction between knowledge and culture**

*(confrontational audit procedures)*

[Figure 46 - Construction case diagram showing interaction between knowledge and culture (confrontational audit procedures)]
Panel B of Table 15 and Figure 47 confirm that the effect of knowledge on professional scepticism (confrontational audit procedures) is only significant for the Egyptian group (F =11.79, p = 0.001) in the inventory case. Post hoc tests confirm that the Australian group considers that it is more important to confront senior management (high knowledge M = 5.2 vs. low knowledge M = 4.8) than the Egyptian group (high knowledge M = 4.7 vs. low knowledge M = 5.1). These results support the prediction that the Egyptian group considers that it is less important to confront senior management as it is culturally not acceptable. On the other hand, the Australian group believes that it is more important to confront senior management and it is culturally acceptable to do so.

**Figure 47 Inventory case – interaction between knowledge and culture**

*(confrontational audit procedures)*
Conclusion

Tables 16 summarises the results related to the five hypotheses. ‘Yes’ indicates that the results support the hypothesis while ‘No’ indicates that the results do not support the hypothesis.

**Hypothesis 1**

Hypothesis 1 states that professional scepticism will be higher when the risk of fraud and error is high compared to when the risk of fraud and error is low. The results reported in Tables 7, 8 and 16 confirm that both Australian auditors and Egyptian auditors are likely to be more sceptical when the risk of fraud and error is high. There is support for Hypothesis 1.

**Hypothesis 2**

Hypothesis 2 states that there is a positive relationship between accountability and professional scepticism. The results indicate that the hypothesis is mostly supported. Thus, accountability increases professional scepticism. However, it seems that accountability is not important with respect to professional scepticism (perceived fraud risk) in both the bad debt case and the inventory case. There are at least two possible explanations for this result: (1) the auditors may consider the risk of fraud and error is more important than accountability; and (2) auditors may believe that fraud is more likely in the construction case than in the bad debt and inventory cases. With respect to professional scepticism (perceived error risk), accountability increases professional scepticism in the construction case. This is because auditors may believe that fraud is more likely in the construction and the inventory case than errors.
**Hypothesis 3**

Hypothesis 3 states that Culture moderates the relationship between accountability and professional scepticism (Egyptian auditors are more sceptical than Australian auditors when accountability is high). With respect to Hypothesis 3, the results confirm that the relationship between accountability and professional scepticism is mostly dependent on whether the auditors are from Egypt or Australia.

**Hypothesis 4**

Hypothesis 4 states that Professional scepticism will differ between cultures (Egyptian auditors are more sceptical than Australian auditors with regard to perceived fraud risk, perceived error risk, distrust, non-confrontational audit procedures and less sceptical in relation to confrontational audit procedure).

Table 12 indicates that hypothesis 4 is generally confirmed in the construction case. However, Egyptian auditors differ from Australian auditors only in the bad debt case with respect to professional scepticism (non-confrontational audit procedures) and in the inventory case with respect to professional scepticism (confrontational audit procedures and non-confrontational audit procedures). Thus, Egyptian auditors rate non-confrontational audit procedures as more important in the bad debt cases and less important in the inventory cases. This result indicates that Egyptian auditors consider that it is less important to confront senior management. This result supports the assertion that culture impacts on audit judgment.

**Hypothesis 5**

Hypothesis 5 states that Culture moderates the relation between audit knowledge and professional scepticism. (Egyptian auditors will exhibit a much lower confrontational audit process relative to Australian auditors in the high knowledge group than in the
There is a mixed result for Hypothesis 5 with respect to whether culture moderates the relationship between audit knowledge and professional scepticism. In the bad debt case, culture moderates the relationship between professional scepticism (perceived fraud risk) and audit knowledge. In the construction case, culture moderates the relationship between professional scepticism (perceived error risk and confrontational audit procedures) and audit knowledge. In the inventory case, culture moderates the relationship between professional scepticism (perceived error risk, distrust and confrontational audit procedures) and audit knowledge. These results indicate that the effect of knowledge on confrontational audit procedures are dependent on whether the auditors are from Egypt or Australia especially in construction and inventory cases.

The next chapter discusses the summary and conclusions of the study. It presents the implications, limitations and future research.
Table 16  Summary of the results by professional scepticism

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Bad debt</th>
<th>Construction</th>
<th>Inventory</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>H1</td>
<td>H2</td>
<td>H3</td>
</tr>
<tr>
<td>Perceived fraud risk</td>
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<td>Yes</td>
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<td>No</td>
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<td>Distrust</td>
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<td>Non-confrontational audit procedures</td>
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<td>Confrontational audit procedures</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
CHAPTER 5

Conclusion

The current chapter reports the main findings of the study, recommendations, its limitations, as well as suggestions for future research.

The study examined how individualism and power distance (core dimensions of cultural variability) are reflected in audit judgments of junior and senior auditors in two countries (Australia and Egypt). These dimensions were chosen because it had previously been shown that the two countries exhibited substantial differences on the individualism and power distance dimensions (Hofstede, 1980, 1983). It also investigated the relationship between the risk of fraud and error, accountability and audit knowledge and five dimensions of professional scepticism.

The results suggested that the level of professional scepticism differed between the two countries. However, these differences in professional scepticism were not uniform across cases, with the construction case being different from the other two cases.

Given the globalisation of multinational corporations and audit firms, one of the important challenges facing audit firms is how to achieve similar levels of audit quality worldwide. For many countries, the accounting and auditing professions have supported that objective by aligning both accounting and auditing standards. Audit firms use standardised training methods, adopt worldwide procedures and ethical codes to contribute to the aim of uniformity (Adler, 1997; Sen, 1997; Chow, et al., 2002). However, uniformity can be more in terms of form rather than substance if
cultural differences result in different levels of professional scepticism and different audit decision-making. The first step in investigating such an issue is to confirm its existence and to understand the impact of factors that impact on professional scepticism. The current study’s results thus have practical significance to auditing firms practising in Egypt and Australia and to educators.

**Main findings**

The current research reported on the impact of selected cultural dimensions (individualism and power distance), the risk of fraud and error, accountability and audit knowledge on professional scepticism. There were significant differences between the Egyptian auditors and the Australian auditors and these differences were found in junior and senior auditors in spite of their exposure to common accounting and auditing standards. For example, Egyptian auditors rate non-confrontational auditing procedures as more important than confrontational auditing procedures. Egyptian auditors consider confrontation is rude and socially unacceptable. In contrast, Australian auditors rate confrontational auditing procedures as more important as such procedures are consistent with the Australian ethos.

The study also examined the relationship between the risk of fraud and error, accountability and professional scepticism. As expected, the risk of fraud and error and accountability of the junior and senior auditors to their superiors in most cases affected the levels of professional scepticism.

Accountability has a bigger effect in Egypt probably as a result of higher power distance in Egypt. Auditors in Egypt are more likely to obey and submit to their supervisors. The study reported that the culture moderated the relationship between audit knowledge and professional scepticism in some situations.
Recommendations

Auditing firms are required to assess the risk of fraud and error separately from the overall risk assessment. Audit firms need to revise their practices and training schemes to improve the detection of fraud and error by increasing the level of professional scepticism to appropriate levels without ignoring the efficiency of the audit. While there a concern in the profession that assessing the risk of fraud and error will decrease audit efficiency (Knapp & Knapp, 2001), an appropriate level of scepticism should guide auditors to vary their efforts and resources with regard to fraud detection. This will increase both the effectiveness and the efficiency of the audit and reduce the risk of litigation.

Auditors with low levels of professional scepticism may be at risk of failing to detect financial statement errors and fraud. Professional scepticism may be altered by education and training courses. The results of the current study demonstrate wide variations in the level of professional scepticism displayed by junior and senior auditors.

The results of the current study suggest a need for an increased focus on professional scepticism, which is one of the main recommendations of SAS No. 99 and ASA 240. Training auditors to adopt an appropriate level of professional scepticism is vital to the auditor’s role in searching for material misstatements in financial reports.

This study supports the hypothesis that cultural differences impact on audit decision-making. In addition, this study verifies that Egyptian auditors rate the importance of non-confrontational audit procedures higher than the Australian group of auditors regardless of whether accountability is high or low. While accountability increases the importance of confrontation in both countries, the importance of confrontation is
significantly higher in the Australian group of auditors. Egyptian auditors rate confrontational audit procedures as less important, however, they rate non-confrontational audit procedures as more important based on a collectivistic culture. The study supports the prediction that the Egyptian group considers that it is less important to confront senior management which could be because it is culturally not acceptable. On the other hand, the Australian group believes that it is more important to confront senior management which could be because it is culturally acceptable. In conclusion, the study signifies that the effect of accountability depends on whether the auditors are from Egypt or Australia. This means that the relationship between accountability and professional scepticism is dependent on the culture of the country.

Audit knowledge affects professional scepticism in some cases. Auditors with low knowledge scores are more sceptical. In addition, culture moderates the relationship between professional scepticism and audit knowledge in some cases.

Overall, the results should be of interest to auditing firms in that they highlight the fact that there are variables that affect professional scepticism such as culture, accountability, fraud risk and error risk.

**Contributions of the study**

The results show that professional scepticism differs from culture to culture and recommends that international auditing standards should consider these differences. For example, international bodies may issue additional guidance on cultural values. International bodies need to consider these cultural differences when designing or adopting auditing standards in various countries. They need to recognise auditors’ similarities and differences across cultures in order to develop effective cross-cultural auditing standards. They must adjust to overseas market circumstances
which are influenced by different and varying cultural values such as individualism and power distance.

The current study focuses attention on a range of dimensions of professional scepticism, especially at cultural levels such as non-confrontational auditing procedures, confrontational auditing procedures, but also in relation to distrust, perceived fraud risk and perceived error risk. By testing the relationship of the risk of fraud and error, culture, Accountability and knowledge to the various measures of scepticism across three different cases and by showing both the similarities and dissimilarities of relationships the study is providing the audit professional with a source of greater understanding of scepticism, and the complexity of both the concept of scepticism and the relationship involved. Also it highlights the importance of finding greater understanding in this area.

Nelson (2009) argues that training can increase auditors’ professional scepticism. The results of the study are potentially helpful to the accounting and auditing professions in that they give audit firms direction in developing training courses by providing evidence about what factors affect professional scepticism such as the risk of fraud and error, accountability and culture. This affects audit training programs by considering that much more needs to be understood about what makes the method of assessing fraud and error more successful. Audit firms need to train auditors on problem-solving, which, in turn, improves professional scepticism.45

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45Problem solving and professional scepticism are similar (Nelson, 2009) because they are complex, non-routine and require divergent and convergent thinking (Rixom, 2010).
The current study has some theoretical and methodological implications. The present study focused on individualism and power distance dimensions of cultural variability for cultural comparison (Hofstede, 1980). The findings provide evidence about the role of these dimensions across cultures and their relationship to audit decisions. In addition, by using a sample from Egypt and Australia, the study moved away from traditional prior cross-cultural studies that usually consider the US, China and Japan.

Limitations of the study

The study suffers from several limitations. The current study used an experiment to test the impact of the independent variables on the dependent variables. Therefore, the results of the current study cannot be generalised to all audit tasks, firms, and cultures and experience levels of auditors. Also the experiments themselves have demonstrated some differences between cases which also cautions against too much generalisation without further testing particularly where results differed across cases.

As a result of using a laboratory experiment, the results are limited due to a lack of realism of the setting. Real audit environments contain richer information than the information provided to the subjects in the current study. Notwithstanding the limitations, there are environmental factors that may affect audit judgments in different cultures. Using experimental methods rather than surveys will reduce the impact of these factors (Schweikart, 1994).

The result of the current study may have been different if Hurtt’s (2010) scales were used to measure professional scepticism. The study did not use Hurtt’s (2010) scales because at the time of the collection of the data, the scale was not yet developed. However, the measurement of professional scepticism was based on an extensive
review of prior auditing literature and recommendations from auditing professors, auditing partners and managers.

The current study did not use Hofstede’s Values survey module 2008 questionnaire (VSM08) because at the time of the collection of the data, the scale was not yet developed.

Using a convenience sample may limit the generalisability of the results of the current study as the participants may not be representative of all auditors. However, the demographic information such as gender, age, and level of experience indicate that the participants are likely to be representative.

Unlike in a real audit environment, participants in the current study were not subject to a penalty if they did not provide justification of their results. In addition, because this study is behavioural, it suffers from the common problems of behavioural studies. For example, subjects in the current study did not receive performance-based payments, which may impact on motivation and performance. In the natural environment, auditors may receive performance-based payments that increase motivation and, therefore, increase effort and performance.\textsuperscript{46} Alternatively, financial incentives may inhibit the performance of additional audit procedures that should sometimes flow from a more sceptical approach.

In addition, the current study used the auditors’ assessment of senior management’s truthfulness as a measure of professional scepticism. This measure is consistent with SAS No. 99 and ASA 240 and prior studies (e.g., Shaub & Lawrence, 1999; Payne &

\textsuperscript{46} Prior empirical evidence reports mixed results regarding the performance-enhancing effects of incentives (Grether & Plott, 1979; Slovic & Lichtenstein, 1983). The reason is that an incentive has an indirect effect on performance because incentives enhance performance aspirations which may or may not be possible to attain depending on the task difficulty (Peecher & Kleinnuntz, 1991).
Ramsay, 2005). However, there are different interpretations of the meaning of professional scepticism and some readers may describe professional scepticism differently to the description in the current study.

Differences in the data collection method are another limitation in the current study. For example, data were collected in Australia while participants were undertaking their CA professional year, however, the Egyptian data were collected in the offices of three of the Big 4 accounting firms in Egypt. These differences in environment may impact on their judgment. It was not practical to have similar conditions in both countries.

The current study examined the impact of accountability on professional scepticism, however, auditors in practice may face other pressures such as deadlines, time pressures, incentives, decision aids or interactions with other auditors. Such factors may interact with accountability (Ashton, 1990; Kennedy, 1993).

The study uses only two cultural dimensions (i.e., individualism and power distance). These two dimensions were chosen because they related to personal responsibility that influences professional scepticism. However, future research may consider the impact of the other cultural dimensions on professional judgments. Consideration was given to including the psychological dimensions and their measurement instruments which corresponded to the individualism and power distance cultural dimensions (Chen & Li, 2005), but were excluded due to the limits on the number of questions that volunteers could be asked to answer. Given the choice it was decided to use the cultural measures that had been more widely used in business research and hence more proven and familiar to the academic auditing audience. In addition, the
study used auditors only from Egypt and Australia. Therefore, the results are limited to these countries and cannot be generalised to other countries.

All subjects answered the three cases in the same order. Given that the results differed between cases, this could have been due to practice effects rather than the differing accounting issues. In addition, in order to make the analysis manageable, only a two way interaction was hypothesised.

Finally, the impact of firm culture on professional scepticism was not considered in the current study. However, prior research reports that firm affiliation did not impact on audit judgment (Meixner & Welker, 1988). That finding indicated that organisational culture has little impact on audit judgment. In addition, some research found that national culture was more important than organisational culture (Laurent, 1991). Soeters and Schreuder (1988), Pratt et al. (1993) and Chow et al. (2002) provide evidence that there are no differences in the organisational cultures of multinational auditing firms.

**Suggestions for future research**

Future research may investigate the possible impact of other cultural dimensions such as uncertainty avoidance, masculinity, and long term perspectives on professional scepticism. In addition, using auditors from other countries could support the results of the current study.

Professional scepticism is difficult to measure. The current study measured it in five ways: (1) perceived fraud risk, (2) perceived error risk, (3) distrust, (4) the importance of confrontational audit procedures, and (5) the importance of non-
confrontational audit procedures. Future research could be aimed at developing other measures of professional scepticism that could be used by accounting researchers.

The findings of the study indicated that the construction case was different to the bad debt and inventory cases. There needs to be further research into why the cases generated different responses. It may be that the more familiar environments provoke different levels of professional scepticism response to less familiar cases, or that construction is seen as inherently more risky. Alternatively it may be perceived that the construction industry requires more technical audit knowledge, or that construction firms differ in the way they operate in the two countries.

The study reports that in some cases, culture moderates the relationship between audit knowledge and professional scepticism, while prior research reported that less experienced auditors were more sceptical than more experienced auditors. The differences in the level of experience in the current research may not have been great enough to find the differences identified in earlier research. Further research may investigate the effect of audit knowledge on professional scepticism.

Participants in the current study were junior and senior auditors with experience ranging from 6 months to 5 years. Future research may use participants with more experience and examine individuals at higher levels within the firms such as audit managers and audit partners.

Perceptions of the importance of non-confrontational and confrontational audit procedures used by auditors are dependent on culture. For example, the non-confrontational audit procedures were rated as more important in Egypt, whereas the confrontational audit procedures were rated as more important in Australia. However, there may be other factors within each culture that may influence auditors
to choose between non-confrontational and confrontational audit procedures. Future research may identify these factors and determine under what circumstances they are used. This will enable auditing firms to identify appropriate audit programs and design appropriate training.

The results indicate that audit judgments are affected by culture. Therefore, the exchange of auditors between offices in different countries is recommended in order to benefit from an understanding of auditing in a foreign country. This process may reduce differences in audit judgments and achieve consensus between auditors around the world. A related research question could be the impact of such exchanges on audit judgments and decisions. The answer to such questions will be of benefit to auditing firms.

The extension of the current study to auditors from non-Big 4 accounting firms, and then a comparison could be made between the large and small accounting firms would be a venue for future research. The current study could be extended to other accounting professionals such as tax professionals, and internal auditors and this would seem an appropriate and relevant area for research.
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APPENDIX 1

Fraud Risk is High

Accountability is High
INSTRUCTIONS

- Please complete the scenarios and the questionnaire. Follow the instructions in each section.

- We are interested in your response to three scenarios. Please read each scenario. You are examining the risk of error and fraud risk related to accounts receivable, inventory and cost estimation. Please put down what you believe. Note that there is no right or wrong answer.

- Your judgment will be reviewed by your supervisor and your partner.
Case One - Bad Debt Scenario
You are responsible for auditing the allowance for bad debts. The client is a new client in the import/export business. You are aware of the existence of related parties. In reviewing the list of accounts receivable, you discover accounts for new customers in Indonesia. The amounts involved are significant to the income statement. The accounts are the result of an extensive marketing campaign to increase sales in Indonesia, which is a new market. The audit is being performed six weeks after year end.

The sales were made during the latter part of the current year. No payments have been received since year end. The customers’ location and the language differences make communication difficult. For example, you are uncertain that positive confirmation requests will be returned. Senior management has informed you that all balances on these new accounts are considered collectible. They do not believe that a bad debt provision for these accounts is considered necessary.

1. How likely is it that the explanation provided to you by senior management (for the collectability of account receivable) is truthful? Please indicate your response below.

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<td>completely truthful</td>
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1 2 3 4 5 6 7

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

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<th>Extremely low risk of fraud</th>
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3. Classify your risk assessment of fraud by circling high, moderate, or low.

Low     Moderate     High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

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</table>

5. Classify your risk assessment of error by circling high, moderate, or low.

Low     Moderate     High

Assume that internal control over accounts receivable is evaluated as inadequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the allowance for bad debts? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Review documentation maintained in customer credit files, e.g., credit applications, credit references, approved credit limits.

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b) Ask credit-approval personnel what procedures they followed in researching these new customers. Ask how the credit limits for these customers were established.

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c) Review current and prior write off and recovery experience. Test the aging of receivable balances.

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d) Discuss the customers with sales staff and management responsible for Indonesian sales. Ascertain whether they are aware of any potential problems with these customers.

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e) Perform an overall reasonableness test of account receivable, sales, and uncollectible accounts. Determine whether it appears that management’s treatment of these accounts is appropriate from an overall viewpoint.

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f) Inquire of appropriate personnel whether sales have been made to customers in other foreign countries that would be comparable with Indonesia.

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g) Review correspondence and any other documentation received from these customers for evidence of returns, credits other problems.

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h) Make inquiries of the marketing department as to projected sales for these customers. Inquire about current plans for growth in the Indonesian market.

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i) Research the customers’ financial position and stability using external financial sources, e.g. credit bureaus, financial publications, and member firms in Indonesia.

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j) Inquire of appropriate personnel the basis for the determination that balances are fully collectable. Request documentation, if available, to support such assertions.

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k) Other: (describe)
Case two- Construction Project

You are responsible for auditing a construction project for a new client with related parties. The company is a construction general contractor which, until recently specialised in commercial office buildings. Because of changes in the real estate market, the company has switched to multi-unit residential complexes. The first large residential project the company has attempted was started and partially completed this year. It is material to current year operations. The audit is being performed six weeks after year end.

The company has adopted the percentage-of-completion method. Actual costs to date along with estimated total costs for the project are used to compute the percentage-of-completion. The company’s chief financial officer has provided estimates of total costs, percentage-of-completion, and the gross profit to be recognised for the project this year. Because of the importance of the project, the chief financial officer personally supervised the development of the estimates.

1. How likely is it that the estimation provided to you by senior management (for the total costs, percentage of completion and gross profit) is truthful? Indicate your response below.

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<tr>
<td>not at all truthful</td>
<td>completely truthful</td>
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2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

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<th>Extremely low</th>
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<tr>
<td>risk of fraud</td>
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</table>

3. Classify your risk assessment of fraud by circling high, moderate, or low.

- Low
- Moderate
- High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

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<th>Extremely low</th>
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<td>risk of error</td>
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5. Classify your risk assessment of error by circling high, moderate, or low.

- Low
- Moderate
- High

Assume that internal control over construction contract is evaluated as inadequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the gross profit estimates? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Discuss with client personnel the assumptions and procedures used in the original estimate of total contract cost at 100% completion.

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b) Compare the total cost incurred on other jobs completed during the year to the original cost estimates on those jobs. Evaluate the client’s job estimating ability.

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c) Review the changes to the job since year end. Determine if material charges have been incurred that would change the total cost estimate.

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d) Inquire of appropriate personnel whether the project is over or under budget as to material costs and labour costs.

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e) Examine all change orders issued on the project and related cost estimates. Review the contract to determine that the contract value used in determining gross profit is appropriate.

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f) Inquire of appropriate personnel whether there are significant unapproved change orders that will affect the cost of the project.

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g) Confirm terms of construction contract and billings to date with the customer.

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h) Discuss estimates of completion with site personnel while touring the construction site. Inquire as to the reasonableness of estimated date of completion.

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i) Talk to engineers to determine the physical percentage of completion. Compare with percentage of completion in terms of cost.

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j) Test details of cost incurred to date by reference to supporting documentation. Recompute actual costs, estimated total costs, percentage of completion, and gross profit earned to date.

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k) Other: (Describe)
Case Three - Inventory Valuation

You are responsible for auditing the valuation of inventory for a new client with related parties in the manufacturing industry. The physical inventory observation and tests of clerical accuracy of the physical inventory summary did not reveal any material errors in the inventory listings. The audit is being performed six weeks after year end.

Approximately 30% of the inventory value consists of the product of one of the firm’s divisions. Valuation of this product is material to the client’s financial statements and significant fluctuations in price have occurred. In prior years a large backlog existed for this product. In prior years the product inventory was valued at cost. This year the firm’s backlog for this product has disappeared. Market prices at year end ranged from values above cost to values below cost. Senior management has informed you that the prices will stabilise at higher prices. Therefore, no adjustments were considered necessary to reduce the inventory from cost to net realisable value.

1. How likely is it that the explanation provided to you by senior management (that the prices will stabilise at the higher market prices) is truthful? Indicate your response below.

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2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

<table>
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<tr>
<th>Extremely low risk of fraud</th>
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3. Classify your risk assessment of fraud by circling high, moderate, or low.

Low       Moderate       High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

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5. Classify your risk assessment of error by circling high, moderate, or low.

Low       Moderate       High

Assume that internal control over inventory is evaluated as inadequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the inventory valuation? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Review perpetual records, sales analyses, and other information regarding the sales activity of this product during the year and in the subsequent period. Review lost or stolen inventory reports.

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b) Discuss the valuation procedures with appropriate personnel to determine the following: inventory costing methods; accounting policies used; pricing policies and procedures of the company; results of physical observation during the year and their effects on inventory valuation.

Not important          very important
1         2         3         4         5         6         7

1 2 3 4 5 6 7

Not important          very important
1         2         3         4         5         6         7

c) Analyse monthly cost of sales, gross profit, inventory turnover, and other appropriate ratios for this product.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

d) Discuss with management the reasons for the sales decline. Inquire as to whether identified factors are expected to impact future sales.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

e) Test the determination of appropriate market values for other inventory items. Evaluate the reasonableness of assumptions and methods used.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

f) Discuss with appropriate personnel the client’s method for identifying potential problems in scrap, obsolete, unstable, slow-moving, or overstocked items in inventory.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

g) Evaluate the impact on inventories of technological changes, outstanding purchase commitments, open sales orders, and the company’s marketing plans.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

h) Inquire of the marketing department of the projected sales and prices of significant inventory items.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

i) Verify the computation of unit cost for this product by examining supporting documentation for material and labour costs and reviewing overhead changes for reasonableness.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

j) Inquire of appropriate personnel the basis for the determination that previous price declines were temporary. Request documentation to support such assertions.

Not important          very important
1         2         3         4         5         6         7

Not important          very important
1         2         3         4         5         6         7

k) Other: (Describe)
The following questions are related to audit knowledge, fraud knowledge and error knowledge. Please choose the best answer

Question 1: Which of the following does not represent an opportunity to commit fraud?
A: Significant related-party transactions.
B: The auditor's relationship with management is strained.
C: Management is dominated by a single person.
D: The financial report included highly subjective estimates.

Question 2: The auditor should respond to an increased risk of fraud by doing all of the following except:
A: Increasing professional scepticism.
B: Assigning more experienced personnel to the audit.
C: Increasing acceptable audit risk.
D: Taking steps to obtain more reliable evidence.

Question 3: An auditor discovers a likely fraud during an audit, but concludes that the effect of the fraud is not sufficiently material to affect the audit opinion. The auditor should:
A: Disclose the fraud to the appropriate level of the client's management.
B: Disclose the fraud to appropriate authorities external to the client.
C: Discuss with the client the additional audit procedures that will be needed to identify the exact amount of the fraud.
D: Modify the audit program to include tests specifically designed to identify the fraud and its impact on the financial report.

Question 4: Which of the following factors most likely would heighten an auditor's concern about the risk of fraudulent financial reporting?
A: Inability to generate cash flows from operations while reporting substantial earnings growth.
B: Management's lack of interest in increasing the entity's earnings trend.
C: Large amounts of liquid assets that are easily converted into cash.
D: Inability to borrow necessary capital without granting debt covenants.

Question 5: A properly planned and performed audit may fail to detect a material misstatement resulting from fraud because:
A: Audit procedures that are effective for detecting an error may be ineffective for fraud that is concealed through collusion.
B: An audit is planned and performed to provide reasonable assurance of detecting material misstatements caused by errors but not by fraud.
C: The factors considered in assessing control risk indicated an increased risk of error but only a low risk of fraud in the financial report.
D: The auditor did not consider factors influencing audit risk for account balances that have effects pervasive to the financial report taken as a whole.

Question 6: If, as a result of auditing procedures, an auditor believes that the client may have committed illegal acts, which of the following actions should be taken immediately by the auditor?
A: Consult with the client's legal advisor and the auditor's legal advisor to determine how the suspected illegal acts will be communicated to the shareholders.
B: Extend normal auditing procedures to ascertain whether the suspected illegal acts may have a material effect on the financial report.
C: Inquire of the client's management and consult with the client's legal advisor or other specialists, as necessary, to obtain an understanding of the nature of the acts and their possible effects on the financial report.
D: Notify each member of the audit committee of the board of directors about the nature of the acts and request that they give guidance with respect to the approach to be taken by the auditor.
Question 7: The primary factor that distinguishes errors from fraud is:
A: Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
B: Whether the misstatement is perpetrated by an employee or by a member of management.
C: Whether the underlying cause of a misstatement is intentional or unintentional.
D: Whether the misstatement is concealed.

Question 8: The auditor is most likely to presume that a high risk of a fraud exists if:
A: The client is a multinational company that does business in numerous foreign countries.
B: The client does business with several related parties.
C: Inadequate segregation of duties places an employee in a position to perpetrate and conceal thefts.
D: Inadequate employee training results in lengthy computer information systems exception reports each month.

Question 9: Which of the following, if material, would be fraud as defined in the Auditing Standards?
A: Errors in the application of accounting principles.
B: Errors in the accounting data underlying the financial report.
C: Misinterpretation of facts that existed when the financial report was prepared.
D: Misappropriation of assets.

Question 10: An audit of the financial report of Campbell Ltd, an Australian listed company, is being conducted by an external auditor. The external auditor is expected to:
A: Express an opinion as to the attractiveness of Campbell for investment purposes.
B: Express an opinion as to the truth and fairness of Campbell’s financial report.
C: Make a 100% examination of Campbell’s records.
D: Certify the correctness of Campbell’s financial report.

Question 11: Which of the following procedures would an auditor most likely perform to verify management's assertion of completeness?
A: Compare a sample of shipping documents to related sales invoices.
B: Observe the client's distribution of payroll cheques.
C: Confirm a sample of recorded receivables by direct communication with the debtors.
D: Review standard bank confirmations for indications of kiting.

Question 12: Your audit client is under intense pressure to meet an earnings target. Which audit procedure are you most likely to use when auditing purchases?
A: Vouching from purchases journal to supporting documentation
B: Tracing from supporting documentation to purchases journal
C: Recalculation
D: Confirmation

Question 13: In assessing control risk, the auditor is basically concerned that the system provides reasonable assurance that:
A: Controls have not been circumvented by collusion.
B: Misstatements have been prevented or detected.
C: Operational efficiency has been achieved in accordance with management plans.
D: Management cannot override the system.

Question 14: With respect to errors and irregularities which of the following should be part of an auditor’s planning of the audit engagement?
A: Plan to search for fraud or errors that would have a material or immaterial effect on the financial report
B: Plan to search for fraud or errors that would have a material effect on the financial report
C: Plan to discover fraud or errors that are material
D: Plan to discover fraud or errors that are either material or immaterial
The following questions are related to individuals values

Please put down what you believe

Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ... (please circle one answer in each line across):

1 = of utmost importance
7 = of very little or no importance

1. have sufficient time for your personal or family life 1 2 3 4 5 6 7
2. have good physical working conditions (good ventilation and lighting, adequate work space, etc.) 1 2 3 4 5 6 7
3. have a good working relationship with your direct superior 1 2 3 4 5 6 7
4. have security of employment 1 2 3 4 5 6 7
5. work with people who cooperate well with one another 1 2 3 4 5 6 7
6. be consulted by your direct superior in his/her decisions 1 2 3 4 5 6 7
7. have an opportunity for advancement to higher level jobs 1 2 3 4 5 6 7
8. have an element of variety and adventure in the job 1 2 3 4 5 6 7

In your private life, how important is each of the following to you? (please circle one answer in each line across):

9. Personal steadiness and stability 1 2 3 4 5 6 7
10. Thrift 1 2 3 4 5 6 7
11. Persistence (perseverance) 1 2 3 4 5 6 7
12. Respect for tradition 1 2 3 4 5 6 7

13. How often do you feel nervous or tense at work?
   1. never
   7. always 1 2 3 4 5 6 7

14. How frequently, in your experience, are subordinates afraid to express disagreement with their superiors?
   1. very seldom
   7. very frequently 1 2 3 4 5 6 7

To what extent do you agree or disagree with each of the following statements? (please circle one answer in each line across):

1 = strongly agree
7 = strongly disagree

15. Most people can be trusted 1 2 3 4 5 6 7
16. One can be a good manager without having precise answers to most questions that subordinates may raise about their work | 1 2 3 4 5 6 7

17. An organization structure in which certain subordinates have two bosses should be avoided at all costs | 1 2 3 4 5 6 7

18. Competition between employees usually does more harm than good | 1 2 3 4 5 6 7

19. A company's or organization's rules should not be broken - not even when the employee thinks it is in the company's best interest | 1 2 3 4 5 6 7

20. When people have failed in life it is often their own fault | 1 2 3 4 5 6 7
Demographic Information

Please tick the appropriate box in each case

1. What is your current position?
   - Junior auditor
   - Senior auditor
   - Audit Manager
   - Audit partner

2. How many years have you been in your current position?
   - Less than 1 year
   - 1-3 years
   - 3 - 6 years
   - More than 6 years

3. What is your age?
   - Under 30 years of age
   - 31-40
   - 41-50
   - More than 50

4. What is your gender?
   - Male
   - Female

5. What is your country of birth?
   - Australia
   - Egypt
   - Middle Eastern counties
   - Other – please specify ________________

6. In which country were you educated? Please circle the degree(s) obtained and indicate the country.
   Degree | Country
   -------|--------
   Bachelor’s degree
   Master’s degree
   Doctorate
   Other: ______________________________

7. I am a member with
   - CPA
   - ICAA
   - Other. Please specify _____________

7. I am a member with (for Egyptian group)
   - CPA
   - The Egyptian Society of Accountants & Auditors
   - Other. Please specify ______________

8. What is your first language?
   - English
   - Arabic
   - Other. Please specify _____________

9. Are you able to communicate in more than one language? If so please list these languages.
   _______________________________ _______________________________
10. What is your religion?
☐ Muslim
☐ Christian- Catholic
☐ Christian- Orthodox
☐ Christian- Protestant
☐ Other – Please specify ______________
☐ No religion

11. Were you born overseas? ☐ Yes ☐ No

12. How long have you lived in Australia? Please specify ________________

12. How long have you lived in Egypt? Please specify (for Egyptian Group) ________________

Debriefing

Please put down what you believe regarding the following statements

1. Indicate the amount of pressures you felt when you making your decision regarding cases one, two and three.

No Pressure | Very Strong Pressure
-------------|-----------------------
 1 2 3 4 5 6 7

2. How motivated you were to perform well on the task.

Not motivated at all | Extremely motivated
---------------------|-----------------------
 1 2 3 4 5 6 7

Thank you very much for your participation in this research project.
APPENDIX 2

Fraud Risk is High

Accountability is Low
INSTRUCTIONS

• Please complete the scenarios and the questionnaire. Follow the instructions in each section.

• We are interested in your response to three scenarios. Please read each scenario. You are examining the risk of error and fraud risk related to accounts receivable, inventory and cost estimation. Please put down what you believe. Note that there is no right or wrong answer.

• This information would be strictly confidential. I will use the information only for the purpose of this research. I will not disclose any information to another party.
Case One - Bad Debt Scenario
You are responsible for auditing the allowance for bad debts. The client is a new client in the import/export business. You are aware of the existence of related parties. In reviewing the list of accounts receivable, you discover accounts for new customers in Indonesia. The amounts involved are significant to the income statement. The accounts are the result of an extensive marketing campaign to increase sales in Indonesia, which is a new market. The audit is being performed six weeks after year end.

The sales were made during the latter part of the current year. No payments have been received since year end. The customers’ location and the language differences make communication difficult. For example, you are uncertain that positive confirmation requests will be returned. Senior management has informed you that all balances on these new accounts are considered collectible. They do not believe that a bad debt provision for these accounts is considered necessary.

1. How likely is it that the explanation provided to you by senior management (for the collectability of account receivable) is truthful? Please indicate your response below.

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2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

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3. Classify your risk assessment of fraud by circling high, moderate, or low.

Low  Moderate  High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

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5. Classify your risk assessment of error by circling high, moderate, or low.

Low  Moderate  High

Assume that internal control over accounts receivable is evaluated as inadequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the allowance for bad debts? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Review documentation maintained in customer credit files, e.g., credit applications, credit references, approved credit limits.

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b) Ask credit-approval personnel what procedures they followed in researching these new customers. Ask how the credit limits for these customers were established.

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c) Review current and prior write off and recovery experience. Test the aging of receivable balances.

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d) Discuss the customers with sales staff and management responsible for Indonesian sales. Ascertain whether they are aware of any potential problems with these customers.

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e) Perform an overall reasonableness test of account receivable, sales, and uncollectible accounts. Determine whether it appears that management’s treatment of these accounts is appropriate from an overall viewpoint.

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f) Inquire of appropriate personnel whether sales have been made to customers in other foreign countries that would be comparable with Indonesia.

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g) Review correspondence and any other documentation received from these customers for evidence of returns, credits other problems.

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h) Make inquiries of the marketing department as to projected sales for these customers. Inquire about current plans for growth in the Indonesian market.

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i) Research the customers’ financial position and stability using external financial sources, e.g. credit bureaus, financial publications, and member firms in Indonesia.

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j) Inquire of appropriate personnel the basis for the determination that balances are fully collectable. Request documentation, if available, to support such assertions.

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k) Other: (describe)
Case two- Construction Project
You are responsible for auditing a construction project for a new client with related parties. The company is a construction general contractor which, until recently specialised in commercial office buildings. Because of changes in the real estate market, the company has switched to multi-unit residential complexes. The first large residential project the company has attempted was started and partially completed this year. It is material to current year operations. The audit is being performed six weeks after year end.

The company has adopted the percentage-of-completion method. Actual costs to date along with estimated total costs for the project are used to compute the percentage-of-completion. The company’s chief financial officer has provided estimates of total costs, percentage-of-completion, and the gross profit to be recognised for the project this year. Because of the importance of the project, the chief financial officer personally supervised the development of the estimates.

1. How likely is it that the estimation provided to you by senior management (for the total costs, percentage of completion and gross profit) is truthful? Indicate your response below.

   The explanation is  
   not at all truthful
   The explanation is  
   completely truthful
   1 2 3 4 5 6 7

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

   Extremely low risk of fraud  
   Extremely high risk of fraud
   1 2 3 4 5 6 7

3. Classify your risk assessment of fraud by circling high, moderate, or low.

   Low   Moderate   High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

   Extremely low risk of error  
   Extremely high risk of error
   1 2 3 4 5 6 7

5. Classify your risk assessment of error by circling high, moderate, or low.

   Low   Moderate   High

Assume that internal control over construction contract is evaluated as inadequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the gross profit estimates? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

   a) Discuss with client personnel the assumptions and procedures used in the original estimate of total contract cost at 100% completion.
   Not important
   very important
   1 2 3 4 5 6 7

   b) Compare the total cost incurred on other jobs completed during the year to the original cost estimates on those jobs. Evaluate the client’s job estimating ability.
   Not important
   very important
   1 2 3 4 5 6 7
c) Review the changes to the job since year end. Determine if material charges have been incurred that would change the total cost estimate.

Not important very important
1 2 3 4 5 6 7

d) Inquire of appropriate personnel whether the project is over or under budget as to material costs and labour costs.

Not important very important
1 2 3 4 5 6 7

e) Examine all change orders issued on the project and related cost estimates. Review the contract to determine that the contract value used in determining gross profit is appropriate.

Not important very important
1 2 3 4 5 6 7

f) Inquire of appropriate personnel whether there are significant unapproved change orders that will affect the cost of the project.

Not important very important
1 2 3 4 5 6 7

g) Confirm terms of construction contract and billings to date with the customer.

Not important very important
1 2 3 4 5 6 7

h) Discuss estimates of completion with site personnel while touring the construction site. Inquire as to the reasonableness of estimated date of completion.

Not important very important
1 2 3 4 5 6 7

i) Talk to engineers to determine the physical percentage of completion. Compare with percentage of completion in terms of cost.

Not important very important
1 2 3 4 5 6 7

j) Test details of cost incurred to date by reference to supporting documentation. Recompute actual costs, estimated total costs, percentage of completion, and gross profit earned to date.

Not important very important
1 2 3 4 5 6 7

k) Other: (Describe)
Case Three - Inventory Valuation
You are responsible for auditing the valuation of inventory for a new client with related parties in the manufacturing industry. The physical inventory observation and tests of clerical accuracy of the physical inventory summary did not reveal any material errors in the inventory listings. The audit is being performed six weeks after year end.

Approximately 30% of the inventory value consists of the product of one of the firm’s divisions. Valuation of this product is material to the client’s financial statements and significant fluctuations in price have occurred. In prior years a large backlog existed for this product. In prior years the product inventory was valued at cost. This year the firm’s backlog for this product has disappeared. Market prices at year end ranged from values above cost to values below cost. Senior management has informed you that the prices will stabilise at higher prices. Therefore, no adjustments were considered necessary to reduce the inventory from cost to net realisable value.

1. How likely is it that the explanation provided to you by senior management (that the prices will stabilise at the higher market prices) is truthful? Indicate your response below.

The explanation is not at all truthful

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</table>

The explanation is completely truthful

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

Extremely low risk of fraud

<table>
<thead>
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</table>

Extremely high risk of fraud

3. Classify your risk assessment of fraud by circling high, moderate, or low.

Low Moderate High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

Extremely low risk of error

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<tr>
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</table>

Extremely high risk of error

5. Classify your risk assessment of error by circling high, moderate, or low.

Low Moderate High

Assume that internal control over inventory is evaluated as inadequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the inventory valuation? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Review perpetual records, sales analyses, and other information regarding the sales activity of this product during the year and in the subsequent period. Review lost or stolen inventory reports.

Not important very important

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</table>

b) Discuss the valuation procedures with appropriate personnel to determine the following: inventory costing methods; accounting policies used; pricing policies and procedures of the company; results of physical observation during the year and their effects on inventory valuation.

Not important very important

|   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
c) Analyse monthly cost of sales, gross profit, inventory turnover, and other appropriate ratios for this product.

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<table>
<thead>
<tr>
<th>Not important</th>
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d) Discuss with management the reasons for the sales decline. Inquire as to whether identified factors are expected to impact future sales.

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<th>very important</th>
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<tbody>
<tr>
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```

e) Test the determination of appropriate market values for other inventory items. Evaluate the reasonableness of assumptions and methods used.

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<th>Not important</th>
<th>very important</th>
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<tbody>
<tr>
<td>1  2  3  4  5  6  7</td>
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f) Discuss with appropriate personnel the client’s method for identifying potential problems in scrap, obsolete, unstable, slow-moving, or overstocked items in inventory.

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<table>
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<th>Not important</th>
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<td>1  2  3  4  5  6  7</td>
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g) Evaluate the impact on inventories of technological changes, outstanding purchase commitments, open sales orders, and the company’s marketing plans.

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<table>
<thead>
<tr>
<th>Not important</th>
<th>very important</th>
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<tr>
<td>1  2  3  4  5  6  7</td>
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</table>
```

h) Inquire of the marketing department of the projected sales and prices of significant inventory items.

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<tr>
<th>Not important</th>
<th>very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  2  3  4  5  6  7</td>
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</tbody>
</table>
```

i) Verify the computation of unit cost for this product by examining supporting documentation for material and labour costs and reviewing overhead changes for reasonableness.

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<table>
<thead>
<tr>
<th>Not important</th>
<th>very important</th>
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<tbody>
<tr>
<td>1  2  3  4  5  6  7</td>
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</table>
```

j) Inquire of appropriate personnel the basis for the determination that previous price declines were temporary. Request documentation to support such assertions.

```
<table>
<thead>
<tr>
<th>Not important</th>
<th>very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  2  3  4  5  6  7</td>
<td></td>
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</tbody>
</table>
```

k) Other: (Describe)
The following questions are related to audit knowledge, fraud knowledge and error knowledge. Please choose the best answer.

**Question 1:** Which of the following does not represent an opportunity to commit fraud?
A: Significant related-party transactions.
B: The auditor's relationship with management is strained.
C: Management is dominated by a single person.
D: The financial report included highly subjective estimates.

**Question 2:** The auditor should respond to an increased risk of fraud by doing all of the following except:
A: Increasing professional scepticism.
B: Assigning more experienced personnel to the audit.
C: Increasing acceptable audit risk.
D: Taking steps to obtain more reliable evidence.

**Question 3:** An auditor discovers a likely fraud during an audit, but concludes that the effect of the fraud is not sufficiently material to affect the audit opinion. The auditor should:
A: Disclose the fraud to the appropriate level of the client's management.
B: Disclose the fraud to appropriate authorities external to the client.
C: Discuss with the client the additional audit procedures that will be needed to identify the exact amount of the fraud.
D: Modify the audit program to include tests specifically designed to identify the fraud and its impact on the financial report.

**Question 4:** Which of the following factors most likely would heighten an auditor's concern about the risk of fraudulent financial reporting?
A: Inability to generate cash flows from operations while reporting substantial earnings growth.
B: Management's lack of interest in increasing the entity's earnings trend.
C: Large amounts of liquid assets that are easily converted into cash.
D: Inability to borrow necessary capital without granting debt covenants.

**Question 5:** A properly planned and performed audit may fail to detect a material misstatement resulting from fraud because:
A: Audit procedures that are effective for detecting an error may be ineffective for fraud that is concealed through collusion.
B: An audit is planned and performed to provide reasonable assurance of detecting material misstatements caused by errors but not by fraud.
C: The factors considered in assessing control risk indicated an increased risk of error but only a low risk of fraud in the financial report.
D: The auditor did not consider factors influencing audit risk for account balances that have effects pervasive to the financial report taken as a whole.

**Question 6:** If, as a result of auditing procedures, an auditor believes that the client may have committed illegal acts, which of the following actions should be taken immediately by the auditor?
A: Consult with the client's legal advisor and the auditor's legal advisor to determine how the suspected illegal acts will be communicated to the shareholders.
B: Extend normal auditing procedures to ascertain whether the suspected illegal acts may have a material effect on the financial report.
C: Inquire of the client's management and consult with the client's legal advisor or other specialists, as necessary, to obtain an understanding of the nature of the acts and their possible effects on the financial report.
D: Notify each member of the audit committee of the board of directors about the nature of the acts and request that they give guidance with respect to the approach to be taken by the auditor.

**Question 7:** The primary factor that distinguishes errors from fraud is:
A: Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
B: Whether the misstatement is perpetrated by an employee or by a member of management.
C: Whether the underlying cause of a misstatement is intentional or unintentional.
D: Whether the misstatement is concealed.
Question 8: The auditor is most likely to presume that a high risk of a fraud exists if:
A: The client is a multinational company that does business in numerous foreign countries.
B: The client does business with several related parties.
C: Inadequate segregation of duties places an employee in a position to perpetrate and conceal thefts.
D: Inadequate employee training results in lengthy computer information systems exception reports each month.

Question 9: Which of the following, if material, would be fraud as defined in the Auditing Standards?
A: Errors in the application of accounting principles.
B: Errors in the accounting data underlying the financial report.
C: Misinterpretation of facts that existed when the financial report was prepared.
D: Misappropriation of assets.

Question 10: An audit of the financial report of Campbell Ltd, an Australian listed company, is being conducted by an external auditor. The external auditor is expected to:
A: Express an opinion as to the attractiveness of Campbell for investment purposes.
B: Express an opinion as to the truth and fairness of Campbell’s financial report.
C: Make a 100% examination of Campbell’s records.
D: Certify the correctness of Campbell’s financial report.

Question 11: Which of the following procedures would an auditor most likely perform to verify management's assertion of completeness?
A: Compare a sample of shipping documents to related sales invoices.
B: Observe the client's distribution of payroll cheques.
C: Confirm a sample of recorded receivables by direct communication with the debtors.
D: Review standard bank confirmations for indications of kiting.

Question 12: Your audit client is under intense pressure to meet an earnings target. Which audit procedure are you most likely to use when auditing purchases?
A: Vouching from purchases journal to supporting documentation
B: Tracing from supporting documentation to purchases journal
C: Recalculation
D: Confirmation

Question 13: In assessing control risk, the auditor is basically concerned that the system provides reasonable assurance that:
A: Controls have not been circumvented by collusion.
B: Misstatements have been prevented or detected.
C: Operational efficiency has been achieved in accordance with management plans.
D: Management cannot override the system.

Question 14: With respect to errors and irregularities which of the following should be part of an auditor’s planning of the audit engagement?
A: Plan to search for fraud or errors that would have a material or immaterial effect on the financial report
B: Plan to search for fraud or errors that would have a material effect on the financial report
C: Plan to discover fraud or errors that are material
D: Plan to discover fraud or errors that are either material or immaterial
The following questions are related to individuals values
Please put down what you believe
Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ... (please circle one answer in each line across):

1 = of utmost importance
7 = of very little or no importance

1. have sufficient time for your personal or family life 1 2 3 4 5 6 7
2. have good physical working conditions (good ventilation and lighting, adequate work space, etc.) 1 2 3 4 5 6 7
3. have a good working relationship with your direct superior 1 2 3 4 5 6 7
4. have security of employment 1 2 3 4 5 6 7
5. work with people who cooperate well with one another 1 2 3 4 5 6 7
6. be consulted by your direct superior in his/her decisions 1 2 3 4 5 6 7
7. have an opportunity for advancement to higher level jobs 1 2 3 4 5 6 7
8. have an element of variety and adventure in the job 1 2 3 4 5 6 7

In your private life, how important is each of the following to you? (please circle one answer in each line across):

9. Personal steadiness and stability 1 2 3 4 5 6 7
10. Thrift 1 2 3 4 5 6 7
11. Persistence (perseverance) 1 2 3 4 5 6 7
12. Respect for tradition 1 2 3 4 5 6 7
13. How often do you feel nervous or tense at work?
   1. never
   7. always 1 2 3 4 5 6 7
14. How frequently, in your experience, are subordinates afraid to express disagreement with their superiors?
   1. very seldom
   7. very frequently 1 2 3 4 5 6 7

To what extent do you agree or disagree with each of the following statements? (please circle one answer in each line across):

1 = strongly agree
7 = strongly disagree

15. Most people can be trusted 1 2 3 4 5 6 7
16. One can be a good manager without having precise answers to most questions that subordinates may raise about their work

17. An organization structure in which certain subordinates have two bosses should be avoided at all costs

18. Competition between employees usually does more harm than good

19. A company's or organization's rules should not be broken - not even when the employee thinks it is in the company's best interest

20. When people have failed in life it is often their own fault
Demographic Information

Please tick the appropriate box in each case

1. What is your current position?
   □ Junior auditor
   □ Senior auditor
   □ Audit Manager
   □ Audit partner

2. How many years have you been in your current position?
   □ Less than 1 year
   □ 1-3 years
   □ 3 - 6 years
   □ More than 6 years

3. What is your age?
   □ Under 30 years of age
   □ 31-40
   □ 41-50
   □ More than 50

4. What is your gender?
   □ Male
   □ Female

5. What is your country of birth?
   □ Australia
   □ Egypt
   □ Middle Eastern counties
   □ Other – please specify ________________

6. In which country were you educated? Please circle the degree(s) obtained and indicate the country.

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<th>Degree</th>
<th>Country</th>
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<tbody>
<tr>
<td>Bachelor’s degree</td>
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<td>Master’s degree</td>
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<tr>
<td>Doctorate</td>
<td></td>
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<tr>
<td>Other:</td>
<td></td>
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</tbody>
</table>

7. I am a member with
   □ CPA
   □ ICAA
   □ Other. Please specify ___________

7. I am a member with (for Egyptian group)
   □ CPA
   □ The Egyptian Society of Accountants & Auditors
   □ Other. Please specify ___________

8. What is your first language?
   □ English
   □ Arabic
   □ Other. Please specify ___________

9. Are you able to communicate in more than one language? If so please list these languages.

__________________________  __________________
10. What is your religion?

☐ Muslim
☐ Christian- Catholic
☐ Christian- Orthodox
☐ Christian- Protestant
☐ Other – Please specify _______________
☐ No religion


12. How long have you lived in Australia? Please specify ________________

12. How long have you lived in Egypt? Please specify (for Egyptian Group) ________________

**Debriefing**

*Please put down what you believe regarding the following statements*

1. Indicate the amount of pressures you felt when you making your decision regarding cases one, two and three.

<table>
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<tr>
<th>No Pressure</th>
<th>Very Strong Pressure</th>
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<td>1 2 3 4 5 6 7</td>
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2. How motivated you were to perform well on the task.

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<tr>
<th>Not motivated at all</th>
<th>Extremely motivated</th>
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</table>

*Thank you very much for your participation in this research project.*
APPENDIX 3

Fraud Risk is Low

Accountability is High
INSTRUCTIONS

- Please complete the scenarios and the questionnaire. Follow the instructions in each section.

- We are interested in your response to three scenarios. Please read each scenario. You are examining the risk of error and fraud risk related to accounts receivable, inventory and cost estimation. Please put down what you believe. Note that there is no right or wrong answer.

- Your judgment will be reviewed by your supervisor and your partner.
Case One - Bad Debt Scenario

You are responsible for auditing the allowance for bad debts. The client is a continuing client in the import/export business. In reviewing the list of accounts receivable, you discover accounts for new customers in Indonesia. The amounts involved are significant to the income statement. The accounts are the result of an extensive marketing campaign to increase sales in Indonesia, which is a new market. The audit is being performed six weeks after year end.

The sales were made during the latter part of the current year. No payments have been received since year end. You are uncertain that positive confirmation requests will be returned. Senior management has informed you that all balances on these new accounts are considered collectible. They do not believe that a bad debt provision for these accounts is considered necessary.

1. How likely is it that the explanation provided to you by senior management (for the collectability of account receivable) is truthful? Please indicate your response below.

The explanation is not at all truthful
The explanation is completely truthful

1 2 3 4 5 6 7

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

Extremely low risk of fraud
Extremely high risk of fraud

1 2 3 4 5 6 7

3. Classify your risk assessment of fraud by circling high, moderate, or low.

Low Moderate High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

Extremely low risk of error
Extremely high risk of error

1 2 3 4 5 6 7

5. Classify your risk assessment of error by circling high, moderate, or low.

Low Moderate High

Assume that internal control over accounts receivable is evaluated as adequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the allowance for bad debts? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Review documentation maintained in customer credit files, e.g., credit applications, credit references, approved credit limits.

Not important very important

1 2 3 4 5 6 7

b) Ask credit-approval personnel what procedures they followed in researching these new customers. Ask how the credit limits for these customers were established.

Not important very important

1 2 3 4 5 6 7
c) Review current and prior write off and recovery experience. Test the aging of receivable balances.

Not important    very important
1 2 3 4 5 6 7

Not important    very important
1 2 3 4 5 6 7

d) Discuss the customers with sales staff and management responsible for Indonesian sales. Ascertain whether they are aware of any potential problems with these customers.

e) Perform an overall reasonableness test of account receivable, sales, and uncollectible accounts. Determine whether it appears that management’s treatment of these accounts is appropriate from an overall viewpoint.

Not important    very important
1 2 3 4 5 6 7

f) Inquire of appropriate personnel whether sales have been made to customers in other foreign countries that would be comparable with Indonesia.

Not important    very important
1 2 3 4 5 6 7

Not important    very important
1 2 3 4 5 6 7

g) Review correspondence and any other documentation received from these customers for evidence of returns, credits other problems.

Not important    very important
1 2 3 4 5 6 7

h) Make inquiries of the marketing department as to projected sales for these customers. Inquire about current plans for growth in the Indonesian market.

Not important    very important
1 2 3 4 5 6 7

Not important    very important
1 2 3 4 5 6 7

i) Research the customers’ financial position and stability using external financial sources, e.g. credit bureaus, financial publications, and member firms in Indonesia.

Not important    very important
1 2 3 4 5 6 7

Not important    very important
1 2 3 4 5 6 7

j) Inquire of appropriate personnel the basis for the determination that balances are fully collectable. Request documentation, if available, to support such assertions.

Not important    very important
1 2 3 4 5 6 7

k) Other: (describe)
Case two- Construction Project

You are responsible for auditing a construction project for a continuing client. The company is a construction general contractor which, until recently specialized in commercial office buildings. Because of changes in the real estate market, the company has switched to multi-unit residential complexes. The first large residential project the company has attempted was started and partially completed this year. It is material to current year operations. The audit is being performed six weeks after year end.

The company has adopted the percentage-of-completion method. Actual costs to date along with estimated total costs for the project are used to compute the percentage-of-completion. The company’s chief financial officer has provided estimates of total costs, percentage-of-completion, and the gross profit to be recognised for the project this year. Because of the importance of the project, the chief financial officer personally supervised the development of the estimates.

1. How likely is it that the estimation provided to you by senior management (for the total costs, percentage of completion and gross profit) is truthful? Indicate your response below.

   The explanation is not at all truthful  The explanation is completely truthful

   1  2  3  4  5  6  7

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

   Extremely low risk of fraud  Extremely high risk of fraud

   1  2  3  4  5  6  7

3. Classify your risk assessment of fraud by circling high, moderate, or low.

   Low  Moderate  High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

   Extremely low risk of error  Extremely high risk of error

   1  2  3  4  5  6  7

5. Classify your risk assessment of error by circling high, moderate, or low.

   Low  Moderate  High

Assume that internal control over construction contract is evaluated as adequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the gross profit estimates? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

   a) Discuss with client personnel the assumptions and procedures used in the original estimate of total contract cost at 100% completion.

      Not important  very important

      1  2  3  4  5  6  7

   b) Compare the total cost incurred on other jobs completed during the year to the original cost estimates on those jobs. Evaluate the client’s job estimating ability.

      Not important  very important

      1  2  3  4  5  6  7
c) Review the changes to the job since year end. Determine if material charges have been incurred that would change the total cost estimate.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

d) Inquire of appropriate personnel whether the project is over or under budget as to material costs and labour costs.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

e) Examine all change orders issued on the project and related cost estimates. Review the contract to determine that the contract value used in determining gross profit is appropriate.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

f) Inquire of appropriate personnel whether there are significant unapproved change orders that will affect the cost of the project.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

g) Confirm terms of construction contract and billings to date with the customer.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

h) Discuss estimates of completion with site personnel while touring the construction site. Inquire as to the reasonableness of estimated date of completion.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

i) Talk to engineers to determine the physical percentage of completion. Compare with percentage of completion in terms of cost.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

j) Test details of cost incurred to date by reference to supporting documentation. Recompute actual costs, estimated total costs, percentage of completion, and gross profit earned to date.

| Not important | 1 | 2 | 3 | 4 | 5 | 6 | very important | 7 |

k) Other: (Describe)
Case Three - Inventory Valuation

You are responsible for auditing the valuation of inventory for a continuing client in the manufacturing industry. The physical inventory observation and tests of clerical accuracy of the physical inventory summary did not reveal any material errors in the inventory listings. The audit is being performed six weeks after year end.

Approximately 30% of the inventory value consists of the product of one of the firm’s divisions. Valuation of this product is material to the client’s financial statements and significant fluctuations in price have occurred. In prior years a large backlog existed for this product. In prior years the product inventory was valued at cost. This year the firm’s backlog for this product has disappeared. Market prices at year end ranged from values above cost to values below cost. Senior management has informed you that the prices will stabilise at higher prices. Therefore, no adjustments were considered necessary to reduce the inventory from cost to net realisable value.

1. How likely is it that the explanation provided to you by senior management (that the prices will stabilise at the higher market prices) is truthful? Indicate your response below.

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<tr>
<th>The explanation is</th>
<th>The explanation is</th>
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<tbody>
<tr>
<td>not at all truthful</td>
<td>completely truthful</td>
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<td>1</td>
<td>2</td>
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<td>3</td>
<td>4</td>
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<td>7</td>
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</tbody>
</table>

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

<table>
<thead>
<tr>
<th>Extremely low</th>
<th>Extremely high</th>
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<tbody>
<tr>
<td>risk of fraud</td>
<td>risk of fraud</td>
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<td>3</td>
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<td>6</td>
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<tr>
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<td></td>
</tr>
</tbody>
</table>

3. Classify your risk assessment of fraud by circling high, moderate, or low.

   Low   Moderate   High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

<table>
<thead>
<tr>
<th>Extremely low</th>
<th>Extremely high</th>
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<td>risk of error</td>
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</table>

5. Classify your risk assessment of error by circling high, moderate, or low.

   Low   Moderate   High

Assume that internal control over inventory is evaluated as an adequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the inventory valuation? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

   a) Review perpetual records, sales analyses, and other information regarding the sales activity of this product during the year and in the subsequent period. Review lost or stolen inventory reports.

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<tr>
<th>Not important</th>
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249
b) Discuss the valuation procedures with appropriate personnel to determine the following: inventory costing methods; accounting policies used; pricing policies and procedures of the company; results of physical observation during the year and their effects on inventory valuation.

Not important
1 2 3 4 5 6 very important
7

c) Analyse monthly cost of sales, gross profit, inventory turnover, and other appropriate ratios for this product.

Not important
1 2 3 4 5 6 very important
7

d) Discuss with management the reasons for the sales decline. Inquire as to whether identified factors are expected to impact future sales.

Not important
1 2 3 4 5 6 very important
7

e) Test the determination of appropriate market values for other inventory items. Evaluate the reasonableness of assumptions and methods used.

Not important
1 2 3 4 5 6 very important
7

f) Discuss with appropriate personnel the client’s method for identifying potential problems in scrap, obsolete, unstable, slow-moving, or overstocked items in inventory.

Not important
1 2 3 4 5 6 very important
7

g) Evaluate the impact on inventories of technological changes, outstanding purchase commitments, open sales orders, and the company’s marketing plans.

Not important
1 2 3 4 5 6 very important
7

h) Inquire of the marketing department of the projected sales and prices of significant inventory items.

Not important
1 2 3 4 5 6 very important
7

i) Verify the computation of unit cost for this product by examining supporting documentation for material and labour costs and reviewing overhead changes for reasonableness.

Not important
1 2 3 4 5 6 very important
7

j) Inquire of appropriate personnel the basis for the determination that previous price declines were temporary. Request documentation to support such assertions.

Not important
1 2 3 4 5 6 very important
7

k) Other: (Describe)
The following questions are related to audit knowledge, fraud knowledge and error knowledge. Please choose the best answer.

**Question 1:** Which of the following does not represent an opportunity to commit fraud?
A: Significant related-party transactions.
B: The auditor's relationship with management is strained.
C: Management is dominated by a single person.
D: The financial report included highly subjective estimates.

**Question 2:** The auditor should respond to an increased risk of fraud by doing all of the following except:
A: Increasing professional scepticism.
B: Assigning more experienced personnel to the audit.
C: Increasing acceptable audit risk.
D: Taking steps to obtain more reliable evidence.

**Question 3:** An auditor discovers a likely fraud during an audit, but concludes that the effect of the fraud is not sufficiently material to affect the audit opinion. The auditor should:
A: Disclose the fraud to the appropriate level of the client's management.
B: Disclose the fraud to appropriate authorities external to the client.
C: Discuss with the client the additional audit procedures that will be needed to identify the exact amount of the fraud.
D: Modify the audit program to include tests specifically designed to identify the fraud and its impact on the financial report.

**Question 4:** Which of the following factors most likely would heighten an auditor's concern about the risk of fraudulent financial reporting?
A: Inability to generate cash flows from operations while reporting substantial earnings growth.
B: Management's lack of interest in increasing the entity's earnings trend.
C: Large amounts of liquid assets that are easily converted into cash.
D: Inability to borrow necessary capital without granting debt covenants.

**Question 5:** A properly planned and performed audit may fail to detect a material misstatement resulting from fraud because:
A: Audit procedures that are effective for detecting an error may be ineffective for fraud that is concealed through collusion.
B: An audit is planned and performed to provide reasonable assurance of detecting material misstatements caused by errors but not by fraud.
C: The factors considered in assessing control risk indicated an increased risk of error but only a low risk of fraud in the financial report.
D: The auditor did not consider factors influencing audit risk for account balances that have effects pervasive to the financial report taken as a whole.

**Question 6:** If, as a result of auditing procedures, an auditor believes that the client may have committed illegal acts, which of the following actions should be taken immediately by the auditor?
A: Consult with the client's legal advisor and the auditor's legal advisor to determine how the suspected illegal acts will be communicated to the shareholders.
B: Extend normal auditing procedures to ascertain whether the suspected illegal acts may have a material effect on the financial report.
C: Inquire of the client's management and consult with the client's legal advisor or other specialists, as necessary, to obtain an understanding of the nature of the acts and their possible effects on the financial report.
D: Notify each member of the audit committee of the board of directors about the nature of the acts and request that they give guidance with respect to the approach to be taken by the auditor.
Question 7: The primary factor that distinguishes errors from fraud is:
A: Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
B: Whether the misstatement is perpetrated by an employee or by a member of management.
C: Whether the underlying cause of a misstatement is intentional or unintentional.
D: Whether the misstatement is concealed.

Question 8: The auditor is most likely to presume that a high risk of a fraud exists if:
A: The client is a multinational company that does business in numerous foreign countries.
B: The client does business with several related parties.
C: Inadequate segregation of duties places an employee in a position to perpetrate and conceal thefts.
D: Inadequate employee training results in lengthy computer information systems exception reports each month.

Question 9: Which of the following, if material, would be fraud as defined in the Auditing Standards?
A: Errors in the application of accounting principles.
B: Errors in the accounting data underlying the financial report.
C: Misinterpretation of facts that existed when the financial report was prepared.
D: Misappropriation of assets.

Question 10: An audit of the financial report of Campbell Ltd, an Australian listed company, is being conducted by an external auditor. The external auditor is expected to:
A: Express an opinion as to the attractiveness of Campbell for investment purposes.
B: Express an opinion as to the truth and fairness of Campbell’s financial report.
C: Make a 100% examination of Campbell’s records.
D: Certify the correctness of Campbell’s financial report.

Question 11: Which of the following procedures would an auditor most likely perform to verify management's assertion of completeness?
A: Compare a sample of shipping documents to related sales invoices.
B: Observe the client's distribution of payroll cheques.
C: Confirm a sample of recorded receivables by direct communication with the debtors.
D: Review standard bank confirmations for indications of kiting.

Question 12: Your audit client is under intense pressure to meet an earnings target. Which audit procedure are you most likely to use when auditing purchases?
A: Vouching from purchases journal to supporting documentation
B: Tracing from supporting documentation to purchases journal
C: Recalculation
D: Confirmation

Question 13: In assessing control risk, the auditor is basically concerned that the system provides reasonable assurance that:
A: Controls have not been circumvented by collusion.
B: Misstatements have been prevented or detected.
C: Operational efficiency has been achieved in accordance with management plans.
D: Management cannot override the system.

Question 14: With respect to errors and irregularities which of the following should be part of an auditor’s planning of the audit engagement?
A: Plan to search for fraud or errors that would have a material or immaterial effect on the financial report
B: Plan to search for fraud or errors that would have a material effect on the financial report
C: Plan to discover fraud or errors that are material
D: Plan to discover fraud or errors that are either material or immaterial
The following questions are related to individuals values
Please put down what you believe
Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ... (please circle one answer in each line across):

1 = of utmost importance  
7 = of very little or no importance

1. have sufficient time for your personal or family life
   1  2  3  4  5  6  7

2. have good physical working conditions (good ventilation and lighting, adequate work space, etc.)
   1  2  3  4  5  6  7

3. have a good working relationship with your direct superior
   1  2  3  4  5  6  7

4. have security of employment
   1  2  3  4  5  6  7

5. work with people who cooperate well with one another
   1  2  3  4  5  6  7

6. be consulted by your direct superior in his/her decisions
   1  2  3  4  5  6  7

7. have an opportunity for advancement to higher level jobs
   1  2  3  4  5  6  7

8. have an element of variety and adventure in the job
   1  2  3  4  5  6  7

In your private life, how important is each of the following to you? (please circle one answer in each line across):

9. Personal steadiness and stability
   1  2  3  4  5  6  7

10. Thrift
    1  2  3  4  5  6  7

11. Persistence (perseverance)
    1  2  3  4  5  6  7

12. Respect for tradition
    1  2  3  4  5  6  7

13. How often do you feel nervous or tense at work?
    1. never
    7. always
    1  2  3  4  5  6  7

14. How frequently, in your experience, are subordinates afraid to express disagreement with their superiors?
    1. very seldom
    7. very frequently
    1  2  3  4  5  6  7
To what extent do you agree or disagree with each of the following statements? (please circle one answer in each line across):

1 = strongly agree  
7 = strongly disagree

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Most people can be trusted</td>
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<tr>
<td>16. One can be a good manager without having precise answers to most questions that subordinates may raise about their work</td>
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<tr>
<td>17. An organization structure in which certain subordinates have two bosses should be avoided at all costs</td>
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<tr>
<td>18. Competition between employees usually does more harm than good</td>
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<td>19. A company's or organization's rules should not be broken - not even when the employee thinks it is in the company's best interest</td>
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<tr>
<td>20. When people have failed in life it is often their own fault</td>
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</table>
Demographic Information

Please tick the appropriate box in each case

1. What is your current position?
   □ Junior auditor
   □ Senior auditor
   □ Audit Manager
   □ Audit partner

2. How many years have you been in your current position?
   □ Less than 1 year
   □ 1-3 years
   □ 3 - 6 years
   □ More than 6 years

3. What is your age?
   □ Under 30 years of age
   □ 31-40
   □ 41-50
   □ More than 50

4. What is your gender?
   □ Male
   □ Female

5. What is your country of birth?
   □ Australia
   □ Egypt
   □ Middle Eastern counties
   □ Other – please specify ________________

6. In which country were you educated? Please circle the degree(s) obtained and indicate the country.

<table>
<thead>
<tr>
<th>Degree</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s</td>
<td></td>
</tr>
<tr>
<td>Master’s</td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

7. I am a member with
   □ CPA
   □ ICAA
   □ Other. Please specify ___________

7. I am a member with (for Egyptian group)
   □ CPA
   □ The Egyptian Society of Accountants & Auditors
   □ Other. Please specify ___________

8. What is your first language?
   □ English
   □ Arabic
   □ Other. Please specify ___________

9. Are you able to communicate in more than one language? If so please list these languages.
   ________________ ________________ ________________
10. What is your religion?
   □ Muslim
   □ Christian- Catholic
   □ Christian- Orthodox
   □ Christian- Protestant
   □ Other – Please specify _____________
   □ No religion


12. How long have you lived in Australia? Please specify ________________

12. How long have you lived in Egypt? Please specify (for Egyptian Group) ________________

Debriefing

Please put down what you believe regarding the following statements

1. Indicate the amount of pressures you felt when you making your decision regarding cases one, two and three.

   No Pressure    Very Strong Pressure
   1  2  3  4  5  6  7

2. How motivated you were to perform well on the task.

   Not motivated at all    Extremely motivated
   1  2  3  4  5  6  7

Thank you very much for your participation in this research project.
APPENDIX 4

Fraud Risk is Low

Accountability is Low
INSTRUCTIONS

- Please complete the scenarios and the questionnaire. Follow the instructions in each section.

- We are interested in your response to three scenarios. Please read each scenario. You are examining the risk of error and fraud risk related to accounts receivable, inventory and cost estimation. Please put down what you believe. Note that there is no right or wrong answer.

- This information would be strictly confidential. I will use the information only for the purpose of this research. I will not disclose any information to another party.
Case One - Bad Debt Scenario

You are responsible for auditing the allowance for bad debts. The client is a continuing client in the import/export business. In reviewing the list of accounts receivable, you discover accounts for new customers in Indonesia. The amounts involved are significant to the income statement. The accounts are the result of an extensive marketing campaign to increase sales in Indonesia, which is a new market. The audit is being performed six weeks after year end.

The sales were made during the latter part of the current year. No payments have been received since year end. You are uncertain that positive confirmation requests will be returned. Senior management has informed you that all balances on these new accounts are considered collectible. They do not believe that a bad debt provision for these accounts is considered necessary.

1. How likely is it that the explanation provided to you by senior management (for the collectability of account receivable) is truthful? Please indicate your response below.

<table>
<thead>
<tr>
<th>The explanation is</th>
<th>The explanation is</th>
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</thead>
<tbody>
<tr>
<td>not at all truthful</td>
<td>completely truthful</td>
</tr>
</tbody>
</table>

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

<table>
<thead>
<tr>
<th>Extremely low</th>
<th>Extremely high</th>
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<tbody>
<tr>
<td>risk of fraud</td>
<td>risk of fraud</td>
</tr>
</tbody>
</table>

3. Classify your risk assessment of fraud by circling high, moderate, or low.

| Low | Moderate | High |

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

<table>
<thead>
<tr>
<th>Extremely low</th>
<th>Extremely high</th>
</tr>
</thead>
<tbody>
<tr>
<td>risk of error</td>
<td>risk of error</td>
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</table>

5. Classify your risk assessment of error by circling high, moderate, or low.

| Low | Moderate | High |

Assume that internal control over accounts receivable is evaluated as an adequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the allowance for bad debts? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Review documentation maintained in customer credit files, e.g., credit applications, credit references, approved credit limits.

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b) Ask credit-approval personnel what procedures they followed in researching these new customers. Ask how the credit limits for these customers were established.

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259
d) Discuss the customers with sales staff and management responsible for Indonesian sales. Ascertain whether they are aware of any potential problems with these customers.

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<td>1 2 3 4 5 6 7</td>
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e) Perform an overall reasonableness test of account receivable, sales, and uncollectible accounts. Determine whether it appears that management’s treatment of these accounts is appropriate from an overall viewpoint.

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f) Inquire of appropriate personnel whether sales have been made to customers in other foreign countries that would be comparable with Indonesia.

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g) Review correspondence and any other documentation received from these customers for evidence of returns, credits other problems.

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h) Make inquiries of the marketing department as to projected sales for these customers. Inquire about current plans for growth in the Indonesian market.

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i) Research the customers’ financial position and stability using external financial sources, e.g. credit bureaus, financial publications, and member firms in Indonesia.

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j) Inquire of appropriate personnel the basis for the determination that balances are fully collectable. Request documentation, if available, to support such assertions.

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k) Other: (describe)
Case two- Construction Project
You are responsible for auditing a construction project for a continuing client. The company is a construction general contractor which, until recently specialised in commercial office buildings. Because of changes in the real estate market, the company has switched to multi-unit residential complexes. The first large residential project the company has attempted was started and partially completed this year. It is material to current year operations. The audit is being performed six weeks after year end.

The company has adopted the percentage-of-completion method. Actual costs to date along with estimated total costs for the project are used to compute the percentage-of-completion. The company’s chief financial officer has provided estimates of total costs, percentage-of-completion, and the gross profit to be recognised for the project this year. Because of the importance of the project, the chief financial officer personally supervised the development of the estimates.

1. How likely is it that the estimation provided to you by senior management (for the total costs, percentage of completion and gross profit) is truthful? Indicate your response below.

The explanation is not at all truthful
1 2 3 4 5 6 7
The explanation is completely truthful
2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

Extremely low risk of fraud
1 2 3 4 5 6 7
Extremely high risk of fraud

3. Classify your risk assessment of fraud by circling high, moderate, or low.
Low Moderate High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

Extremely low risk of error
1 2 3 4 5 6 7
Extremely high risk of error

5. Classify your risk assessment of error by circling high, moderate, or low.
Low Moderate High

Assume that internal control over construction contract is evaluated as an adequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the gross profit estimates? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Discuss with client personnel the assumptions and procedures used in the original estimate of total contract cost at 100% completion.

Not important very important
1 2 3 4 5 6 7

b) Compare the total cost incurred on other jobs completed during the year to the original cost estimates on those jobs. Evaluate the client’s job estimating ability.

Not important very important
1 2 3 4 5 6 7

c) Review the changes to the job since year end. Determine if material charges have been incurred that would change the total cost estimate.

Not important very important
1 2 3 4 5 6 7

261
d) Inquire of appropriate personnel whether the project is over or under budget as to material costs and labour costs.

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e) Examine all change orders issued on the project and related cost estimates. Review the contract to determine that the contract value used in determining gross profit is appropriate.

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f) Inquire of appropriate personnel whether there are significant unapproved change orders that will affect the cost of the project.

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</table>

g) Confirm terms of construction contract and billings to date with the customer.

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</table>

h) Discuss estimates of completion with site personnel while touring the construction site. Inquire as to the reasonableness of estimated date of completion.

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<tbody>
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</table>

i) Talk to engineers to determine the physical percentage of completion. Compare with percentage of completion in terms of cost.

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j) Test details of cost incurred to date by reference to supporting documentation. Recompute actual costs, estimated total costs, percentage of completion, and gross profit earned to date.

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</table>

k) Other: (Describe)
Case Three - Inventory Valuation

You are responsible for auditing the valuation of inventory for a continuing client in the manufacturing industry. The physical inventory observation and tests of clerical accuracy of the physical inventory summary did not reveal any material errors in the inventory listings. The audit is being performed six weeks after year end.

Approximately 30% of the inventory value consists of the product of one of the firm’s divisions. Valuation of this product is material to the client’s financial statements and significant fluctuations in price have occurred. In prior years a large backlog existed for this product. In prior years the product inventory was valued at cost. This year the firm’s backlog for this product has disappeared. Market prices at year end ranged from values above cost to values below cost. Senior management has informed you that the prices will stabilise at higher prices. Therefore, no adjustments were considered necessary to reduce the inventory from cost to net realisable value.

1. How likely is it that the explanation provided to you by senior management (that the prices will stabilise at the higher market prices) is truthful? Indicate your response below.

The explanation is

The explanation is
not at all truthful complete truthful

2. Based on the information provided, please indicate the level of fraud risk on the scale below. Assign a value between 1 and 7. 1 represents low fraud risk and 7 represents the high fraud risk.

Extremely low risk of fraud

Extremely high risk of fraud

3. Classify your risk assessment of fraud by circling high, moderate, or low.

Low Moderate High

4. Based on the information provided, please indicate the level of risk of error on the scale below. Assign a value between 1 and 7. 1 represents low risk of error and 7 represents the high risk of error.

Extremely low risk of error

Extremely high risk of error

5. Classify your risk assessment of error by circling high, moderate, or low.

Low Moderate High

Assume that internal control over inventory is evaluated as an adequate. This evaluation has been supported by relevant control tests. Which of the following substantive audit procedures would you select to test the inventory valuation? Circle the letters of the procedures selected. Indicate the relative importance of the procedures you have circled by assigning each circled procedure a value from 1 (not important) to 7 (very important).

a) Review perpetual records, sales analyses, and other information regarding the sales activity of this product during the year and in the subsequent period. Review lost or stolen inventory reports.

Not important very important

b) Discuss the valuation procedures with appropriate personnel to determine the following: inventory costing methods; accounting policies used; pricing policies and procedures of the company; results of physical observation during the year and their effects on inventory valuation.

Not important very important
c) Analyse monthly cost of sales, gross profit, inventory turnover, and other appropriate ratios for this product.

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d) Discuss with management the reasons for the sales decline. Inquire as to whether identified factors are expected to impact future sales.

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e) Test the determination of appropriate market values for other inventory items. Evaluate the reasonableness of assumptions and methods used.

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f) Discuss with appropriate personnel the client’s method for identifying potential problems in scrap, obsolete, unstable, slow-moving, or overstocked items in inventory.

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g) Evaluate the impact on inventories of technological changes, outstanding purchase commitments, open sales orders, and the company’s marketing plans.

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h) Inquire of the marketing department of the projected sales and prices of significant inventory items.

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i) Verify the computation of unit cost for this product by examining supporting documentation for material and labour costs and reviewing overhead changes for reasonableness.

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j) Inquire of appropriate personnel the basis for the determination that previous price declines were temporary. Request documentation to support such assertions.

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k) Other: (Describe)
The following questions are related to audit knowledge, fraud knowledge and error knowledge. Please choose the best answer.

**Question 1:** Which of the following does not represent an opportunity to commit fraud?
A: Significant related-party transactions.
B: The auditor's relationship with management is strained.
C: Management is dominated by a single person.
D: The financial report included highly subjective estimates.

**Question 2:** The auditor should respond to an increased risk of fraud by doing all of the following except:
A: Increasing professional scepticism.
B: Assigning more experienced personnel to the audit.
C: Increasing acceptable audit risk.
D: Taking steps to obtain more reliable evidence.

**Question 3:** An auditor discovers a likely fraud during an audit, but concludes that the effect of the fraud is not sufficiently material to affect the audit opinion. The auditor should:
A: Disclose the fraud to the appropriate level of the client's management.
B: Disclose the fraud to appropriate authorities external to the client.
C: Discuss with the client the additional audit procedures that will be needed to identify the exact amount of the fraud.
D: Modify the audit program to include tests specifically designed to identify the fraud and its impact on the financial report.

**Question 4:** Which of the following factors most likely would heighten an auditor's concern about the risk of fraudulent financial reporting?
A: Inability to generate cash flows from operations while reporting substantial earnings growth.
B: Management's lack of interest in increasing the entity's earnings trend.
C: Large amounts of liquid assets that are easily converted into cash.
D: Inability to borrow necessary capital without granting debt covenants.

**Question 5:** A properly planned and performed audit may fail to detect a material misstatement resulting from fraud because:
A: Audit procedures that are effective for detecting an error may be ineffective for fraud that is concealed through collusion.
B: An audit is planned and performed to provide reasonable assurance of detecting material misstatements caused by errors but not by fraud.
C: The factors considered in assessing control risk indicated an increased risk of error but only a low risk of fraud in the financial report.
D: The auditor did not consider factors influencing audit risk for account balances that have effects pervasive to the financial report taken as a whole.

**Question 6:** If, as a result of auditing procedures, an auditor believes that the client may have committed illegal acts, which of the following actions should be taken immediately by the auditor?
A: Consult with the client's legal advisor and the auditor's legal advisor to determine how the suspected illegal acts will be communicated to the shareholders.
B: Extend normal auditing procedures to ascertain whether the suspected illegal acts may have a material effect on the financial report.
C: Inquire of the client's management and consult with the client's legal advisor or other specialists, as necessary, to obtain an understanding of the nature of the acts and their possible effects on the financial report.
D: Notify each member of the audit committee of the board of directors about the nature of the acts and request that they give guidance with respect to the approach to be taken by the auditor.
Question 7: The primary factor that distinguishes errors from fraud is:
A: Whether the underlying cause of misstatement relates to the misapplication of accounting principles or to clerical processing.
B: Whether the misstatement is perpetrated by an employee or by a member of management.
C: Whether the underlying cause of a misstatement is intentional or unintentional.
D: Whether the misstatement is concealed.

Question 8: The auditor is most likely to presume that a high risk of a fraud exists if:
A: The client is a multinational company that does business in numerous foreign countries.
B: The client does business with several related parties.
C: Inadequate segregation of duties places an employee in a position to perpetrate and conceal thefts.
D: Inadequate employee training results in lengthy computer information systems exception reports each month.

Question 9: Which of the following, if material, would be fraud as defined in the Auditing Standards?
A: Errors in the application of accounting principles.
B: Errors in the accounting data underlying the financial report.
C: Misinterpretation of facts that existed when the financial report was prepared.
D: Misappropriation of assets.

Question 10: An audit of the financial report of Campbell Ltd, an Australian listed company, is being conducted by an external auditor. The external auditor is expected to:
A: Express an opinion as to the attractiveness of Campbell for investment purposes.
B: Express an opinion as to the truth and fairness of Campbell’s financial report.
C: Make a 100% examination of Campbell’s records.
D: Certify the correctness of Campbell’s financial report.

Question 11: Which of the following procedures would an auditor most likely perform to verify management's assertion of completeness?
A: Compare a sample of shipping documents to related sales invoices.
B: Observe the client's distribution of payroll cheques.
C: Confirm a sample of recorded receivables by direct communication with the debtors.
D: Review standard bank confirmations for indications of kiting.

Question 12: Your audit client is under intense pressure to meet an earnings target. Which audit procedure are you most likely to use when auditing purchases?
A: Vouching from purchases journal to supporting documentation
B: Tracing from supporting documentation to purchases journal
C: Recalculation
D: Confirmation

Question 13: In assessing control risk, the auditor is basically concerned that the system provides reasonable assurance that:
A: Controls have not been circumvented by collusion.
B: Misstatements have been prevented or detected.
C: Operational efficiency has been achieved in accordance with management plans.
D: Management cannot override the system.

Question 14: With respect to errors and irregularities which of the following should be part of an auditor’s planning of the audit engagement?
A: Plan to search for fraud or errors that would have a material or immaterial effect on the financial report
B: Plan to search for fraud or errors that would have a material effect on the financial report
C: Plan to discover fraud or errors that are material
D: Plan to discover fraud or errors that are either material or immaterial
The following questions are related to individuals values
Please put down what you believe
Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to ... (please circle one answer in each line across):

1 = of utmost importance  
7 = of very little or no importance

1. have sufficient time for your personal or family life  
2. have good physical working conditions (good ventilation and lighting, adequate work space, etc.)  
3. have a good working relationship with your direct superior  
4. have security of employment  
5. work with people who cooperate well with one another  
6. be consulted by your direct superior in his/her decisions  
7. have an opportunity for advancement to higher level jobs  
8. have an element of variety and adventure in the job

In your private life, how important is each of the following to you? (please circle one answer in each line across):

9. Personal steadiness and stability  
10. Thrift  
11. Persistence (perseverance)  
12. Respect for tradition

13. How often do you feel nervous or tense at work?
   1. never  
   7. always

14. How frequently, in your experience, are subordinates afraid to express disagreement with their superiors?
   1. very seldom  
   7. very frequently

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To what extent do you agree or disagree with each of the following statements? (please circle one answer in each line across):

1 = strongly agree
7 = strongly disagree

15. Most people can be trusted
   1 2 3 4 5 6 7

16. One can be a good manager without having precise answers to most questions that subordinates may raise about their work
   1 2 3 4 5 6 7

17. An organization structure in which certain subordinates have two bosses should be avoided at all costs
   1 2 3 4 5 6 7

18. Competition between employees usually does more harm than good
   1 2 3 4 5 6 7

19. A company's or organization's rules should not be broken - not even when the employee thinks it is in the company's best interest
   1 2 3 4 5 6 7

20. When people have failed in life it is often their own fault
   1 2 3 4 5 6 7
Demographic Information

Please tick the appropriate box in each case

1. What is your current position?
   - Junior auditor
   - Senior auditor
   - Audit Manager
   - Audit partner

2. How many years have you been in your current position?
   - Less than 1 year
   - 1-3 years
   - 3 - 6 years
   - More than 6 years

3. What is your age?
   - Under 30 years of age
   - 31-40
   - 41-50
   - More than 50

4. What is your gender?
   - Male
   - Female

5. What is your country of birth?
   - Australia
   - Egypt
   - Middle Eastern counties
   - Other – please specify _______________

6. In which country were you educated? Please circle the degree(s) obtained and indicate the country.

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<td>Other:</td>
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7. I am a member with
   - CPA
   - ICAA
   - Other. Please specify ___________

7. I am a member with (for Egyptian group)
   - CPA
   - The Egyptian Society of Accountants & Auditors
   - Other. Please specify ______________

8. What is your first language?
   - English
   - Arabic
   - Other. Please specify ___________

9. Are you able to communicate in more than one language? If so please list these languages.
   ___________________________  _____________  _____________

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10. What is your religion?

☐ Muslim
☐ Christian- Catholic
☐ Christian- Orthodox
☐ Christian- Protestant
☐ Other – Please specify ____________
☐ No religion


12. How long have you lived in Australia? Please specify ________________

12. How long have you lived in Egypt? Please specify (for Egyptian Group) ________________

Debriefing

Please put down what you believe regarding the following statements

1. Indicate the amount of pressures you felt when you making your decision regarding cases one, two and three.

No Pressure  |  Very Strong Pressure
---|---
1 | 2 | 3 | 4 | 5 | 6 | 7

2. How motivated you were to perform well on the task.

Not motivated at all  |  Extremely motivated
---|---
1 | 2 | 3 | 4 | 5 | 6 | 7

Thank you very much for your participation in this research project.