

The Influence of Objectivity, Competence, and Work Performance on External Auditors'  
Judgements relating to the Internal Audit Function in Jordan

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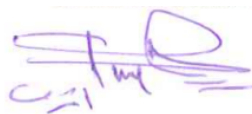
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All research procedures reported in the thesis received the approval of the relevant Ethics/Safety Committees (Ethics Register Reference Number: 2012 115N).



**Ashraf Saleh Alsukker**

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## **Dedication**

I dedicate this thesis to my parents Noura Al-edwan and Saleh Alsukker, who have raised me to be the person I am today.

## Abstract

This thesis presents empirical research on the perceptions of external auditors (EAs) regarding the impact of three dimensions of auditing, namely the objectivity of the Internal Audit Function (IAF), the competence of the IAF, and the work performance of the IAF, on (1) the effectiveness of the IAF in Jordanian companies listed on the Amman Stock Exchange (ASE) and (2) EAs' decisions to rely on the work of internal auditors (IAs). In addition, this thesis investigates Jordanian EAs' level of self-insight into the importance of the three dimensions when (1) evaluating the effectiveness of the IAF and (2) deciding on the degree of reliance on IAs.

International Auditing Standard 610 and auditing literature suggest that auditors should aim for objectivity, competence and work performance in conducting audits. International and various national standards of auditing also state that EAs can rely on the work of IAs. Several theories and frameworks provide plausible reasons for why IA objectivity, competence and work performance can influence EA evaluations of IAF effectiveness and EA decisions to rely on the work of IAs, namely agency theory, information asymmetry theory, certification theory and resource dependency theory. In the framework of agency theory, EAs have a duty to report on the effectiveness of internal controls and, thus, can be expected to take into account factors that influence the effectiveness of the IAF. In the framework of information asymmetry theory as well as resource dependence theory, EAs may rely, to some extent, on IAs in order to gain access to IAs' insider knowledge and specialist skills. Resource dependency theory also implies that, given resource limitations, EAs are likely to consider the competitive advantages of either relying on IAs or on assigning more EAs; High levels of objectivity, competence and work performance may be considered competitive advantages. Certification theory implies that audit firms try to protect their reputations. It is thus logical to expect EAs to be less likely to rely on, or provide positive evaluations of, an IAF if the IAs are lacking in some significant manner. The field of human information processing sets out the theoretical framework for this study's inquiries into EA self-insight and configural decision-making.

The thesis employs a mixed method: a survey-based factorial experiment in addition to semi-structured interviews. The experiment measures the influence of the three independent

variables (i.e. the three dimensions) on the two dependent variables (i.e. IAF effectiveness and degree of reliance on the IAF). The interviews help explain the influence. The analysis of the quantitative data from the factorial experiment considers both the main and interactive effects of the three independent variables on the two dependent variables. Further quantitative analysis compares EAs' stated beliefs about the influence of each of the independent variables, on one hand, to the weights revealed by the factorial experiment, on the other, in order to gauge the accuracy of self-insight of the EAs. The analysis of the qualitative data from the semi-structured interviews provides contextual depth to the quantitative results and, through triangulation, enhances the validity of the study.

The results, based on 35 completed surveys and nine interviews, show that work performance of the IAF has the greatest influence on the perceived effectiveness of the IAF, while the objectivity of the IAF has the greatest influence on the EAs' willingness to rely on the work of the IAF. All variables were found to be of substantial influence, and the differences in influence between the three independent variables are relatively minor. Analysis also revealed moderate to large statistically significant interactive effects between the independent variables, suggesting that the EAs use configural decision-making when evaluating the impact of the three dimensions, i.e. the perceived influence of the three dimensions is not simply the sum of their individual effects; the effect of each dimension is influenced by information about the other dimensions, implying a more complicated decision-making process. Interactive effects were found to have greater influence on the perceived effectiveness of the IAF in comparison to their effect on reliance decisions, suggesting that decisions to rely on the work of the IAF are less complicated than evaluations of the effectiveness of the IAF. The qualitative analysis shows that the EAs put forward many reasons for the importance of all three of the independent variables, with no clear consensus on any of the three independent variables being more important than the other two, in relation to either of the two dependent variables. The lack of clear explanations for the differences between the dependent variables in terms of the influence of any one independent variable suggests that situational factors may be involved (e.g. risk, organization complexity, resource availability). This suggests the need for further research into possible situational factors.

In conclusion, the results show that IAF objectivity, competence and work performance significantly influence Jordanian EAs' perceptions of IAF effectiveness and decisions to rely on IAs. In terms of implications for the agency theory in the Jordanian context, the evidence

that EAs do consider IA objectivity, competence and work performance in evaluations of IAF effectiveness and decisions to rely on the work of IAs implies that, to some degree, EAs in Jordan take seriously their duty to protect the interests of shareholders. Both the quantitative and qualitative analysis show that IA knowledge and skills do influence EA evaluations of IAF effectiveness and EA decisions to rely on the work of IAs, thus providing evidence to support the information asymmetry theory and resource dependence theory.

The results of the study have direct implications for efforts to improve the perceived effectiveness of the IAF and, thus, the audit opinion of EAs. Similarly, it has direct implications for efforts to increase EA reliance on IAs and, thus, help reduce the cost of EA. Furthermore, as EAs can be considered experts on internal controls, EA interest in IAF objectivity, competence and work performance might encourage shareholders to invest in efforts to improve these three dimensions in order to better protect their assets.



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## Abbreviations

ACU	Australian Catholic University
AICPA	American Institute of Certified Public Accountants
APB	Auditing Practice Board
ASA	Australian auditing standards
ASE	Amman Stock Exchange
CBJ	Central Bank of Jordan
CICA	Canadian Institute of Chartered Accountants
CIMA	Chartered Institute of Certified Management Accountants
EAs	External auditors
GDP	Gross domestic product
IAF	The internal audit function
IAs	Internal auditors
IAS	International Accounting Standard
IASB	International Accounting Standards Board
IFAC	International Federation of Accountants
IIA	Institute of Internal Auditors
ISA	International Standard on Auditing
ISPPIA	The statement of the International Standards for the Professional Practice of Internal Auditing
JACPA	Jordanian Association for Certified Public Accountants
JAPA	Jordanian Association of Public Accountants
JLCs	Jordanian Listed Companies
JSC	Jordanian Securities Commission
MTG	Management training ground
NYSSCPA	The New York State Society of Certified Public Accountants
OIAF	Objectivity of the Internal Audit Function
ROSC	Report on the Observance of Standards and Codes
SAS	USA Statement of Auditing Standards
SPPIA	The Standards for the Professional Practice of Internal Auditing

# CHAPTER ONE: INTRODUCTION

## 1.1 Overview of the Thesis

The effectiveness of internal auditors is a topic that has increasingly been discussed in the media and other circles as people consider how ‘failures’ in internal auditing might have contributed to fraud and other financial problems (Davidson et al, 2013; Giroux, 2008; Schneider, 2003). Various studies (Abdel-Khalik et al, 1983; Brown, 1983; Edge and Farley, 1991; Messier and Schneider, 1988; Maletta, 1993; Schneider, 1985a) and standards of internal auditing have defined a number of factors that are considered to contribute to the effectiveness of internal auditing. Although the names and number of these factors differ among the various sources, three such factors or dimensions, namely objectivity, competence and work performance, are key elements of both Section 610 of the International Auditing Standards (ISA) and various national standards (see Definitions, Section 1.4). One of the duties of external auditors (EAs) is to evaluate the effectiveness of the internal audit function (IAF) in client organizations (Abdel-Khalik et al, 1983; Schneider, 1985a; Brown, 1983; Messier and Schneider, 1988; Edge and Farley, 1991; Maletta, 1993). As such, experienced EAs can be considered authorities or expert judges of the factors influencing the effectiveness of the IAF. The first key aspect of the current study is evaluating the influence of the three dimensions (objectivity, competence and work performance) on the effectiveness of the IAF in Jordanian listed companies (JLCs), as perceived by Jordanian EAs.

Furthermore, EAs often rely on professionals in the organization being audited, including IAs, in order to access ‘insider knowledge’ or to reduce the workload carried by the EAs (Felix et al, 1998 and Gramling, 1999). The determination of the degree to which the EAs will rely on the work of IAs is a key decision that is likely based, to some extent, on the EAs evaluation of the various factors outlined in the auditing standards regarding the IAs in the organization (Abdel-Khalik et al, 1983; Brown, 1983; Schneider, 1984, 1985; Margheim, 1986; Messier and Schneider, 1988; Edge and Farley, 1991; Krishnamoorthy, 2002; Haron et al, 2004; and Al-Twajjry et al, 2004). The second key aspect of this thesis therefore examines the influence of the three dimensions, namely the objectivity of the IAF, the competence of



the IAF, and the work performance of the IAF, on EA decisions to rely on the work of IAs in JLCs, as perceived by Jordanian EAs.

This study aimed to answer the primary research questions: What is the relationship between IAF effectiveness in JLCs and IAF objectivity, competence and work performance, as perceived by EAs? What are the reasons for these relationships? To what degree are EAs aware of the influence of IAF objectivity, competence and work performance on EA evaluations of IAF effectiveness? To what degree are EAs aware of the influence of IAF objectivity, competence and work performance on EA decisions to rely on the work of the IAF? What are the reasons for the EAs' level of self-insight?

The research is designed to provide evidence with which to answer the research questions in a clear manner and to control error variance (Bryman & Bell, 2007). The research is built on a post-positivist research approach and employs a research model based on international auditing standards (IAS) and the existing literature. All research subjects were based in Jordan. The research design for this study is influenced by the fact that the research is both descriptive and explanatory. IAF objectivity, competence and work performance are the independent variables in this study while IAF effectiveness and EA reliance on the work of the IAF are the dependent variables. The thesis employs a mixed method: a survey-based factorial experiment in addition to semi-structured interviews; the first approach uses an experimental technique adapted from the early works of Slovic and others (Slovic, 1969; Slovic et al, 1972; Trotman, 1996) to measure the influence of the three independent variables on the two dependent variables; the second approach (interviews) helps explain the degree and nature of the influence. The survey-based experiment follows a fully crossed within subjects design, presenting eight combinations of three independent variables to 35 EAs, requesting their judgement on the two dependent variables given these combinations of independent variables. The surveys also request EAs to show the relative importance of the three independent variables in their evaluations of IAF effectiveness and decisions to rely on the work of the IAF by assigning 100 points among these variables. Nine interviews following a semi-structured approach were conducted with senior EAs and external audit managers in order to help explain the results of the quantitative analysis.

The analysis of the quantitative data from the factorial experiment considers both the main and interactive effects of the three independent variables on the two dependent variables, thus

helping to answer the research questions regarding the nature of the relationships between the independent and dependent variables. Further quantitative analysis compares EAs' stated beliefs about the influence of each of the independent variables, on one hand, to the weights revealed by the factorial experiment, on the other, in order to gauge the accuracy of self-insight of the EAs. Analysis of qualitative data from semi-structured interviews provides some contextual depth to the quantitative results and, through triangulation, enhances the validity of the study (Cook and Campbell, 1979).

By identifying and explaining the relationship between the three independent variables and the dependent variables, as seen by one group of audit experts (Jordanian senior EAs), the study findings could potentially contribute to future decisions and studies into the development of IAF effectiveness in Jordan, especially given the challenges facing the companies, people and government of Jordan (Abdullatif & Al-Khadash, 2010; Al-Nawaiseh, 2006). Similarly, the study findings could potentially shed some light into Jordanian EA decision-making and guide efforts to reduce audit costs. The insights developed in this study could be useful to decision makers in Jordanian companies, improve audit education and assist those in government with responsibility for auditors and corporate governance.

The next section (1.2) provides a brief background into some of the theoretical and historical aspects related to the topic of this thesis. Section 1.3 is an introduction to the factors influencing internal audit effectiveness. Section 1.4 provides definitions for the key terms used throughout this thesis. Section 1.5 states the research objectives, questions and hypothesis and reveals the research model upon which this study is based. Section 1.6 introduces the research methodology used in this study. Section 1.7 briefly states some of the limitations of this study. The final section of this introduction (1.8) discusses the structure of this thesis.

## **1.2 Background to the Study**

During the last two decades, economic growth and developments in business organisations have increased the need for corporate governance and for organisations to maintain control over their business activities and operations (Badara & Saidin, 2013; Levinsohn 2004; Grant Thornton, 2011; Gramling et al, 2004). The Institute of Internal Auditors (IIA, 2004) has argued that in most large organisations management have lost direct contact with most

subordinates. IAs investigate and appraise the effectiveness of company operations for management. The primary task of IAs is to review and report on the activities of their respective organisations. IAs' primary tasks vary from checking routine financial and operational activities to analysing and appraising these activities and operations (Institute of Internal Auditors, 2004). Moreover, Moeller & Witt (1999) argue that the differences between the functions of internal and external auditing does not mean that they are completely separate, but rather, that they are complementary and provide the basis for co-operation between internal and external auditing.

The IIA has defined the main role of internal auditing as supporting management by reviewing the quality of the internal control system. The IIA considers internal auditing as an independent function which works with accounting staff and managers to improve the internal control system in the organization. Thus they highlighted that internal auditing should cover the systematic review, appraisal and reporting of the adequacy of the systems of managerial, operational, financial and budgetary control in an organization.

The 2002 revision of the standards of the Professional Practice of Internal Auditing changed the role of internal auditing from routine (red tape) compliance audits to a value-added service, analysing and appraising operational activities (Institute of Internal Auditors 2004). The role of operational auditing requires the IAs be sufficiently independent of management to be able to critically evaluate the strengths and weaknesses of current operations. An effective IA should be able to maintain reasonable levels of objectivity, competence and work performance whilst monitoring internal controls, while the role of an EA is to give an opinion on the financial statements. Therefore, external auditing as a first step needs to evaluate the quality of the internal auditing and the internal control system, which can give an indication of whether the organisation's systems can detect and prevent misstatements or not (UK Statement of Auditing Standards SAS 500 and USA Statement of Auditing Standards SAS 65) (Haron et al, 2004; Stefaniak, Houston, & Cornell, 2012; Prawitt et al, 2009).

Lampe and Sutton (1994a) defined IA effectiveness as "the degree to which goals and objectives specified by different users of the audit process are obtained". So, the effectiveness of the IA increases the value added to the organisation by achieving the objectives of internal auditing as defined by the management of that organisation. Indeed, a high degree of effectiveness of the IA can assist the management in exercising continuous supervision over

the systems of the organisation. In addition, an effective IAF can help establish and monitor policies and procedures of the internal control structure that can prevent or detect fraud in financial reports. Also, the organisation can better control inefficient operations since controls may be examined or improved and can result in better and more timely information being available to the management for decision-making purposes. Furthermore, an effective internal audit can enable the independent EA to conduct a more efficient audit when the EA has justifiable confidence to rely on the work of the IAs.

The common characteristic in studies on the evaluation of IAF effectiveness and studies of the degree of reliance placed by EAs on the work of IAs is the focus on one or more of the following variables: the objectivity, competence or work performance of IAs. For example, Edge & Farley (1991), Haron (1996), Felix et al (1998), Gramling (1999 & 2004), Haron et al (2004) and Al-Twaijry et al, (2004) have all studied these three variables in their research to evaluate the strength of the IAF in developed countries such as the US and the UK.

However, these studies might not be completely applicable to the case of Jordan, a developing country in the Middle East, with a high-context culture<sup>1</sup> and facing a lot of economic instability and fraud, even within its big companies (Abdullatif & Al-Khadash, 2010). It is possible that any or all of these factors could influence the way in which companies, IAs and EAs operate, hence the need for this current research.

Abdel-Khalik et al (1983)<sup>2</sup> and Clark et al (1981) identified deficiencies of independence and objectivity in IAFs, such as ‘the reporting level of the departments, and the appointing and removing of IA directors’. Given the ‘high context’ culture (in which more information can be communicated non-verbally between members of a group) and the prevalence of nepotism in Jordan, it is likely that such problems as found in these two studies will be even more of a factor in the case of Jordan. Several of the EAs participating in the current study consider

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<sup>1</sup> High -context culture refers to “a culture’s tendency to use high context messages over low context messages in routine communication” Hall (1976). In a higher-context culture, many things are left unsaid, letting the culture explain. Words and word choice become very important in higher-context communication, since a few words can communicate a complex message very effectively to an in-group (but less effectively outside that group), while in a low-context culture, the communicator needs to be much more explicit and the value of a single word is less important.

<sup>2</sup> The study of Abdel-Khalik et al (1983) obtained data from 59 participants. Participants in the two experiments represented three large accounting firms and came from offices in New York City, Chicago, Miami, Atlanta, Dallas, Jacksonville, Houston, and New Orleans. Clark et al. (1981) obtained data from scenario cases which depict two levels (satisfactory and unsatisfactory) of the top five criteria and administered them to 25 partners and managers of an international CPA firm.

IAFs to be significantly understaffed and sometimes unable to cover their respective organizations' activities in an appropriate way.

Jordanian Listed Companies (JLCs) are considered an important part of the economic system of the country which has been heavily affected by the global economic crisis (Brach & Loewe, 2010). Real GDP growth in Jordan reached 8.5% per annum before the global financial crisis, but dropped to 3.2% per annum after the global financial crisis. The market value of publicly traded shares reached US\$41.220 billion (31 December 2007) before the global financial crisis, while after the global financial crisis (in 31 December 2009) they had a value of US\$31.860 billion (Department of State, The Office of Electronic Information, 2011). Moreover, the worldwide political instability has subsequently had an effect on Jordanian companies dealing with markets.

Jordan faces many challenges, including low wages, high unemployment (officially 12.3%, but unofficially estimated to be closer to 30%, according to the CIA World Fact Book<sup>3</sup>, 2013), rising prices, insufficient or inappropriate staffing (due to lack of financial resources or nepotism), a pervasive public perception of widespread corruption, and a government that had almost become bankrupt during 2012, necessitating an emergency intervention from Saudi Arabia. Jordan's people are also relatively poor, with an average GDP/person of US\$4,901<sup>4</sup> (IMF World Economic Outlook October 2012). In an environment with so many economic challenges, it could be argued that it is especially important that companies increase their productiveness.

More effective IAFs and coordination of IAs and EAs would help to increase company productiveness. However, the many challenges in Jordan are both reasons for and obstacles to undertaking efforts to improve IAF effectiveness. Decision makers need to take into consideration the costs and the relative effectiveness of any actions taken to strengthen internal auditing in Jordan.

Potential benefits to companies and the country as a result of improving IAF effectiveness could include:

- 1) Detecting fraud (Desai et al, 2010; Coram et al, 2008b; Al-Momany & Bdour, 2010);

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<sup>3</sup> World Fact Book: "<https://www.cia.gov/library/publications/the-world-factbook/geos/jo.html>".

<sup>4</sup> 2012 data based on IMF staff estimates. Last official figures from Jordan were in 2010.

- 2) Preventing fraud or error (Al-Twaijry et al 2003; Rezaee, 2002);
- 3) Improving the company's operational performance (Al-Twaijry et al, 2003; Castanheira et al, 2009; Prawitt, et. al 2009);
- 4) Improving corporate governance (Rachagan & Satkunasingam, 2009; Rezaee et al, 2003);
- 5) Improving the IAF's ability to provide consulting services (Christopher et al, 2009; Stewart & Subramaniam, 2010);
- 6) Improving public confidence in companies (and in other private and public organizations, if these organizations follow suit) (Badara & Saidin, 2013);
- 7) Increasing investment and reducing unrest in Jordan due to a reduced perception of corruption (Al-Momany & Bdour, 2010);
- 8) Improving the attractiveness of the internal audit profession due to a more positive public perception about the profession, potentially drawing in a new generation of high-potential candidates (Soh & Martinov-Bennie, 2011);
- 9) Funds could be freed that would otherwise have been lost to fraud, ineffective investment in IAFs and weaker business decisions (due to an ineffective corporate governance role by the IAF).
- 10) Improving the efficiency and effectiveness of risk assessment in IA engagements, including those in fraud settings (Asare & Wright, 2004; Coetzee & Lubbe, 2014).

Furthermore, if an improved IAF incorporates attributes which are valued by the EAs then an improved IAF could lead to an increased EA reliance on the work of the IAF, which could result in additional benefits including:

- 1) More timely EAs (Lin et al, 2011);
- 2) Reduced EA costs (Ho & Hutchinson, 2010; Krishnamoorthy, 2002; Mihret et al, 2010; Prawitt et al, 2012);
- 3) More timely completion of some internal audit tasks, as some tasks could be accomplished in coordination and with the assistance of EAs (Brody et al, 1998; Lampe & Sutton, 1994a);
- 4) Two way transfer of knowledge between IAs and EAs ('insider knowledge' to EAs, and breadth of knowledge to IAs) (Goodwin-Stewart & Kent, 2006).

Jordanian corporate governance regulations explicitly require “all companies to appoint an EA, and specifically mention, among the auditor’s other duties, examining the financial, administrative and internal auditing systems of the company and submitting an opinion on their effectiveness and ensuring their suitability both for the company's business and for safeguarding of its assets” (Jordanian Corporate Governance Code no.6, Year 2007, p. 16). The Jordanian Corporate Governance Code is binding on all listed companies. However, Jordanian laws do not require unlisted Jordanian companies to have an IAF. Some unlisted Jordanian companies don’t even have a full time accountant, let alone an IA. In such an environment, it might be quite difficult to convince management and shareholders to invest in developing a truly effective IAF. The current study demonstrates relationships between IAF effectiveness and IAF objectivity, competence and work performance. This might encourage shareholders to invest in these three dimensions. Furthermore, the study demonstrates relationships between EA reliance on the work of IAs and the three dimensions, perhaps encouraging managers and shareholders to invest in these three dimensions in order to help reduce external audit costs or the time required to complete an audit.

### **1.3 Underlying Theories**

There are a number of theories that offer context and possible explanations for how the three dimensions can influence EA perceptions of IAF effectiveness and EA’s decisions to rely on the work of the IAF. The literature discussing these theories is reviewed in section 2.5 (EA Judgement Decision-making).

In the framework of agency theory, EAs, in their role as independent auditors protecting the best interests of shareholders, have a duty to ensure that company assets are safeguarded (i.e. internal controls are effective) and that management’s financial reports disclose all relevant information (Adams, 1994). EAs can thus be expected to take into account factors that influence IAF effectiveness and the reliability of financial reports. Accounting literature and standards suggest that auditors should aim for objectivity, competence and work performance in conducting audits (ISA, 610; Krishnamoorthy and Maletta, 2012). As such, it is logical that EAs might seek evidence of these three dimensions when evaluating the effectiveness of a client’s IAF (Schneider, 1985a; Brown, 1983; Messier and Schneider, 1988; Edge and Farley, 1991; Maletta, 1993). In decisions to rely on the work of the IAF, it is logical to expect EAs

to evaluate individual IAs and the IAF as a whole, both in terms of the benefits they bring (i.e. aspects of their effectiveness) and the risks of relying on them (i.e. lack of independence as well as other shortcomings) (Abdel-Khalik et al, 1983; Brown, 1983; Schneider, 1984, 1985; Margheim, 1986; Messier and Schneider, 1988; Edge and Farley, 1991; Krishnamoorthy, 2002; Haron et al, 2004; and Al-Twajjry et al, 2004).

In the conceptual framework of agency theory, it is possible to frame a possible explanation for the low quality of IAFs (as opposed to individual IAs in them) in Jordan: major shareholder-managers create less independent, under-resourced and insufficiently financed IAFs in order to create the appearance of safeguards without real substance (Adams, 1994). This allows the major shareholder-managers to operate with relatively little IA oversight.

Attribution theory (Coombs, 2007) and risk factors (Glover et al, 2008) also suggest that the major frauds and the bad reputation for corruption in Jordan (Shanikat et al, 2014), in addition to the high level of public concern and unrest inflamed by the poor economic situation, could result in an increased trend towards conservative audit decisions. This suggests that risk adverse EAs in Jordan might be even more inclined towards recognizing the importance of auditing standards and, thus, the three dimensions.

In the framework of information asymmetry theory (Balakrishnan and Koza, 1993), IAs are likely to have information (i.e. insider and/or specialist knowledge) that is not available to outsiders like EAs. Moreover, in terms of the resource dependence theory (Barney, 1991), IAs are likely to possess knowledge that can be described as (1) valuable, (2) rare, (3) imperfectly imitable and (4) lacking substitutes. Since it is the job of auditors to make sure that all materially significant information is reflected in the client's financial reports, EAs are likely to rely on the work of the IAF, all other things being equal. In evaluating decisions to rely on IAs and/or their work, EAs are likely to consider if doing so will help them access such insider knowledge. EAs are also likely to consider the risks of relying on the work of the IAF (Maletta, 1993; Libby et al, 1985; Maletta and Kida, 1993). Furthermore, if the auditing firm has to decide between assigning additional EAs (which might be costly, either because they need to hire more people or because they have to move them from other audit projects) and relying on IAs, the audit firm is likely to consider the competitive advantages of either choice.



Certification theory (Booth & Smith, 1986) implies that clients are likely to seek audit firms with "reputation capital" (i.e. reputable firms) to guarantee the "quality" of their financial reports. This means that the reputation of audit firms has value to both company management and owners. EAs that do not protect their reputation (e.g. by failing to reveal problems in the financial reports) are likely to lose value in the eyes of company owners. This implies that it is in EAs' best interests to protect their reputation by ensuring that their evaluations of internal controls, including IAF effectiveness, are accurate. Furthermore, it implies that it is in the interest of EAs that their decisions regarding relying on IAs and / or their work not call into question the auditing firm's reputation. This suggests that EA judgements regarding relying on IAs may be more conservative (i.e. negative) than judgements regarding IAF effectiveness since there is an additional element of risk to the audit firm's reputation in relying on the work of the IAF or in using IAs as assistants. Since independence is perhaps the defining attribute of EAs, this suggests that EAs will be especially concerned with the objectivity of the IAF, particularly in countries like Jordan where there is a public perception of widespread corruption.

Prior research has shown that negative information about internal controls has a negative impact on EA reliance on IAs (Malaescu and Sutton, 2013), suggesting that evidence of deficiencies in IAF objectivity, competence and work performance might reduce EA reliance.

The field of human information processing (see section 2.5.1) suggests that decision makers evaluating decisions under conditions of risk are more likely to consider the interactive effects of the decision cues (i.e. use configural decision-making) (Libby et al, 1985; Maletta & Kida, 1993). Furthermore, experienced decision-makers (e.g. senior EAs) are more likely to use configural decision-making (Ganzach, 1997). Given the relative experience level of the participants in the current study and the high risk of corruption and fraud in Jordan, this suggests that significant interactions should exist between IAF objectivity, competence and work performance in their influence on both EA perceptions of IAF effectiveness and EA decisions to rely on the work of the IAF. The generalizability of the findings depends on whether they are representative of the broader audit population engaged in auditing JLCs.

The perceptions and decisions of EAs in Jordan might be expected to be significantly different from those of most developed countries, particularly given Jordan's business

environment of “high context” culture, nepotism, developing economy, inflation and poverty. In a “high-context” culture, communication inside a group (e.g. IAs or other individual departments in the company or the company as a whole) is less explicit than in “low-context” cultures, and outsiders (e.g. EAs or regulators) are more likely to miss crucial non-verbal information cues or context and/or misinterpret the information communicated by IAs (Beard & Al-Rai, 1999). This is likely to reduce the willingness of EAs to rely on the work of IAs. High-context culture also has implications for management influence on IAs since management could, with relatively little need for explicit instructions, influence IAs. Inflation and poverty could make the situation worse as people under greater financial pressures might be more receptive to corruption. An EA in a high-context culture with nepotism may thus feel that client firms are more likely to misstate or conceal financial information; such an EA’s evaluation of IAF effectiveness and decisions to rely on the work of IAs might be more negative than those in a less risky environment. Jordan is also a developing economy, implying that regulatory systems and standards might not be as fully developed as in more developed countries (Abdullatif & Al-Khadash, 2010). Decisions made by EAs in such an environment are thus presumably more ambiguous since they are made without recourse to the same depth of standards and other guidance available to auditors in more developed countries.

The three dimensions are defined in the following section (1.4). The literature on the relationship between the three dimensions and IAF effectiveness and EA reliance on the work of the IAF is discussed in section 2.6.

## **1.4 Definitions**

This section provides definitions for the key concepts discussed in this thesis.

### **1.4.1 Internal Audit Function**

For the purpose of this study, the term ‘Internal Audit Function’ refers to both the IA activity and the IAs who are responsible for carrying them out, regardless of whether the IA activity is performed in-house by the organization’s employees or outsourced to independent auditors.

A function is an activity that is natural to or the purpose of a person or thing (Hornby, 2010). The IAF is, therefore, IA activity, and it is the purpose or responsibility of the IA unit within an organization.

The International Standard of Auditing ISA no.610 “Considering the Work of Internal Audit”, issued by the Auditing and Assurance Standards Board (AUASB), defines IA as follows:

“Internal audit means an appraisal activity established within an entity as a service to the entity. Its functions include, amongst other things, monitoring internal control”. In addition, the Institute of Internal Auditors (IIA) has developed the globally accepted definition of ‘internal auditing’ as shown here:

[Internal Audit is] “an independent, objective assurance and consulting activity. The audit function is designed to add value and improve an organization's operation in order to help accomplish its objectives by bringing a systematic and disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes”<sup>5</sup> (IIA, 2012, web site).

The new definition of Internal Audit replaces the older definition which was:

“An independent appraisal function established within an organization to examine and evaluate its activities as a service to the organization. The objective of internal auditing is to assist members of the organization in the effective discharge of their responsibilities. To this end, internal auditing furnishes them with analyses, appraisals, recommendations, counsel, and information concerning the activities reviewed. The audit objective includes promoting effective control.” (IIA handbook, 1997, p. 3).

The new definition of internal audit by the IIA recognises two important issues: the first is to provide “an independent assurance service to the board, audit committee and management, focusing on reviewing the effectiveness of the governance, risk management and control processes” that management has put into place. The second role is to provide help and advice to management on governance risks and controls, for example, the controls that will be needed when undertaking new business ventures. The new definition has also changed the

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<sup>5</sup> Source: *International Professional Practices Framework (IPPF)*, “The Institute of Internal Auditors Research Foundation, Florida USA, January 2011”.

focus of the IAF from routine compliance audits towards a larger, value adding role to improve the operations of the organisation and to evaluate and improve the effectiveness of the organisation's risk management, control and governance processes (Goodwin, 2004). Moreover, Walker, Shenkir, & Barton, (2003), Sarens & Beelde, (2006), and Spira and Page (2003) argued that the internal auditors play an important role in their organizations by helping to identify and evaluate the risks within the organization.

### **1.4.2 External Auditors**

According to the New York State Society of CPAs<sup>6</sup> (NYSSCPA, website, 2013), an EA is: “a person who audits financial accounts and records kept by others. Includes both public accounting firms registered with the PCAOB<sup>7</sup> and associated persons thereof.”

They also define audit as “A professional examination of a company’s financial statement by a professional accountant or group to determine that the statement has been presented fairly and prepared using Generally Accepted Accounting Principles (GAAP)” (NYSSCPA, website, 2013).

According to the Institute of Internal Auditors (IIA, 2011), “an external auditor is an audit professional who performs an audit in accordance with specific laws or rules on the financial statements of a company, government entity, or other legal entity, and who is independent of the entity being audited”. Furthermore, this study considered this definition for EAs.

The Chartered Institute of Certified Management Accountants (CIMA, External Audit Guidelines) defines an EA as “a periodic examination of the books of account and records of an entity carried out by an independent third party (the auditor), to ensure that they have been properly maintained, are accurate and comply with established concepts, principles, accounting standards, legal requirements and give a true and fair view of the financial state of the entity” (CIMA’s Management Accounting Official Terminology, 2013, p. 1).

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<sup>6</sup> “The New York State Society of Certified Public Accountants (NYSSCPA) is one of the largest state accounting organizations in the nation with more than 28,000 members”. <http://www.nysscpa.org/glossary/term/127>

<sup>7</sup> “Public Company Accounting Oversight Board (PCAOB): is a private-sector, non-profit corporation, created by the Sarbanes-Oxley Act of 2002, to oversee the auditors of public companies in order to protect the interests of investors and further the public interest in the preparation of informative, fair, and independent audit reports”.

According to IFAC and AICPA an auditor refers to “the person or persons conducting the audit, usually the engagement partner or other members of the engagement team, or, as applicable, the firm. Where an ISA expressly intends that a requirement or responsibility be fulfilled by the engagement partner, the term “engagement partner” rather than “auditor” is used. “Engagement partner” and “firm” are to be read as referring to their public sector equivalents where relevant.” (IFAC, IAASB Handbook Glossary of Terms, 2012; AICPA, AU-C Section 200, 2014).

According to AICPA, the purpose of an audit “to provide financial statement users with an opinion by the auditor on whether the financial statements are presented fairly, in all material respects, in accordance with an applicable financial reporting framework, which enhances the degree of confidence that intended users can place in the financial statements. An audit conducted in accordance with GAAS and relevant ethical requirements enables the auditor to form that opinion. (Ref: par. A1)” (AICPA, AU-C Section 200, 2014).

EAs are either individuals operating alone or members of an audit organization. Other terms for EA include ‘a certified public accountant’ and an ‘independent auditor’, although many certified public accountants are not auditors.

The appointment of an EA (individual or organization) is usually done at a company’s general shareholder meeting. The responsibilities of EAs are defined in each country’s or state’s legislation or profession standards.

According to Pickett and Pickett (2005, p. 29), EAs have a role in corporate governance as they verify that the board of directors’ reports probably reflect a true and fair picture of the financial situation of the company.

Previous professional standards on auditing and academic literatures have addressed the issue of external auditor reliance on the work of internal auditors. The study suggested that reliance on the work of internal auditors could potentially improve the effectiveness of external auditors. The various standards (e.g. ISA no 610 and SA No. 65) also provided guidelines on external auditors’ consideration of IA work in the conduct of financial statement audits. The American Institute of Certified Public Accountants (AICPA) requires external auditors to

consider the three factors (objectivity, technical competence and work professionalism) when relying on work of Internal Audit, and stated that the EA may use IAs as assistants (AICPA, 2008). The ISA no.610 also requires external auditors to evaluate the three factors as well as the nature and extent of internal audit assignments performed and communication when considering whether internal audit work is adequate for the purpose of their audit (ISA 610, 2009).

### **1.4.3 Effectiveness of the Internal Audit Function**

This study uses the following definition for the term ‘effectiveness of the IAF’: “The extent to which the designated objectives and functions of the internal audit are achieved properly, are unbiased, and are free from management pressure that may compromise the internal auditor's performance. Examples of those designated IAFs are safeguarding assets against loss and theft, providing reasonable assurances that the financial and operating information are accurate and reliable, and ensuring the organization's compliance with laws and regulations” This definition is based on ISA402<sup>8</sup>.

According to the ‘Father’ of modern management, Peter Drucker, “Efficiency is doing things right; effectiveness is doing the right things” (Drucker, 1974, p. 45). According to Chambers, Selim, and Vinten (1987, p. 83), effectiveness is a measure of performance, comparing actual performance with planned performance (i.e. objectives), while efficiency is a measure of resource performance, a ratio of resources used to the output or benefit produced. Arens, Loebbecke and Kimmell (1997, p. 801) also defines effectiveness as “the degree to which the organisation’s objectives are accomplished.” Effectiveness and efficiency are related, but it is possible to be very effective while being inefficient (i.e. by using lots of resources) and vice versa (i.e. successfully accomplishing some objectives using few resources, but not accomplishing other, perhaps more important, objectives).

### **1.4.4 External Auditor Reliance on the Work of Internal Auditors**

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<sup>8</sup> ISA 402, ‘Audit Considerations Relating to an Entity Using a Service Organization’.

For the purposes of this study, “relying on the work of internal auditors” refers to using work of IAs in preparing for and conducting an external audit. This work can include past reports and documentation produced by IAs as well as using IAs as assistants or advisors for the EAs. It does not refer to using the work as part of consulting or non-audit activities.

Reliance is a state of being dependent upon, confident in or having trust in something or someone. Reliance on the work of IAs by EAs is defined in the standards as "Using the work of internal audit" (ISA 610). As mentioned in ISA 610, “In order for the external auditor to use specific work of the internal auditors, the external auditor shall evaluate and perform audit procedures on that work to determine its adequacy for the external auditor’s purposes.” (ISA 610, Para.11). According to ISA 610, a decision to use the work of the IAF is based on an evaluation of the degree to which the IAF’s organizational status and policies support the IAF’s and IAs’ objectivity, the IAF’s level of competence, and the IAF’s application of systematic and disciplined approach (including quality control) (ISA 610, revised 2013, p 6). According to ISA 610, decisions to directly use IAs should be based on evaluations of the existence and significance of threats to the IAs’ objectivity, and the competence of IAs (ISA 610, revised 2013, p 6). ISA 610 also mentions that the use of the work of the IAF or direct use of IAs may be prohibited or restricted in some jurisdictions and that the ISAs do not override the laws or regulations governing audits of financial statements (ISA 610, revised 2013, p 4).

In the context of work used by the EA for the purpose of preparing and conducting an EA, the term “work” could mean a variety of things, all acceptable for the purposes of this study. For example, EAs could use IAs’ knowledge (i.e. consult them) or parts of their previous or new work, seeking to benefit from internal audit’s ‘insider knowledge’ and continuous monitoring of the organization’s internal control systems (Edge & Farley, 1991, p. 70), potentially improving the quality of the external audit. In such cases, the work of the internal auditors would contribute to the planning and/or the content of the external audit. Alternatively, EAs could directly use some of the work of internal auditors in order to reduce duplication of work and the required time and cost, as well as reducing the audit’s disruption of the organization’s operations (UK’s National Audit Office<sup>9</sup> (NAO), 2000, p. 4).

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<sup>9</sup> The National Audit Office (NAO) is “an independent Parliamentary body in the United Kingdom which is responsible for auditing central government departments, government agencies and non-departmental public bodies. The NAO also carries out Value for Money (VFM) audit into the administration of public policy”.

Ward and Robertson (1980, p. 64) suggest that EAs could either use the work of the internal auditors generated as a normal part of the client organization's system of internal controls, or could directly ask the internal auditors to perform work under the direct supervision of the external auditors. Moreover, using the work of internal auditors also allows the external auditors to draw on a wider skills base (NAO, 2000, p. 4).

The various standards, including ISA no 610 and SA No. 65, also provided guidelines on EAs' consideration of IA work in the conduct of financial statement audits. The American Institute of Certified Public Accountants (AICPA) requires EAs to consider the three factors (objectivity, technical competence and work professionalism) when relying on work of Internal Audit, and stated that the EA may use IAs as assistants (AICPA, 2008). ISA no.610 also requires EAs to evaluate the three factors as well as the nature and extent of internal audit assignments performed and communication when considering whether internal audit work is adequate for the purpose of their audit (ISA 610, 2009).

#### **1.4.5 Objectivity of the Internal Audit Function**

“Objectivity” falls under the category “Organizational status” in ISA (Paragraph 13) section (a), and under the category “Objectivity” in ASA (Paragraph 13) section (A4) (ASA 610, 2011). This study uses the following definition of objectivity: “the internal auditor should have an impartial, unbiased mental attitude and avoid conflict of interest situations, as that would prejudice his/her ability to perform the duties objectively. Objectivity could be indicated by the level of planning and supervision and the level of auditor independence.”

This definition is taken directly from IIA Standard no. 1100 (Independence and Objectivity). Moreover, “while the IIA standards use the word independence to describe IAs in certain places, objectivity might be a better word to describe one of the primary characteristics that internal auditors need to exhibit” (The Internal Audit Guide, 2009, p. 9). The statement of the International Standards for the Professional Practice of Internal Auditing (ISPPPIA) No. 1100 prescribes IA objectivity and independence, stating: "The internal audit activity should be independent, and internal auditors should be objective in performing their work".



The Standards for the Professional Practice of Internal Auditing (SPPIA) define objectivity of the IAF as "an independent mental attitude such that the internal auditor does not subordinate his/her judgement to others on audit related matters; and has an honest belief in his/her work product such that no significant quality compromises are made" (IIA,2004). Likewise, the IIA defines Objectivity as "a mental attitude which internal auditors should maintain while performing engagements. The internal auditor should have an impartial, unbiased attitude and avoid conflict of interest situations, as that would prejudice his/her ability to perform the duties objectively. The results of internal audit work should be reviewed before they are released in order to provide a reasonable assurance that the work has been performed objectively" (IIA, 2012).

Moreover, Leung et al (2011, p. 85) argued "independence in mind relates to the state of mind that permits the expression of a conclusion without being affected by influences that compromise professional judgement. It requires the professional accountant to exercise skepticism and act with integrity and objectivity. Independence in appearance means avoiding situations and facts that are so significant that a reasonable person, knowing all relevant facts and having considered the safeguards in place, would reasonably conclude that a firm's or a professional accountant's integrity and objectivity may have been impaired".

The IIA Code of Ethics of 2009 mandates that "Internal auditors exhibit the highest level of professional objectivity in gathering, evaluating, and communicating information about the activity or process being examined. Internal auditors make a balanced assessment of all the relevant circumstances and are not unduly influenced by their own interests or by others in forming judgements" (IIA Code of Ethics, 2009, p.1).

"The internal auditor occupies a unique position: he or she is employed by the management but is also expected to review the conduct of management which can create significant tension since the internal auditor's independence from management is necessary for the auditor to objectively assess the management's action, but the internal auditor's dependence on the management for employment is very clear" (IIA, 2011, p. 1).

### **1.4.6 Competence of the Internal Audit Function**

“Competence” falls under the category “Technical competence” in ISA (Paragraph 13) section (c) and in ASA (Paragraph 13) section (A4) (ASA 610, 2011). Competence is also discussed in International Standards for the Professional Practice of Internal Auditing (SPPIA) no. 1210 as “Proficiency”. This study uses the following definition of competence: “The internal audit team collectively must possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities. Competence could be indicated by experience, education, and training”.

The internal audit team collectively must possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities (IIA Standards no. 1210 - Proficiency). Competence could be indicated by experience (local or overseas), education (local or overseas), and training (local or overseas).

Prahalad and Hamel’s (1990, p. 4) defined core competence as “the collective learning in the organisation especially how to coordinate diverse production skills and integrate multiple streams of technologies”.

Moreover, Jessup (1991, p. 140) and Connor (1994, p. 10) defined the competence of internal audit function as "the ability to perform to recognised standards". This definition is further extended by the following definition of occupational competence: "a person described as competent in an occupation or profession is considered to have the repertoire of skills, knowledge and understanding which he or she can apply in a range of contexts and organisations" (Jessup, 1991, p. 26). To say that a person is competent in a ‘job’, on the other hand, may mean that their competence is limited to a particular role in a particular company. However, Mathur (2005, p. 59) defined competence as: “the demonstrated ability to apply knowledge skills”. Moreover, Mathur (2005, p. 59) argue that the competence of internal audit staff is “a function of qualifications, including education, certification, and supervision. Competent audit evidence is valid and reliable”.

Additionally, the ISA defined ‘Technical Competence’ in Para. 9 as “whether the internal auditors have adequate technical training and proficiency as internal auditors” (ISA 610,

2009, p. 630). On other hand, the US Statement of Auditing Standards SAS No. 65 (AICPA, 1991) explains that the competence of IAF is dependent on a company and its internal audit department's operations, procedures, and the quality and quantity of supervision available in the internal audit department.

The IIA (2011) also defined competence of internal audit functions under section no. 1210 – ‘Proficiency’, stating that “Internal auditors must possess the knowledge, skills, and other competencies needed to perform their individual responsibilities. The internal audit activity collectively must possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities” (IIA, 2011, p. 5).

Competence can be demonstrated through a mixture of experience and theoretical learning. Technical experience gained in organizations of similar size, complexity, sector or industry is more valuable than less relevant experience. In the case of a review team, not all members of the team need to have all the competencies; it is the team as a whole that is qualified. The chief audit executive uses professional judgement when assessing whether a reviewer or review team demonstrates sufficient competence to be qualified (IIA, 2011).

The International Federation of Accountants (IFAC) Education Committee (1998) defines “competency” as being “the ability to perform the tasks and roles expected of a professional accountant, both newly qualified and experienced, to the standard expected by employers and the general public” IFAC,(1998, p. 1).

#### **1.4.7 Work Performance of the Internal Audit Function**

“Work performed” falls under the categories: “Due professional care” in ASA 610 (Paragraph 13) section (A4) (ASA 610, 2011); “Scope of function” in ISA 610 (Paragraph 13) section (D); “Due professional care” in the International Standards for the Professional Practice of Internal Auditing (SPPIA) no. 1220. This study uses the following definition of work performance: “Internal auditors must apply the care and skill expected of a reasonably prudent and competent internal auditor. Due professional care does not imply never making mistakes. There also needs to be sufficient resources to adequately carry out the tasks

required.” The definition is taken directly from IIA Standards no. 12220 – Due professional care.

The IIA has defined several work performance objectives that should be met by the IAF. According to IIA standard number 2240 (Engagement Work Program), “internal auditors must develop and document working programs that achieve the engagement objectives”. This is followed by standard number 2240 section (A1) “Work programs must include the procedures for identifying, analysing, evaluating, and documenting information during the engagement. The work program must be approved prior to its implementation, and any adjustments approved promptly”.

The Standards for the Professional Practice of Internal Auditing (SPPIA) define work performance as including working with “due professional care” and as such “Internal auditors must apply the care and skill expected of a reasonably prudent and competent internal auditor. Due professional care does not imply infallibility”. (Pickett, 2010, p. 453).

The SPPIA categorised , the Performance Standard into six main sub standards; "managing internal audit activity, nature of work, engagement planning, performing the engagement, communicating results and monitoring progress" (Professional Guidance of SPPIA 2004). IIA standard number 2240.C1 states that the “work programs for consulting engagements may vary in form and content depending upon the nature of the engagement”.

There also needs to be sufficient resources to adequately carry out the tasks required. (IIA Standards no. 1220 - Due professional care). It could be argued that the most standards regarding audit work performance focus on two key aspects: management (e.g. planning) and ‘due professional care’ (e.g. following procedures).

## **1.5 Purpose of the Research**

This section defines the purpose of this thesis. This study seeks to fill in some of the gaps in existing literature on IAF effectiveness and EA reliance on the work of EAs in Jordan.

Specifically, the relative importance of the three dimensions in Jordan is unknown. Furthermore, the reasons for the influence of the three dimensions on EA perceptions of IAF effectiveness and EA reliance on the work of IAs in Jordan are also unknown. Section 1.5.1 describes the theoretical model on which this study is based. Section 1.5.2 states the objectives of this study. Section 1.5.3 defines the research questions and hypothesis which the research will address through data collection and analysis. Section 15.4 describes how this thesis contributes to the knowledge of internal audit, particularly in the context of Jordan.

### **1.5.1 Research Model**

The research model (i.e. theoretical framework) (see Figure 1) posits two dependent variables of added value as perceived by ISA no.610:

DV1) Relative effectiveness of the IAF

DV2) Relative EA reliance on the work of the IAF.

Various standards of auditing (e.g. ISA no 610 and SA No. 65) discuss a framework for the effectiveness of auditing; according to this framework, objectivity competence and work performance are key factors that improve the effectiveness of auditing. Prior research (e.g. Desai et al, 2010; Krishnamoorthy, 2002; Messier & Schneider, 1988) used measures of these three factors in studies of the effectiveness of auditing.

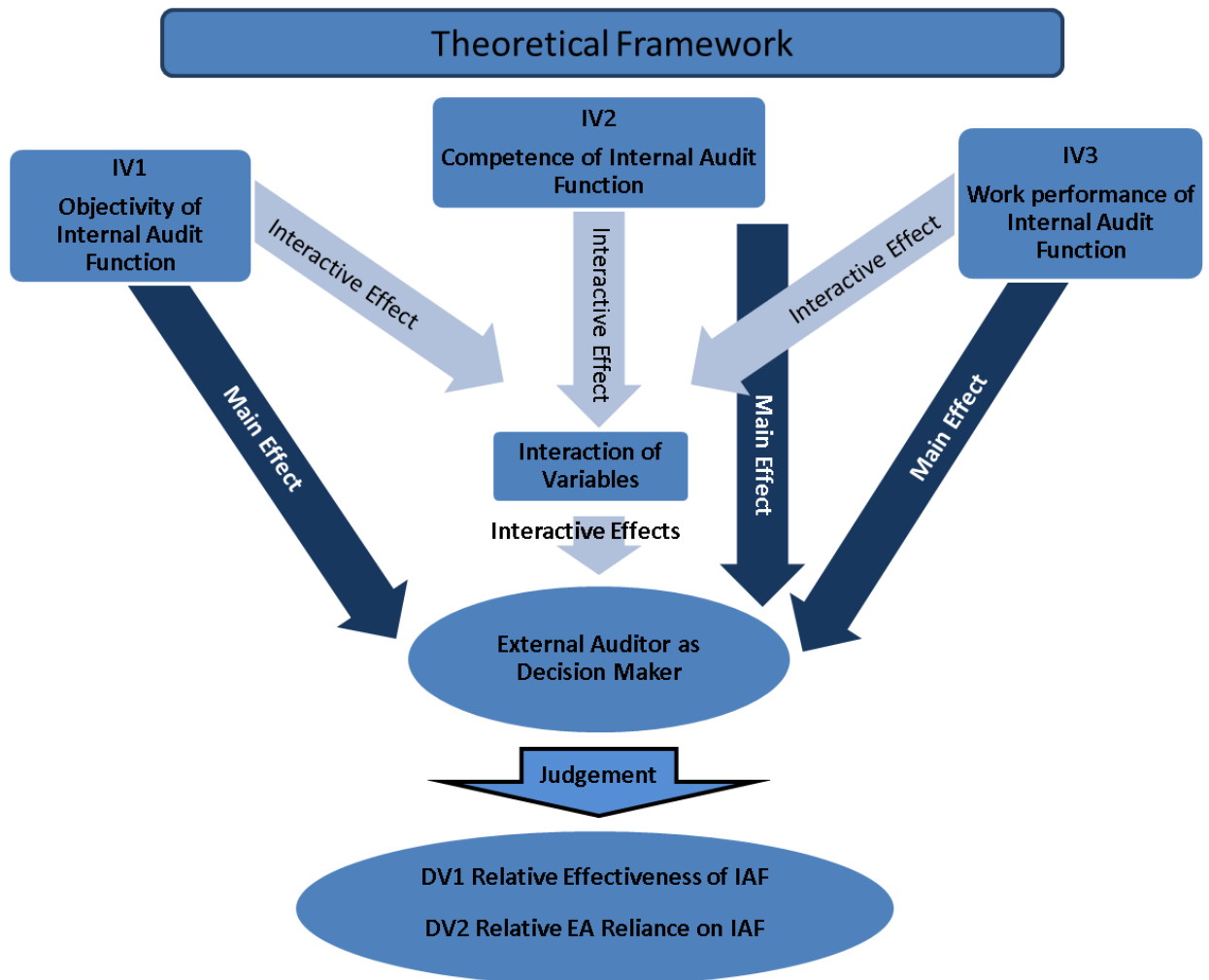
The independent variables of this study's research model are:

IV1) The objectivity of the IAF

IV2) The competence of the IAF

IV3) The work performance of the IAF

**Figure 1: The dimensions of the IAF provided by ISA no.610**



The research considers EAs' judgement as decision makers regarding the effectiveness of the work of IAs and how much to rely on the work of IAs. The main aim of this study is to evaluate the importance of the determinants of the perceived effectiveness of the IAF in JLCs, and to evaluate the importance of the determinants on the level of reliance EAs are willing to place on the work of IAs. The study examines, through an experimental technique, the main and interactive effects of the three independent variables (namely objectivity, competence, work performance) on EA judgements regarding the two dependent variables. The experiment also examines EAs' self-insight into the influence of the three independent variables on their judgements regarding the two dependent variables.

## 1.5.2 Research Questions and Research Hypotheses

The study examines, through an experimental technique, the relative weights of the hypothesised independent variables (IA objectivity, competence and work performance) and their interactions in influencing the two dependent variables (1) effectiveness of the IAF and (2) the reliance on the work of IAs by EAs. These are set out as research questions as follows:

The first question relates to the main and interactive influence of the independent variables on the effectiveness of the IAF.

**RQ.1:** What are the relative main and interactive weights of:

- ❖ The objectivity of the IAF,
  - ❖ The competence of the IAF, and
  - ❖ The work performance of the IAF,
- on the perceived effectiveness of the IAF?

The second question relates to the main and interactive influence of the independent variables on the EA's reliance on the work of the IAF.

**RQ.2** What are the relative main and interactive weights of:

- ❖ The objectivity of the IAF,
  - ❖ The competence of the IAF, and
  - ❖ The work performance of the IAF,
- on EAs' perceived reliance on the work of IAF?

The study also considers the degree of self-insight EAs have into their decision-making in evaluations of the effectiveness of the IAF and decisions to rely on the work of IAFs in JLCs. In the context of this thesis, self-insight refers to how aware an auditor is of his/her own judgement formation processes. This issue is addressed by answering the following questions:

**RQ.3** What degree of self-insight do EAs demonstrate in their assessments of the influence of IAF objectivity, competence, and work performance on their evaluation of the effectiveness of the IAF?

**RQ.4** What degree of self-insight do EAs demonstrate in their assessments of the influence of IAF objectivity, competence, and work performance on their decisions on the degree of reliance on the work of the IAF?

These two questions are answered by comparing EA judgements about the two dependent variables (i.e. the reported levels of IAF effectiveness and the degree of reliance on IAs and the work of the IAF as the independent variables are manipulated) to their responses regarding the relative importance of the three independent variables.

This thesis also aimed to provide an in-depth understanding of how and why EAs perceive the influence of the three dimensions on IAF effectiveness and EA reliance on the work of the IAF in JLCs. This could be achieved by conducting in-depth semi-structured interviews with a concentration on ‘how’ and ‘why’ questions (Symon & Cassel, 1998; Yin, 2009). However, (Silverman, 2009; Symon & Cassel, 1998; Denzin & Lincoln, 2005) argued that quantitative studies can not answer ‘how’ and ‘why’ questions while qualitative studies can do so. The research question number five of this study is:

**RQ.5** How and why do:

- ❖ The objectivity of the IAF,
- ❖ The competence of the IAF, and
- ❖ The work performance of the IAF,

influence EA decision-making regarding IAF effectiveness and the ability to rely upon the work of the IAF?



## Research Hypothesis:

The way in which multiple variables interact to influence judgements has been examined in previous research into judgemental decision making in auditing (e.g. Ashton, 1974; Hofstedt & Hughes, 1977; Brown & Solomon, 1990 and 1991; Hooper & Trotman, 1996, Trotman, 1996). Configurality<sup>10</sup> is a related term that refers to cases in which interpretation of a specific piece of information depends on other available information (i.e. the meaning of some information is at least partly determined on the basis of other information) (Slovic, 1972, p. 786). Extensive research has been undertaken into configural assessment of information in financial valuation and advice (e.g. Slovic, 1969; Slovic et al, 1972; Mear & Firth, 1987b, 1990).

The study's three independent variables in combination could, hypothetically, influence the dependent variables in ways that cannot be determined from the sum of the individual impacts of the independent variables alone. For example, an EA could consider evidence of low levels of two of the three independent variables to be an indicator of high risk and might judge the dependent variables with extreme negativity, even if the third independent variable is exceptionally high.

The study hypothesizes that EAs' judgement decision-making regarding the two dependent variables is configural; EAs look for and take into consideration both the individual (i.e. main effect) and interactive effects of the three independent variables when evaluating the two dependent variables.

The hypothesis of this study can be stated as:

**H1:** EAs assess decision-making information configurally when considering the influence of IAF objectivity, competence, and work performance on the dependent variables.

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<sup>10</sup> "Configurality means that the analyst's interpretation of an item of information varies depending on the nature of other available information"(Slovic, 1972, p. 786). Additionally, configural information processing is "cognition in which the pattern (or configuration) of stimuli is important to the subsequent judgement/ decision" (Brown and Solomon, 1990, p. 19).

The hypothesis is tested statistically using ANOVA analysis. The existence of statistically significant interactive effects of the independent variables on the dependent variables proves that EAs do consider interactive effects (i.e. they think configurally).

The research design (experimental) uses a single hypothesis together with five research questions. The choice to use the research questions rather than additional research hypotheses was made to because of the primary research objective was to investigate the relative importance of each of the three independents variables, both in term of their main effects and their interactions. As there was insufficient prior evidence to support specific predictions of relative importance, research questions were used instead of research hypotheses for this specific research objective. This is in keeping with guidance from Thomas and Hodges (2010, P.40), who stated that “In general hypotheses are used only in quantitative research, not qualitative research, and normally only when previous research, or a literature review, indicates a specific prediction is warranted. Some studies present hypotheses instead of research objectives, while others present a combination of research objectives and hypotheses”.

### **1.5.3 Contribution to Knowledge and Added Value**

The thesis contributes to the development of knowledge as follows:

First, this study is one of only a handful to explore the IAF in Jordan from the point of view of EAs (Al-Matarneh, 2011; Al-Nawaiseh, 2006; Thnaibat & Shunnaq, 2010) or to investigate all of the three dimensions simultaneously in Jordan (Al-Matarneh, 2011), and perhaps the first to focus on JLCs. In comparison to the significant number of studies carried out in other countries on the importance of the three dimensions to IAF effectiveness, there are very few studies that seek to rank the importance of the three dimensions in the context of EA decisions to rely on the work of the IAF. Developing countries such as Jordan are in need of studies to help them to develop and increase their knowledge in the area of internal auditing and the relationships between IAs and EAs. Such knowledge could help these countries make well informed decisions about investing in and managing their IAFs to protect their scarce resources. A Jordanian study would reflect what Jordanian EAs value in

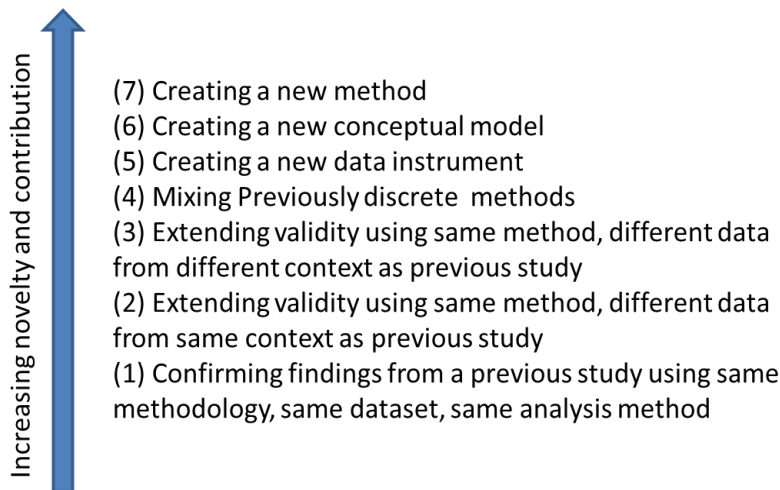
the IAFs of JLCs. Possibly, Jordanian EAs' concerns have more to do with the Jordanian business culture and laws [see Section 2.3.2 for more details about Jordanian culture], and less to do with international standards and laws. This study's qualitative investigation may contribute to the literature exploring the concerns of Jordanian EAs regarding the IAF in JLCs, and how these concerns affect the way they work.

Second, the insights gained may help practitioners address practical issues in improving both internal audit effectiveness and the cooperation between IAs and EAs. Indirectly it may raise awareness that studies in developed countries focusing on larger companies may not necessarily apply to smaller companies, or even branches of multinational companies operating in less developed countries.

Third, in research conducted in Jordan, combining more than one research method in one study has not been common practice, even though the use of a mixed methodology is common in business research in other countries (Collis & Hussey, 2003). This study uses a factorial experiment (quantitative method) and semi-structured interviews. The survey-based experiment examines the study variables through 8 different cases for each dependent variable. The interviews help explain why the three factors affect the perceived effectiveness of the IAF and decisions to rely on the work of the IAF. Combining these research methods in one study enables a more comprehensive answer to the research problem (Burns, 2000).

According to Farnsworth et al (2014), the novelty and contribution of theoretical outcomes have come to be anticipated or prejudged at the level of methodology (see figure 2):

**Figure 2: The Novelty and Contribution in Terms of Research Methodology**



In the framework mentioned by Farnsworth et al (2014), the current study contributes at level 3, 4, 5 and 6. In brief, in regards to the relationship of the three dimensions on evaluations of IAF effectiveness, the study extends the validity of previous studies by Schneider (1984, 1985a and b), Messier and Schneider (1988), Edge and Farley (1991), Maletta (1993) and Obeid (2007). The current study uses similar methods to these studies, extending them by collecting and analysing data from EAs in Jordan. A study conducted in Jordan by Al-Matarneh (2011) did study the relationship of the three dimensions with IAF effectiveness, but used a sample of IAs and was limited to the banking industry. On the other hand, in regards to studies of the relationship of the three dimensions on decisions to rely on the work of IAs, the researcher found only one study that simultaneously tackled all three dimensions, and it is a study conducted in Jordan by Suwaidan and Qasim (2010). The study by Suwaidan and Qasim (2010) differs from the current study in the choice of methodology. The Suwaidan and Qasim (2010) study makes no attempt to measure the statistical effect of the three dimensions on reliance, instead calculating the statistical means of the importance of the three dimensions as indicated by EAs based on their replies regarding the importance of 19 different comprising factors. The primary focus of Suwaidan and Qasim's (2010) study was on measuring the relationship between reliance on IAs and audit fees. The findings of the literature review indicate that the current study is the first research to measure the statistical effect (both direct and interactive) of all three dimensions on decisions to rely on the work of IAs.

## **1.6 Research Methodology**

Kerlinger (1973, p. 300) defined research design as “the flow, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance”. Thus the research design has two basic purposes: to answer the research question and to control error variance. However, the way in which researchers develop their research designs is basically influenced by the fact that the research question is either descriptive or explanatory. The process of research design is to make sure that the evidence acquired allows the researcher to answer the main research question in a clear manner (Bryman & Bell, 2007).

Data collection methods are the instruments and mechanisms that are used to acquire research data, including questionnaires, observation, and interviews. Some of these techniques are qualitative such as interviews and some are quantitative such as questionnaires (Saunders, Thornhill, and Lewis, 2009). Thus the researcher is required to define his strategy and methods which will be either quantitative, qualitative or a mix between them (Creswell, 2009).

This section discusses the experimental and interview research methods before discussing a mixed method that uses both. This thesis uses the mixed method, combining quantitative experimental treatments and qualitative semi-structured interviews.

### **1.6.1 Experimental Treatments**

Quantitative analysis is the method applied in the first stage of this research, utilizing an experimental method approach. An experiment is defined by Kerlinger (1973, p. 315) as “a scientific investigation in which an investigator manipulates and controls one or more independent variables and observes the dependent variable or variables for variation concomitant to the manipulation of the independent variables. An experimental design, then, is one in which the investigator manipulates at least one independent variable”. Data from experimental research provides the framework for establishing a relationship between cause and effect (Creswell, 2009). Experimental research design allows the researcher to answer the research questions as validly, objectively, accurately and economically as possible (Trotman,

1996). Moreover, Yin (2009, p. 9) argued that “‘What’ questions, ‘who’ and ‘where’ questions . . . are likely to favour survey methods . . . . In contrast ‘how’ and ‘why’ questions are more explanatory and likely to lead to the use of case studies, histories and experiments as a preferred research method”.

Due to all these benefits, an experimental approach will be the primary method used to develop findings on the effectiveness of the internal audit function, and findings on the extent of the reliance of EAs on the work of the IAF. Furthermore, the use of experimental treatment in auditing research has been recommended by Trotman (1996) and in earlier monographs on research methods (Brownell, 1995). The Trotman monograph examined research methods for judgemental decision making processes (JDM) research in auditing (Trotman, 1996).

The quantitative method comprises of data collection techniques and data analysis procedures that generate numerical data (Saunders et al, 2009). In very broad terms, it can be described as entailing the collection of numerical data and as exhibiting a view of the relationship between theory and research (Bryman and Bell, 2007). The method was originally developed to investigate natural phenomenon. However, this aspect of research is extensively utilized in business and management studies as well. Quantitative methods include surveys and laboratory experiments (Berry and Jarvis, 2006; Quinlan, 2011).

### **1.6.2 In-depth Interviews**

Qualitative research through conducting in-depth interviews will be the second stage of this research. This stage aims to explore how and why the three dimensions can affect IAF effectiveness, and the confidence placed by EAs on the work of the IAF in JLCs. As such, the qualitative approach complements the experimental approach used in the first stage of this research by allowing the researcher to validate and explain the results of the quantitative analysis and to explore some of the implications. Silverman, 2009; Symon & Cassel, 1998; Denzin & Lincoln, 2005 argued that qualitative studies can answer ‘how’ and ‘why’ questions in depth whereas quantitative studies cannot. The interview method provides the opportunity not only to gather information on an event but also to explore interpretations and meanings and develop understanding of the motives and underlying actions (Creswell, 1998).

In the second stage, data collection was through semi-structured interviews, a method appropriate for theory informed research (Flick, 2002). Research participants were selected through the judgement sampling technique, also known as purposive sampling, a type of non-probability sampling technique in which the units investigated are selected based on the judgement of the researcher. This kind of sampling is the most common sampling technique. The judgement sample is selected as it is the most productive sample to answer the research questions (Marshall, 1996). The interview structure adopted in this study is similar to that of Creswell (1998). A maximum of one hour was allocated to each interview. Each interview was audio recorded after obtaining the participant's consent to having an audio recording.

The qualitative method is an inquiry process of understanding, a social study based on building a complex holistic picture. In other words it avoids the tendency of experimental research to simplify relationships in order to get a manageable experiment. Qualitative methods focus on understanding, discovery, description, meanings and hypothesis generation. Qualitative methods, however, can be too subjective and impressionistic since research findings rely extensively on the researcher's ingenuity and perceptions (Bryman and Bell, 2007). By linking the findings of the qualitative method with the experimental results, there can be more confidence that the interpretations are likely to be valid.

### **1.6.3 Mixed Method**

This thesis uses a combination of a quantitative experimental treatments and qualitative semi-structured interviews, a combination that is especially suited to answering "how and why" questions and, through triangulation, enhances the validity and reliability of research findings (Bryman, 1992; Shadish et al, 2002; Yin, 2003). Triangulation, in the current research, follows the "concurrent triangulation" model (Creswell, 2003, p. 217) as the data from the experimental survey instruments and the interviews with EAs is collected concurrently and integrated at the interpretation phase. Concurrent triangulation is appropriate for research in which the two techniques have equal priority (Creswell, 2003), and is considered to enhance the validity of identified causal relationships and the reliability of research findings. The experimental element of the current study, adapted from the work of Slovic (Slovic, 1969; Slovic et al, 1972) and Trotman (1996), tests and provides evidence of the study's hypothesized causal relationships (Keppel, 1982; Coolican, 2004). The interviews, on the

other hand, generate a wealth of information that corroborates and/or provides context to the quantitative data (Bryman, 1988; Creswell, 1998; Patton, 1990). The unit of analysis for both elements of the study was the individual EA.

Johnson & Onwuegbuzie (2004, p. 17) defined mixed methods research as “the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study”. Mixed methods research can provide stronger evidence for a conclusion through convergence and corroboration of findings according to Johnson and Onwuegbuzie (2004). Creswell, (2009) argued that the benefit of a mixed methodology is that it can be used to increase the generalisability of the results. Additionally, it offers the opportunity to expand theories through a process of exploratory, qualitative research to provide detailed, rich understanding (Creswell, 2009) and at the same time overcomes one of the key criticisms of qualitative studies, which is due to concern over the generalizability of findings (Bryman, 1988; Creswell, 2008, p. 553).

Mixed methodology is common in business research (Collis & Hussey, 2009), and “the combining of mixed method techniques can deliver considerable complementarities including completeness, good explanation, can each answer different research questions and can be fruitfully combined when one generates surprising results that can be understood by employing the other”(Bryman, 2006a, p. 107). “Using multiple approaches can capitalise on the strengths of each approach and offset their different weaknesses. It could also provide more comprehensive answers to research questions, going beyond the limitations of a single approach” (Bryman, 2006b, P. 6). The most commonly cited purposes for adopting a mixed method approach are “triangulation” (Bryman, 2006) and “seek[ing] to extend the breadth and range of enquiry by using different methods for different inquiry components” (Greene et al., 1989, p. 259). An experimental technique used in conjunction with a qualitative approach may provide a better explanation of the research problem (Burns, 2000). This study’s research design will conform to these definitions of mixed methods research.

On a final note, this study’s investigation of the degree of self-insight exhibited by EAs (research questions three and four on which data is gathered through questions 1 and 2 of part B in the survey instrument) can be considered a third approach for triangulating and, thus, increasing the validity of the results of the study.



## 1.7 Limitations

The limitations of the study can best be grouped into two categories: those related to limitations in the study design and those related to the scope and context of data collection.

### 1.7.1 Limitations of Design

This research adopted a methodology for evaluating the IAF that is uncommon in studies in Jordan. This method uses both a factorial experiment (quantitative method) and interviews (qualitative method).

Johnson & Christensen (2013, p. 433) argues that mixed research has some inherent weaknesses: 1) a single researcher could find it difficult to carry out both the quantitative and qualitative research; 2) mixed methods research is more expensive than using a single method; and 3) research methodologists have, as yet, not fully worked out how to resolve all the potential problems related to mixed research (e.g. how to qualitatively analyse quantitative data, and how to interpret conflicting results).

In regards to the experimental survey technique, one limitation is that, unless the researcher is present during the process, the researcher cannot confirm that the survey is completed by the selected participant. In addition, the researcher is not present to help answer questions about the definitions used, the proper use of the survey questionnaire etc. In an attempt to reduce participants' confusion, the researcher elected to provide the participants with high-level definitions for all the variables used in the study.

The interviews provide the researcher with an opportunity to gather evidence (from experts) that the measurement tools (and study variables) are relevant to the questions being investigated (Shadish et al, 2002). The use of a quantitative and qualitative method also enhances construct validity through reducing mono- method bias (Shadish et al, 2002).

Limitations of the interview method include that it can be too subjective and impressionistic since research findings rely extensively on the researcher's ingenuity and perceptions (Bryman and Bell, 2007).

### **1.7.2 Limitations of Scope and Applicability**

The focus of the study is on EA perceptions of the effectiveness of the internal audit function and on EA reliance on the work of the IAF in JLCs. Private companies and non-listed companies are excluded. For the purpose of this study, the sample includes senior external auditors and partners in auditing firms in Jordan. While the researcher could not obtain participants from all audit firms in Jordan, it was possible to get participants from most of the major audit firms.

This study is conducted in a period in which the ramifications of the global financial crisis and major regional financial scandals are still being felt by companies and shareholders and may not reflect auditors' beliefs and attitudes in other times.

In the context of applicability limitations, Jordanian companies differ considerably from companies in developed countries, most notably in respect of the size of the companies, maturity of the auditing sector, relatively small IAF, the business culture, and the legislative and taxation regimes, thus limiting the generalizability of the results, especially in the case of developed economies.

## **1.8 The Structure of the Thesis**

This thesis is structured into five chapters. This introductory chapter includes a description of the development and importance of internal auditing, as well as the relationship between internal and external audits. Following this introductory chapter, Chapter 2 reviews the literature regarding issues related to the three dimensions of the IAF (objectivity, competence and work performance). The chapter also reviews the literature regarding EA reliance on the work of the IAF. Additionally, the human information processes and judgement are described in detail. Finally, the chapter includes a review of selected previous studies in this area to

highlight the main features of previous studies conducted in this area. Chapter 3 begins with a review of methods previously applied in the field and provides a rationale for using a mixed methods approach. Subsequently, it considers, in more detail, the methodologies related to studies of judgement decision making and introduces the two research methods adopted for the study with a rationale for this particular combination. Also the chapter will describe the research implementation process, and will end with a discussion of the limitations of this methodological approach. Chapter 4 reports the results of both research methods. First, it will describe respondents to the survey instrument, then it discusses the validity and the reliability of the experiment before reporting the analysis of its results along with some additional, contextual data. Then it will describe each interview subject before reporting a cross case comparison of common themes arising from the interview analysis, illustrated by quotes. The chapter concludes with an integration of data from the two research methods. Chapter 5 discusses the findings of the research, grouped within topic areas that emerged from the literature review. This will be followed with a discussion of the theoretical implications of the research and conclusions that can be drawn from it. The chapter closes with consideration of the practical implications of the research, recognition of its limitations of design and scope and some suggestions for future research.

# **CHAPTER TWO: LITERATURE REVIEW**

## **2.1 Introduction and Chapter Overview**

The aim of this chapter is to review the literature on (1) IAF effectiveness, focusing on the three dimensions of internal auditing, and (2) EAs' reliance on the work of the IAF. The first section after the introduction describes a brief history of internal audit and audit firms in Jordan. Section 2.3 describes Jordan's economic challenges as well as Jordanian culture and some of its implications. Section 2.4 describes the importance of the IA and describes the relationship between internal and external audit, including the differences between the two functions. Section 2.5 discusses EA judgement decision-making. Section 2.6 presents a literature review that provides a context for the relationship between the three dimensions of auditing (objectivity, competence and work performance) and both (1) the effectiveness of the internal audit function and (2) external auditor reliance on the work of internal auditors. The section introduces several concepts from international literature on the effectiveness of internal auditing and the reliance of external auditors on the work of the internal auditors, as well as reviewing prior studies of their relationship with various factors. The section also reviews highlights from Jordanian literature on the subject of IAF effectiveness and external auditor reliance on the work of internal auditors. Section (2.7) concludes with a clear identification of the gaps in the literature which are being addressed by this thesis.

## **2.2 A Brief History of Auditing in Jordan**

A brief history of the audit function in Jordan is provided to highlight the characteristics of the Jordanian business environment and the development of the law of the audit profession. This preview will take into account the transition period before and after adopting the International Accounting Standards (IASs) and International Standards on Auditing (ISAs).

The accounting profession in the current territory covered by Jordan was greatly influenced by British rules and principles during the 1920s and 1930s; only British auditors were employed and the audit profession was mainly located at the office of one firm - Russell & Co. In 1944, Saba & Co<sup>11</sup> opened an office in Amman, becoming the first “local” audit firm providing auditing services in Jordan. At the same time, the permanent headquarters of George Khader & Co. was transferred from the West Bank of Jordan to the capital city, Amman (Al-Shiab, 2003; Obaidat, 2007; Mardini, Crawford, & Power 2012). The accounting profession’s codes were taken directly from the British companies law, a situation that remained until the issuance of the first Jordanian Companies Law of 1964 (Obaidat, 2007; Kanakriyah, 2013). In the early 1950s, Whinney Murray & Co. opened Branch in Jordan as a foreign audit firm. Although several accounting and auditing firms were opened in Jordan during the 1950s, the accounting and auditing practices were unregulated until the early 1960s (Abdullatif and Al-Khadash, 2010).

During 1961-2003, the government issued three<sup>12</sup> laws to regulate the local external auditing profession. In 1961, the “Auditing Profession Practice Law No. 10 of 1961”<sup>13</sup> was issued as the first law governing the audit profession in Jordan. Although this law was very limited in scope, it was necessary to establish the fundamental conditions and rules that all individuals licensed to practice audit must fulfil. It is also worth mentioning that this law did not specify many standards of professional behaviour, nor did it specify many activities as being prohibited for auditors. Moreover, the auditing law No. 10 of 1961 was amended by “the Auditing Profession Practice Law No. 12 of 1964”, which includes the statement that all accounts for public companies must be audited<sup>14</sup> (Abdullah, 1982).

During the period between the first law and the 1970s, a second generation of auditing thinking and practice was dominant, and was known as the ‘systems approach’ or the ‘analytical auditing approach’ (Swift, Humphrey & Gor, 2000). Moreover, accounting principles, auditing standards and professional ethics were mainly regulated by

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<sup>11</sup> Saba & Co. was established in Jerusalem as the first audit company in that city.

<sup>12</sup> The three laws are: 1-Auditing Profession Practice Law No. 10 of 1961, 2- the Auditing Profession Law No. 32 of 1985, and 3- the Law of Organizing the Practice of the Public Accounting Profession Law No. 73 of 2003.

<sup>13</sup> The Jordanian Law of Auditing Profession Practice No. 10 of 1961 is the first law relating to the auditing profession issued in Jordan.

<sup>14</sup> The first Jordanian company law was Law No. 12 enacted in 1964, and administered by the Ministry of Industry and Trade.

the audit profession itself as there was a lack of official pronouncements and general principles.

By 1978, the U.S Institute of Internal Auditors officially adopted standards of professional practice for internal audit, with the aim of achieving global recognition of the IA profession (Rahahleh, 2010).

Meanwhile, in the public sector, the Audit Bureau (AB) of Jordan was established in 1952 under the Audit Bureau's Law no. 28 of 1952, which had been issued in accordance with the Jordan Constitution. Article 119 of the Jordan constitution stipulates that the "Audit Bureau act has been set to audit the revenues and expenditures of the state and ways of expenditure". It was only in early 1980s that the AB took responsibility for controlling entry into the auditing profession in Jordan (Suwaidan, 1997).

In the early 1980s, when the “audit risk approach” began to gain popularity (Higson, 2003), Jordan’s lack of a tradition of national accounting standards was particularly noticeable given the failure to adapt to the country’s continued economic developments.

Given the limitations of the earlier laws, as well as (1) the needs of modern business, (2) economic developments in Jordan and (3) establishment of public shareholding companies in record numbers, there was a need for better laws governing the auditing profession, and eventually another law was issued [the Auditing Profession Law No. 32 of 1985]<sup>15</sup> by the Jordanian legislature. Among the provisions of the 1985 law was a revision of the required qualifications for EAs, revised to require at least a community college degree in accounting and the passing of an exam administered by the High Council of the Accounting Profession (Abdullatif & Al-Khadash, 2010). Note that the 1985 law did not establish requirements for IAs. It also didn’t identify the nature of the responsibilities, tasks, and the essential authorizations that are needed to perform their responsibilities (Rahahleh, 2010).

The 1985 Law established the Jordanian Association of Certified Public Accountants (JACPA), and therefore set up the first accounting association in Jordan. Before the JACPA,

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<sup>15</sup> The Jordanian Law of Auditing Profession Practice No. 32 of 1985 is the second law relating to the auditing profession issued in Jordan. The 1985 Law established the JACPA and amendments were made in 1989, 1992, 1995, and 2002.

the Audit Bureau (AB) supervised the accounting profession. Currently, the AB is still responsible for supervising the financial matters of the government and the public accounting profession. Private accountancy firms are monitored by JACPA. According to Suwaidan (1997), the main objectives of the JACPA are:

“(1) to develop the competence and independence of its members; (2) to publish accounting principles for the training and awareness of its members; and (3) to develop accounting and auditing standards that could best meet the needs of the country” (Suwaidan ,1997,p. 78).

Rahahleh (2010) argued that, in the absence of legislation to set standards for internal auditors, this matter is left to the audit committee in the organization, which risks selecting nonprofessional IAs based on nepotistic appointments. This, in turn, can lead to a greater risk of failure to create an appropriate environment and standards for effective internal auditing within the organization. This situation is caused by legislative deficiencies where there are no appropriate specifications for IAF practices, functions, authorizations and powers. As most government authorities and professional boards do not have any commitment to internal auditing standards, there has been no force to drive the development of a professional practice manual in Jordan.

In 1989, the Jordanian Association of Certified Public Accountants (JACPA)<sup>16</sup> adopted the International Accounting Standards (IASs). However, the JACPA did not have the legal power to force Jordanian companies to follow its recommendations. The New Company Law of 1997 required that the accounting standards adopted internationally be used as the basis for Jordanian accounting practices. Furthermore, the Securities Commission Law (SCL) of 1997 adopted international accounting, auditing and performance evaluation standards for all entities falling under the supervision of the Securities Commission (SC) (Mardini et al, 2012).

Due to the significant role an auditor plays in a company's affairs and in modern business, the Jordanian legislature enacted several provisions in order to formalize the EA's rights and duties. The legislature carved out in more detail a special section in the Company Legislation

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<sup>16</sup> The Jordanian Association of Certified Public Accountants (JACPA) is a Jordanian association established in 1985, and it did not effectively operate until 1988.

No. 22 of 1997 to deal with matters such as election of an EA, contents of EA reports, their attendance at the general assembly meetings, and prohibitions placed on EAs.

The third and current effective law is the Law of Organizing the Practice of the Public Accounting Profession Law (No. 73 of 2003), which was produced based on some amendments to the Auditing Profession Practice Law (1985). Moreover, this law addresses a contemporary basis for practicing the public accounting profession to ‘guarantee’ the reliability of the financial statements presented by companies and other institutions. This Law [No. 73 of 2003] aimed to achieve the following: organizing the practice of the external auditing profession; ensuring compliance by Jordanian companies and EAs to International Accounting and Auditing Standards; developing the technical and educational levels to be achieved by Jordanian auditors; ensuring compliance of the EAs with the code of professional ethics; and enhancing auditors’ integrity and independence (Mardini et al, 2012; Abdullatif and Al-Khadash, 2010).

Although auditing profession requirements were still the same as in the previous law, the 2003 act included two major amendments affecting the accountancy profession. The first amendment was that JACPA became a self-funded and administratively independent organisation (Article 7), while the second amendment required that JACPA join the High Council of the Accounting Profession<sup>17</sup>. This gave JACPA new powers that include: responsibility to draft its regulations, disciplinary authority over its own members, and the right to inspect its members’ working permits (Obaidat, 2007; Abdullatif and Al-Khadash, 2010).

At this point in time, few laws and regulations have a direct application to the work of IAs in Jordan. IAs simply need to satisfy their employers’ requirements for employment. There are no required qualifications for IAs or any other type of non-public accountant.

A World Bank report (2004) showed that “the quality of some audits in Jordan was materially affected by management attitudes in client companies and severe competition between audit firms. It is observed that the quality of many audits is affected by management attitudes

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<sup>17</sup> The Accounting Profession Council (APC) administers a uniform examination for entry to the profession of public accountancy in Jordan. The purpose is to determine candidates' technical competence to practice as certified accountants. Similar to the CPA, it is conducted twice a year (May and September).



which results in low audit fees. Thus the degree of compliance with the applicable auditing standards varies between large and small firms” (ROSC, 2004, p. 12).

The report also argued that generally the large auditing firms in Jordan are more capable of providing quality auditing services, but even in those firms compliance with standards is not always ensured.

### **2.2.1 Jordanian Audit Firms**

Audit firms first began to be established in Jordan during the 1940s (Abdullah, 2007). Jordan currently has about 300 registered audit firms (Abdullatif, 2013), rising from approximately 190 audit firms in 1995 (Saadah, 1996). According to a recent study about the structure of Audit fees in Jordan (Naser & Nuseibeh, 2007), perhaps 90% of JLCs are audited by large local firms affiliated with the ‘Big Five’<sup>18</sup> international audit firms. Jordanian audit firms are classified into two main categories: affiliated or not affiliated to big, international audit firms (Naser & Nuseibeh, 2007). Abdullatif (2013, p. 63) states that the majority of audit firms in Jordan are very small, and also supports the claim that it is the minority consisting of larger audit firms that typically audit the larger firms and multinationals. At least two studies about auditing in Jordan categorized audit firms according to whether or not they were affiliated with international audit firms (Naser & Nuseibeh, 2007; Al Farah, 2007). Table 1 (below) lists the top Jordanian audit firms and indicates which firms are associated with international audit firms. These twenty six (26) audit firms undertake the majority of the external auditing work for publicly listed companies in Jordan.

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<sup>18</sup> They are now called the ‘Big Four’. Which are: (Deloitte & Touche, PricewaterhouseCoopers, Ernst & Young and KPMG).

**Table 1: Jordanian Audit Firms and their International Affiliations**

Jordanian Audit Firm		International Partner
1	Allied Accountants	Ernst and Young
2	Bawab and Co	PWC PricewaterhouseCoopers
3	Saba and Co	Deloitte Touche Tohmatsu
4	Khleaf and Co	KPMG
5	National Brothers (BDO)	BDO International
6	Arab Professionals	Grant Thornton
7	Audit and Consult Consortium	Moores Rowland International (MRI)
8	Ghawi CPA Jordan	Baker Tilly International
9	Ghosheh and Co.	Nexia International
10	Ibrahim Al-Abbasi and Co.	Polaris International
11	Arabian Audit Group	None
12	Talal Abu-Ghazaleh and Co.	None
13	Ma'moun Faroukah and Co.	None
14	Riyad Al-Jinini and Co	None
15	Rida Al kabariti Auditing Office	None
16	Hawit , Fasheh and Co.	None
17	Arab Certified Accountants	None
18	Khalefa and Al-Raayan	None
19	Mahmoud Saadeh and Co.	None
20	Seemer Mustafa	None
21	Michel Sindaha and Co	None
22	Professionals for Auditing and Consultancy	None
23	Adel Habeb and Co	None
24	Ta'meh Abu Sha'ar	None
25	Marouf Al Megbel	None
26	Intl. Pro. Bureau Consulting and Auditing	None

Source: Al Farah, *An Investigation of an Audit Expectation Gap Concerning the Use of Computer Assisted Audit Techniques in Developing Countries – the Case of Jordanian Audit Firms*, 2007.

Affiliation with an international audit firm was found to be a significant factor, at least in that it influenced the structure of audit fees (Naser, & Nuseibeh (2007), but was found, surprisingly, to have no significant influence on the use of modern Computer Assisted Audit Techniques (Al Farah, 2007), even though affiliated firms did have access to the required knowledge.

## 2.3 Jordan's Economic Challenges & Jordanian Culture

This section describes Jordan's economic challenges as well as Jordanian culture and some of its implications.

### 2.3.1 Jordan's Economic Challenges

Jordan faces many challenges, including low wages, high unemployment (officially 12.3%, but unofficially estimated to be closer to 30%, according to the CIA World Fact Book<sup>19</sup>, 2013), rising prices, insufficient or inappropriate staffing (due to lack of financial resources or nepotism), a pervasive public perception of widespread corruption, and a government that had almost become bankrupt during 2012, necessitating an emergency intervention from Saudi Arabia. Jordan's people are also relatively poor, with an average GDP/person of US\$4,901<sup>20</sup> (IMF World Economic Outlook October, 2012).

One aspect of economic instability can be seen in the prices of commodities, finished goods and services in Jordan during recent years. For example, the Central Bank of Jordan (CBJ) statistics show that there has been about a 34% increase in the Consumer Price Index (CPI) between 2006 and 2012, and CBJ statistics show fuel costs increased 35% between 2006 and 2012. In 2012 alone, the price of a standard bottle (12.5kg) of natural gas for home use has increased 53.8%, from 6.5JD to 10JD (Jordan Times, 2012, Dec 31; Al Rai newspapers, 2012). In an environment with so many economic challenges, it could be argued that it is especially important that companies protect the interests of their shareholders and increase company productiveness.

JLCs are considered an important part of the economic system of the country which has been heavily affected by the global economic crisis (Brach & Loewe, 2010). Real GDP growth in Jordan reached 8.5% per annum before the global financial crisis, but dropped to 3.2% per annum after the global financial crisis. The market value of publicly traded shares reached US\$41.220 billion (31 December 2007) before the global financial crisis, while after the global financial crisis (in 31 December 2009) they had a value of US\$31.860 billion

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<sup>19</sup> "<https://www.cia.gov/library/publications/the-world-factbook/geos/jo.html>".

<sup>20</sup> 2012 data based on IMF staff estimates. Last official figures from Jordan were in 2010.

(Department of State, The Office of Electronic Information, 2011). Moreover, the regional political instability has subsequently had an effect on Jordanian companies dealing with those markets.

Although not all developing countries are similar in their economic and cultural characteristics, Jordan is one of a large group of developing countries where many international audit firms and multinational companies operate (Abdullatif and Al-Khadash, 2010). Public shareholding companies were set up and their shares were traded in Jordan long before the setting up of the Jordanian Securities Market. In the early 1930s, the Jordanian public already subscribed to and traded in shares. The Arab Bank was the first public shareholding company to be established in Jordan in 1930, followed by Jordan Tobacco and Cigarettes in 1931, Jordan Electric Power in 1938, and Jordan Cement Factories in 1951. The first corporate bonds were issued in the early sixties (Amman Stock Exchange ASE, 2012). The Amman Financial Market (AFM)<sup>21</sup> was established in 1978, and continued up to the founding of Amman Stock Exchange in March 1999. Trading on the Secondary Market rose from JD5.6 million in 1978 to JD2 billion in 2012; market capitalization of subscribed shares is currently around JD22 billion, as compared to around JD286 million at the end of 1978; and the number of listed companies went up from 66 in 1978 to 243 in 2013 (ASE, 2013). Table 2 below shows the number of listed companies in Jordan and market capitalization etc. Moreover, the number of unlisted companies was 5430 in 2012. All listed companies and the majority of the larger non-listed companies have IAFs. Large unlisted companies will at least have an IA.

Over the last decade, Jordan's economy and capital markets showed an overall improvement in economic activity in response to the Government's initiatives: 247 public shareholding companies were listed on the Amman stock exchange ASE by the end of 2010 (ASE, 2011), compared with 105 at the end of 1990; their market capitalization by end of 2010 rose by 104.6% to JD21,913.7 million [US\$1 = JD0.71], compared to JD1,293.21 million at the end of 1990; and the top 8 companies, for example, are substantial even by international standards. In addition, foreign investment represented 45.0% of market capitalization by the end of 2010 (Tables 2 below). This data is indicative of the level of international pressure for the Jordanian audit profession to become technically competitive with western firms.

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<sup>21</sup> "The Amman Financial Market (AFM) came into existence in 1978 after extensive studies were carried out in 1975 and 1976 by the Central Bank of Jordan in cooperation with the World Bank's International Finance Corporation (IFC)".

**Table 2: Statistics of Amman Stock Exchange (ASE).**

<b>Year</b>	<b>Number of listed companies</b>	<b>Market capitalization (JD millions)<sup>22</sup></b>	<b>Listed capital (JD millions)</b>	<b>General weighted price index (point)</b>	<b>Value traded (JD millions)</b>	<b>Value traded as a % of MCAP (%)</b>
<b>1978</b>	57	286.12	242.1	58.6	5.6	2
<b>1980</b>	71	495.53	373	75.7	41.4	8
<b>1985</b>	104	926.91	532.8	78.6	66.7	7
<b>1990</b>	105	1293.21	1080.1	80.4	268.9	21
<b>1995</b>	97	3495.44	2076.9	159.2	418.0	12
<b>2000</b>	163	3509.64	3454.1	133.1	334.7	10
<b>2001</b>	161	4476.7	3735.8	172.7	668.6	15
<b>2002</b>	158	5029.0	4188.7	170	950.3	19
<b>2003</b>	161	7772.8	4468.6	261.5	1855.2	24
<b>2004</b>	192	13,033.8	5465.2	424.6	3793.3	29
<b>2005</b>	201	26,667.1	7348.7	819.2	16,871.1	63
<b>2006</b>	227	21,078.2	10,095.3	551.8	14,209.9	67
<b>2007</b>	245	29,214.2	11,654.6	7519.3	12,348.1	42
<b>2008</b>	262	25,406.3	12,836.9	6243.1	20,318.0	80
<b>2009</b>	272	22,526.9	13,626.8	5520.1	9,665.3	43
<b>2010</b>	277	21,858.2	13,695.3	5318.0	6,690.0	31
<b>2011</b>	247	19,272.8	N.A	4648.4	2,850.3	15

Source: Amman Stock Exchange 2012, and ASE Company Guide 2012

Regarding fraud and embezzlement in Jordanian companies, 11 big cases have come to light in recent history. The Jordan Times has pointed out that some of these companies went into bankruptcy, like the Bank of Petra in 1993 and various other brokerage firms in 2010. However, some of them are still suffering from fraud and embezzlement like Jordanian banks facilities in 2010 and the Jordan Petroleum Refinery Company in 2010. In Jordan, the Anti-Corruption Directorate (now known as the Anti-corruption Commission) was set up in 1996.

<sup>22</sup> Roughly 1 JD= 1.41 USD

In 2002, the Anti-Corruption Directorate (ACD) uncovered 188 cases of fraud from January until the end of July in 2002, helping to save the state treasury about JD70 million.

The latest published results from the Jordan Anti-corruption Commission (2011) summarize the number and type of corruption cases for the year 2010 as follows:

**Table 3: Summarize the Number and Type of Corruption Cases for the Year 2010 in Jordan**

Type of Fraud	Public Sector Cases	Private Sector Cases	Total Cases
Fraud	8	29	37
Embezzlement	16	3	19
Abuse of Job	38	5	43
Identity Crimes	--	4	4
Misconduct	107	6	113
Abuse of authority	400	43	443
Breach of trust	4	1	5
Forgery	28	42	70
Bribery	29	6	35
Theft	15	8	23
False Witness / certification	2	1	3
Wasting Public Money	98	28	126
Favouritism	99	6	105
<b>Total</b>	<b>844</b>	<b>182</b>	<b>1026</b>

Source: the Jordan Anti-corruption Commission (2011) (data for the year of 2010)

The USA requires all listed firms to maintain an internal audit function; in the UK the new Combined Code (2003) did not require UK listed companies to have an internal audit function, but required they justify their decision not to have an internal audit function. Jordan was colonised by Britain and thus influenced by British financial laws and regulations (Abdullatif & Al-Khadash 2010). The Jordanian Companies Act does not require listed or

unlisted companies to establish an internal audit function (Rahahleh, 2010). Moreover, there are also deficiencies in the instructions on disclosure as well as accounting and audit standards issued by the Jordan Securities Commission Board (JSC), a situation which is further exacerbated because they do not change quickly enough in response to global trends (Juma'a, 2006). Both the work of internal and external auditors involves the strength of the internal audit function and both groups are determined to maintain a productive relationship between their two respective functions (Krishnamoorthy, 2002; Desai et al, 2010).

Audit clients in Jordan face too many business risks, especially because of poor control systems, poor corporate governance structures, and unclear or non-existent corporate strategies and objectives (Abdullatif and Al-Khadash, 2010). However, the impact of fraud and embezzlement can be fiscally costly, and can 'break the back' of a financially poor organization. The Jordan Times highlighted the seriousness of the financial losses resulting from fraud and embezzlement in Jordanian companies, especially in the 11 big cases (e.g. The Bank of Petra and Brokerage firms, JOPT, JOPH and JOTC, etc.). In the case of the Bank of Petra, fraud and embezzlement resulted in a loss of more than JD 200 million, according to Jordan Times. Moreover in the scandals at the various brokerage firms, the losses exceeded JD500 million (Yusuf, 2011). Another embezzlement that occurred in the JTC totalled JD30 million. It is clear that the size of losses caused through fraud and financial embezzlement in the bankrupt organizations would clearly have justified spending on internal auditing and control systems in those companies. Such spending is even more justified given the fact that insurance companies in Jordan will not cover risks like fraud and embezzlement.

### **2.3.2 The Jordanian Culture**

Cultural factors may have an important effect on the success of the international audit approach. Helles (1992) argued that the auditing function is not similar in all nations; the auditing systems among different economies often vary. Such diversity of accounting and auditing systems can be attributed to differences in the stage of economic development, the active role of the auditing profession, the regulations governing the content and format of accounts, including valuation methods, and the culture of financial information users in the various countries.

The internal audit function and its activities in Jordan are traditional and routinely practiced and, as indicated by the audit committees (AC), and are often based on what the internal auditors themselves believe in accordance with their experiences. Rahahleh (2010) argues that "To date, there is not any professional public or private institution to supervise or assist in regulating or developing the practice of internal audit in Jordan" (Rahahleh, 2010, p. 161) [where the JACPA is only dealing with external auditors]. Moreover, the Jordanian culture is generally affected by the Islamic religion, which most of the population embrace, and the general Arab heritage, known for robust hospitality and a close-knit extended family system (Beard & Al-Rai, 1999). Beard & Al-Rai (1999) classify Jordan as a high-context culture<sup>23</sup> where subtlety and personal loyalties are used in business. They also argue:

“High-context cultures communicate a great deal of information non-verbally through personal status, family ties and known associates. In high context cultures, greater emphasis is placed on personal trust between business associates than on the technical details of a written contract. Subtlety and inference are highly valued as are the creation and nurturing of personal relationships. High context cultures express a strong preference for face-to-face communication” (Beard & Al-Rai, 1999, p. 140).

Jordan has an accounting system reminiscent of British financial laws and regulations (Abdullatif & Al-Khadash 2010), influenced by Jordan’s history with the United Kingdom as a colonizer, and later trading relations with the UK and other western countries. This facilitated the transfer of western accounting practices to the Jordanian business environment and consequently led to the adoption of IAS/IFRS, which mirrors Western accounting (Al-Akra, Jahangir and Marashdeh, 2009). However, it could be said that these western systems can come into conflict with Jordanian culture in several aspects, especially in regards to the Jordanian emphasis on personal relationships and loyalties. Where modern western auditing practices emphasize independence of internal auditors, Jordanian culture largely stresses personal loyalty to one’s leaders. Where western organizations have generally evolved towards more objective professional HR procedures for evaluating job candidates, Jordanian culture still seems to emphasize nepotism. These contrasts create difficulties for any attempt to simply apply and enforce standard western auditing standards in Jordan. They may also

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<sup>23</sup> Basically high context culture is where information resides in the context of the communication.



influence the nature of the relationship between companies and the external auditors they work with.

Al-Salah (2009) and Abdullatif and Al-Khadash, (2010) argued that cultural factors may have an important effect on the success or failure of the audit approach. These factors include, for example, the different perceptions of what auditor independence means or what degree of independence is considered appropriate, the different levels of willingness for confrontation with clients, and the different perceptions of what is doubtful or risky. The Al-Salah (2009) study found that the Jordanian commercial banks are exposed to several risks that threaten the security of accounting information systems, including the electronic theft of data and information, obliterating or destroying certain items of output, printing and distribution of information by persons not authorized to do so, and providing all the staff with the same passwords. He also pointed out that Jordanian companies have less sophisticated computer systems: gaps in the security of accounting information systems, increasing risk of various threats including the electronic theft of data and information. The study recommended that Jordanian banks put controls on staff use of computers, and train internal auditors to assess the control measures in the system and the suitability of these control procedures in reducing the security risks of accounting information systems. Moreover, Rahahleh (2011) and ROSC, (2004) found that internal controls in Jordanian public organisations suffer from many problems. These include, for example, lack of qualified employees, absence of the main components of internal control systems, inability to use the necessary technical tools in internal control and lack of specialised professional employees.

Additionally, Jordan might also have internal audit problems for other reasons including:

- 1) Political instability in the region: The Jordanian economy is vulnerable to economic shocks and political instability (Abdullatif and Al-Khadash, 2010).
- 2) Jordanian companies are still using traditional approaches to auditing which has many limitations, resulting in unfair opinions (Abdullah & Al-Araj, 2011).

## **2.4 The Importance of Internal Audit & the Relationship between Internal Auditors and External Auditors**

This describes the importance of the IA and describes the relationship between IAs and EAs, including the differences between the two audit functions.

### **2.4.1 The Importance of the Internal Audit**

Over half a century ago in 1941, when the IIA<sup>24</sup> was established, Hald (1944) highlighted the importance of having an IAF in modern business (as cited in Flesher, 1996, p. 1), saying: “necessity created internal auditing and is making it an integral part of modern business. No large business can escape it. If they haven't got it now, they will have to have it sooner or later, and, if events develop as they do at present, they will have to have it sooner”. Flesher (1996, p. 3) added that “all big businesses need to integrate internal auditing within their modern business structures, and will have to have it sooner or later”.

Schneider (2003, p. 1) highlighted that events such as “bankruptcies, financial reporting irregularities and fraudulent activities such as those of Enron, WorldCom and other firms” have increased the need for internal auditing in corporations. Similarly, Giroux (2008) describes both Enron and WorldCom as examples of fraud on a large scale even though they are entirely different from each other. Enron used sophisticated methods for committing fraud based on complex financial instruments and derivatives, while WorldCom used brazen and unsophisticated schemes such as capitalizing billions of dollars in operating expenses. Schneider (2003) also pointed out that the bankruptcies, financial reporting irregularities, and the fraudulent activities that took place in these big firms and others have resulted in greatly increased scrutiny of corporate accounting.

According to the IIA, IAs play an important role in evaluating the effectiveness of ‘control systems’, and contributing to their continued effectiveness. The IIA sees the objective of internal auditing as both supporting and strengthening an organization's governance mechanisms, and evaluating and improving the effectiveness of risk management and control

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<sup>24</sup> The Institute of Internal Auditors (IIA) is an international professional association with global headquarters in Altamonte Springs, Florida, USA. The IIA has more than 175,000 members worldwide.

(IIA, 1999). Also International Standard of Auditing ISA no.240 states the importance and responsibility of IAs in the “Responsibility to Consider Fraud in an Audit of a Financial Report”. Furthermore, because of its organizational position and authority in an entity, an IAF often plays a ‘significant monitoring role’ (IIA, 2011).

In several studies carried out in developed countries (e.g. Carey, Simnett, and Tanewski, 2000; Carcello et al, 2005; IIA, 1999; Coram et al., 2008b), the IAF has been shown to add value to management and ‘improve an organization’s operations, evaluate and improve the effectiveness of risk management, control, and governance processes’ (Carey et al. 2000). ‘Corporate governance’ includes various oversight activities undertaken by the board of directors and the audit committee, including ensuring the integrity of the financial reporting process (Public Oversight Board, 1993). The IAF also adds value through improving the control and monitoring environment within organizations and thus the ability to detect fraud (Desai et al, 2010; Coram et al, 2008b) and internal criminal behaviour in general (Nestor 2004). According to Schneider (2003), the EA in recent bankruptcies and fraudulent activities have highlighted the importance of the role of IAs in corporate governance. Moreover, the value of IA as part of the governance structure is at the operational level, thus complementing the ‘higher level’ oversight structure. Coram et al. (2008b) have also found that keeping the internal audit function within the organization is more effective than outsourcing that function, since an in-house IAF is more likely to detect fraud. Coram et al. (2008b) provided evidence that IAs can help organizations detect fraud by improving the control and monitoring environment within organizations. Mathur (2005, p. 221) argued that “more effective internal control provides more assurance”.

In many organisations, the expectations placed upon the IAF have increased and the function is being relied on to make a significant contribution. IAs have had to extend their area of activities, becoming more involved in risk management, control and governance processes (Sarens & Beelde, 2007). Gansberghe (2005) argued that the IAF can assist management in its decision-making if the IAs function more professionally and take a more proactive and forward-looking role. It is vital that the IAF balances the work of developing, assessing and maintaining internal controls with the priorities for effective and efficient service delivery and ensuring that management fully understands and endorses the value added of the IAF to organisational objectives (Gansberghe, 2005).

In a study conducted in the USA to evaluate the benefits of the IAF (Albrecht, Howe, Schueler, & Stocks, 1988), four areas were identified in which IAFs could be strengthened to help increase the effectiveness of the companies they served: 1) by changing the corporate culture to be more appropriate, 2) obtaining the support of top management, 3) improving the quality of IAs themselves, and 4) improving the quality of the work of the IAF. The Albrecht et al. (1988) study confirmed that, in the context of a strong corporate environment, auditors and management should recognise that the IAF adds value to the organization. In a study by Ridley and D'Silva (1997) in the UK, the ability of the IAF to create 'added value' was found to be a very important factor in measuring compliance to the 'professional standards' of auditing.

Al-Twaijary (2003) stated that the IAF offers organizations two primary services: 1) conventional audits of financial systems and controls and 2) performance audits. He stated that conventional audits focus, primarily, on preventing irregularities and detecting irregularities (arising from mistakes or fraud) and safe guarding the organization's assets (see also Albrecht et al, 1988; Flesher, 1996; Flesher and McIntosh, 2002; Liu et al, 1997; Hayes, 1999; Miller, 1999; Cosserat, 2000). Performance audits, on the other hand, focus on effectiveness and cost efficiency of the organization, with the aim of improving operational performance (Ridley, 1994, 1996; Griffiths, 1999; Wynne, 1999; Marks, 2000, Yee, Sujana, James, & Leung, 2008). The scope of a performance audit could be limited to a small part of the organization (e.g. a department or process) or could consider the entire entity.

An effective IAF develops and sustains internal controls which promote efficiency in the organization, reduces risks of fraud or asset loss, helps ensure the reliability of financial statements and compliance with laws and regulations, and provides better consulting services (Tarantino, 2008; Hermanson & Rittenberg, 2003). All these results enable the organization to get better control over its activities, and position it to keep the company on course towards achieving its profitability goals and its mission, and to minimize surprises in the future. Mathur (2005, p. 221) argues that "more effective internal controls provide more assurance".

In Jordan, the recent changes to the Corporations Act and the Amman Stock Exchange (ASE) Listing Rules have strongly emphasized the importance of good corporate governance. Given the perceived importance of internal audit as part of good corporate governance, these changes are likely to enhance the role and importance of internal audit in the Jordanian

environment. However, no direct changes have been directed at the internal auditing profession in Jordan. The Jordanian corporate governance code (2012, p. 13) states that: “Organizations should consider establishing an internal audit function with resources and skills relevant and applicable to the organization’s nature, size and complexity (this could include the appointment of an internal auditor with the relevant experience). The internal auditor should have a broad scope of work to review all matters within the organization (financial, administrative, operational, etc.) to handle the internal control system effectively. The internal auditor should have direct access to the board and the audit committee.”

The audit profession in Jordan has the task of keeping the country’s corporate financial reporting free of intentional or unintentional manipulations (Abed, Al-Attar, & Suwaidan, 2012). However, the Jordanian economy has experienced several corporate and accounting scandals, exposing failures in Jordan’s audit framework. Given that all previous legal and regulatory changes have focused on the public accounting profession, the presence of these scandals suggests that perhaps it is time to fix the other side of the auditing equation: internal auditing.

## **2.4.2 The Relationship between Internal Audit and External Auditors**

Auditors, whether internal or external, investigate how an organization operates (Swanger & Chewning, 2001). Their investigations can cover a wide range of topics, including the organization’s compliance with laws, regulations and articles of incorporation etc., as well as the possibility and extent of various risks (e.g. fraud, theft) and the suitability of the control systems placed to manage those risks. Both groups of auditors have similar skill and qualification requirements, and depth of knowledge in accounting, business and finance is of great benefit to auditors of all types. Experience with the types of organizations to be audited is also very useful.

IAs and EAs, however, have quite different perspectives on the organization being audited (Brown, 1983; Schneider, 1984; Edge and Farley, 1991; Krishnamoorthy, 2002; Ramamoorti, 2003). IAs focus on the organization’s routine operations, are concerned with the effectiveness and efficiency of the organization, and also provide advice as required by management. EAs offer independent opinions about an organization, usually concerning the

appropriateness of the organization's financial statements (Sarens & Beelde, 2007; Pilcher, Gilchrist and Singh, 2011).

The relationship between IAs and EAs is mentioned in international auditing standards (e.g. ISA 610, IIA 2011) and has been the subject of many previous studies (e.g. Brown, 1983; Schneider, 1984; Edge and Farley, 1991; Krishnamoorthy, 2002).

According to the International Standard on Auditing (ISA) 610, the objectives of IAs and EAs are different, but some of the ways in which these objectives are achieved "may be similar" (ISA 610, Para. A3). ISA 610, however, stresses that no IA has the level of independence required to express an opinion on financial statements, and that the EA carries all the responsibility for audit opinions on financial statements, a responsibility that "is not reduced by the external auditor's use of the work of the internal auditors." (ISA 610, Para. 8)

Some of the differences in objectives arise from the fact that EAs have one primary objective (to report independently on whether the financial statements are free of material misstatements), while the objectives of IAs depend on the organization's management (ISA 610, "Considering the work of internal audit").

On the other hand, despite the differences in objectives and responsibilities of IAs and EAs, cooperation between these two groups is still encouraged by auditing standards and various researchers (e.g. IIA, 2011; Moeller and Witt, 1999; Krishnamoorthy, 2002; Desai et al, 2010; Dobroțeanu and Dobroțeanu, 2002; Fowzia, 2010; Pilcher et al., 2011).

The Institute of Internal Auditors in the Performance Standard no. 2050 (IIA, 2011) states that "The Chief Audit Executive should share information and co-ordinate activities with other internal and external providers of relevant assurance and consulting services to ensure proper coverage and minimise duplication of efforts." Putting the responsibility of cooperation on the shoulders of the Chief Audit Executive suggests the importance of such cooperation.

While not explicitly mentioned, the quote (IIA, 2011) seems to suggest that cooperation is for the benefit of the organization being audited. However, both Desai et al (2010) and

Krishnamoorthy (2002) argue that the strength of the IAF is of concern to EAs, and that cooperation between IAs and EAs is thus of benefit to both groups.

As mentioned in auditing standards (ISA 610), “external auditors should perform an assessment of the internal audit function, when internal auditing is relevant to the external auditor’s risk assessments,” and “the external auditor should obtain a sufficient understanding of internal audit activities to identify and assess the risks of material misstatement of the financial statements and to design and perform further audit procedures.” (ISA 610, Para.11 and 9)

In addition, according to Moeller and Witt (1999), internal and external auditing functions are complementary, with the differences between the two functions providing opportunities for cooperation. Moreover, according to Fowzia (2010, p. 23), “The external auditors are unfamiliar persons in an organization. So they need help from the internal auditors. And to work properly, internal auditors also need to help external auditors.” Ramasawmy and Ramen (2012, p. 119) also argue that EAs can make use of the IAs’ depth of knowledge about the company’s business environment, policies and procedures, particularly when assessing fraud risk.

Dobroţeanu and Dobroţeanu (2002) argue that cooperation can result in improved efficiency of financial statement audits for EAs as well as better information on the organization’s risk management controls for IAs. Edge and Farley (1991, p. 70) also argue that EAs’ use of the work of the IA could reduce the time and cost required to conduct the external audit, and that using such work, which is based on the IA’s ‘insider knowledge’ and continuous monitoring of the organization’s internal control systems, could improve the quality of the external audit.

A best practices guide prepared by the UK’s National Audit Office NAO<sup>25</sup> (NAO, 2000, p. 4) suggests several additional benefits to cooperation between IAs and EAs, including:

- A “More effective audit based on a clearer understanding of respective audit roles and requirements.
- Reduced audit burden resulting in less disruption.

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<sup>25</sup> The National Audit Office (NAO) is an independent Parliamentary body in the United Kingdom which is responsible for auditing central government departments, government agencies and non-departmental public bodies. The NAO also carries out Value for Money (VFM) audit into the administration of public policy.

- Better informed dialogue on the risks facing the organisation leading to more effective focussing of audit effort and consequently to more useful advice to management.
- Better co-ordinated internal and external audit activity based on joint planning and communication of needs.
- Better understanding by each group of auditors of the results arising from each other's work which may inform respective future work plans and programmes.
- Increased scope for use by both internal and external auditors of each other's work.
- The opportunity for each party to draw on a wider and more flexible skills base.”

According to the Australian National Audit Office (ANAO)<sup>26</sup>, IAs and EAs benefit from maintaining professional working relationships between them (ANAO, 2007). The ANAO highlights the potential benefits to IAs and EAs include optimizing the scope of audit activities to ensure that all necessary areas are covered sufficiently with no unnecessary duplication of work (ANAO, 2007, p. 28). Cooperation enhances IAs' ability to contribute to the external audit as they are aware of EAs' plans and information needs and EAs are in a better position to judge how IAs can help them (ANAO, 2007, p. 28).

Ward and Robertson (1980, P. 64) suggest that EAs could either use the work of the IAs generated as a normal part of the client organization's system of internal controls, or could directly ask the IAs to perform work under the direct supervision of the EAs.

According to Australia's Auditing and Assurance Standards Board (ASA 610, October 2009, Para. 10a), the type and scope of IA work to be used by the EA are among the factors to be considered by the EA in planning the external audit procedures. Moreover, effective communication between the IAs and EAs is a factor in assessing the suitability of the work of the IAs for use by the EAs (ASA 610, Para. 9d).

International Standard on Auditing 610 states that liaisons between IAs and EAs are more effective “when meetings are held at appropriate intervals during the period.” The standard also states that EAs should have access to internal audit reports and be kept informed of

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<sup>26</sup> The Australian National Audit Office (ANAO) is the national auditor for the Parliament of Australia and Government of Australia. It reports directly to the Australian Parliament via the Speaker of the House of Representatives and The President of the Senate. Administratively, the ANAO is located in the Prime Minister and Cabinet portfolio.



information relevant to the work of the EAs, and that they, in turn, would normally inform IAs of any significant information relevant to the work of the IAs.

According to the IIA Practice Guide 2011 and Gaston (2000), regular scheduled meetings to coordinate work between IAs and EAs reduce unnecessary redundancy. When redundancy is required, however, meetings allow the two groups to avoid conflicts in the use of resources (e.g. access to IT and human resources). Furthermore, meetings enable each group to better understand how the other group works and the resources available to them. In general, this is echoed by Wood's (2004) and Prawitt et al's (2012) suggestion that coordination between the IAF and the external audit function increases trust between them, increases efficiency, reduces duplication of audit work and increases the effectiveness of audits.

### **Differences between Internal and External Audit Functions**

So far, this chapter has focused on similarities and complementarities between the IAF and the external audit function, without focusing on the differences between the two functions. The differences between IAs and EAs form part of the context in which EAs evaluate the effectiveness of IAs and judge the extent to which IAs' work can be relied upon by EAs. Due to these differences, it is possible that an evaluation of an IAF's effectiveness conducted by IAs could be substantially different from an evaluation by EAs. In this section, the thesis briefly summarizes the primary differences between the IAF and the external audit function.

According to the International Auditing Standard 610 (paragraph 6), the difference lies in the objectives of the two groups, with EAs focused on delivering an independent and objective opinion on the reliability of financial statements while the objectives of IAs are determined by company management. As such, the objectives of EAs are usually more clearly defined as they are primarily based on the rules and regulations governing financial reporting and not on management decisions.

The position of the IAF and external audit function within the organization is, arguably, one of the major differences between the two functions (Glover et al, 2008). The IAF is part of the organization. Its objectives are determined by professional standards and the organization's board of directors and management. An IAF's primary clients are management

and the board of directors (Glover et al, 2008; Hubbard, 2004). On the other hand, (Pop, Bota-Avram, & Bota-Avram, 2008, p. 5) “EAs are not part of the organization, but are engaged by it. Their objectives are set primarily by statute and their primary client, the board of directors”.

The objectives of the two functions are also a key difference. The IAF’s scope of work is comprehensive. It serves the organization by helping it accomplish its objectives and by improving operations, risk management, internal controls and governance processes. The IAF is concerned with all aspects of the organization, both financial and nonfinancial. The IAF focuses on future events (i.e. prevention) through a continuous review and evaluation of controls and processes. EAs’ primary mission, on the other hand, is to provide an independent opinion on the organization's financial statements, usually on an annual basis, specifically on whether the statements are, in all material respects, prepared in accordance with the applicable financial reporting requirements (IFAC Handbook, 2014). As such, it could be said that EAs’ focus is on past events, although they use this information to provide an opinion about an organization’s ability to continue as an ongoing concern (Colbert, 1995; Lampe & Sutton, 1994).

Independence is another point of difference between the two functions, but it is, at least theoretically, only a difference of degree. In order to carry out the responsibilities properly, both the IAF and external audit function need to be independent. IAs must be independent from the activities being audited. The external audit function is independent from its client (i.e. the organization being audited), this independence being the cornerstone for the establishment of the profession (Brown, 1983; Lowe, Geiger and Pany 1999; Gay and Simnett, 2007).

The IAF and external audit function also differ in their approach to internal control. The IAF is responsible for monitoring all the aspects of the organization’s internal control system. On the other hand, the external audit function is concerned with the internal control system only from the materiality perspective (i.e. eliminating those errors that aren’t significant) because internal controls don’t have a direct influence over the financial results (Kirshnamoorthy, 2002).

The scope of audits differs between the IAF and external audit function. The IAF is responsible for monitoring all the organization's transactions. The external audit function is responsible only for those operations that contribute to the financial results and the performances of the organization. Similarly, IAF is responsible for identifying all types of fraud throughout the organization while the external audit function is only concerned with fraud impacting the financial results (Perry & Bryan, 1997). The IIA argued that the internal audit focus is organization wide [all areas, all departments, and all functions] and serves the organization by "helping it accomplish its objectives, and improving operations, risk management, internal controls, and governance processes"(IIA definition, 2013). Moreover, the IAF focuses on future events as a result of its continuous review and evaluation of controls and processes, while the external audit is concerned with all aspects of finance and accounting (IIA, 2013 website).

There is a difference between the frequencies of internal and external audits. The IAF performs its duties throughout the year, with specific missions established in accordance with the level of risks identified for the organization being audited. An external audit, on the other hand, is an activity performed usually once per year, usually at the end of the financial year (DeZoort, Houston, R. W. and Peters 2001; Rittenberg and Covaleski, 1997; Perry and Bryan, 1997).

The IAF and the external audit function also differ in their reporting. The IAF is primarily responsible to the board via the audit committee. The IAF works closely with management, with the aim of providing independent insight to the senior management, the CEO and the Board Audit Committee (Flesher & Zanzig, 2000). On the other hand, the external audit function's responsibility is to shareholders via the audit committee and Chief Financial Officer. Also EAs are available for questions by shareholders at the annual general meeting (AGM) (IIA, 2013 website).

IAs and EAs differ in the primary risk factors or indicators considered by them in their work. The following table summarizes some of the primary risk factors considered by the IAs and EAs.

**Table 4: Primary Audit Risk Factors Considered by Internal and External Auditors**

<b>Internal Auditors</b>	<b>External Auditors</b>
<ol style="list-style-type: none"> <li>1. Ethical climate and pressure on management to meet objectives</li> <li>2. Competency, adequacy, and integrity of personnel</li> <li>3. Asset size, liquidity, or transaction volume</li> <li>4. Financial and economic conditions;</li> <li>5. Competitive conditions</li> <li>6. Impact of customers, suppliers, and government regulations</li> <li>7. Date and result of previous audits</li> <li>8. Degree of computerization</li> <li>9. Geographic dispersion of operations</li> <li>10. Adequacy and effectiveness of the system of internal control</li> <li>11. Organizational, operational, technological, or economic changes</li> <li>12. Management judgements and accounting estimates</li> <li>13. Acceptance of audit findings and corrective action taken</li> </ol>	<ol style="list-style-type: none"> <li>1. Management's operating and financial decisions are dominated by a single person</li> <li>2. Management's attitude toward financial reporting is unduly aggressive</li> <li>3. Management's, particularly senior accounting personnel, turnover is high</li> <li>4. Management places undue emphasis on meeting earnings projections</li> <li>5. Management's reputation in the business community is poor</li> <li>6. Profitability of entity relative to its industry is inadequate or inconsistent</li> <li>7. Sensitivity of operating results to economic factors is high</li> <li>8. Rate of change in entity's industry is rapid</li> <li>9. Entity's industry is declining with many business failures</li> <li>10. Organization is decentralized without adequate monitoring</li> <li>11. Internal or external matter raises substantial doubt about the entity's ability to continue as a going concern</li> <li>12. Contentious or difficult accounting issues are prevalent</li> <li>13. There are significant and unusual related party transactions not in the ordinary course business</li> <li>14. The nature, cause (if known), or amount of known and likely misstatements detected in the audit of prior period's financial statements is significant</li> <li>15. Client is new with no prior audit history or sufficient information is not available from the predecessor auditor.</li> </ol>

Source: Colbert, (1995) and Pop, Bota-Avram, & Bota-Avram, (2008)

## **2.5 External Auditors Judgement Decision- Making**

This section describes the literature on theories relevant to the way in which EAs make judgement decisions. Section 2.5.1 discusses human information processing, including configural decision-making, particularly in regards to auditors. Section 2.5.2 discusses the relationship between culture and EA judgement. Section 2.5.3 discusses a number of other theories of some value in explaining EA decision-making (i.e. agency theory, informational asymmetry theory and resource dependency theory). The implications of these theories were previously discussed in section 1.3 (Underlying Theories).

### **2.5.1 Human Information Processing**

In this section, the thesis presents a brief literature review of research on Human Information Processing. Much of the research on judgement was done in the eighties and nineties, for example (Ashton, 1985; Brown, 1983; Brown & Solomon, 1990, 1991; Hofstedt & Hughes, 1977; Hooper & Trotman, 1996; Tversky and Kahneman, 1986), although there has been a resurgence of interest in recent years (for example, Nelson & Tan 2005). One of the reasons for focusing on judgement and decision making in business is to gain an understanding of how individuals make decisions under risk, such insights potentially improving decisions in business and public policy (Payne, 1982, p. 386). Payne observes that a better understanding of the contingent nature of decision behaviour will have important implications for the design of decision aids. Additionally, he observes that most decision problems involve (a) courses of action or alternatives among which one must choose, (b) possible outcomes and values attached to them, conditional on actions taken, and (c) contingencies or conditional probabilities that relate outcomes to action.

Studies of judgement and decision making in auditing focus on the nature and complexity of “how experienced auditors form judgements or make decisions while performing an audit task” (Solomon & Shields, 1995, p. 137). A decision is defined as an “action that people take to perform some task or solve some problem” (Solomon & Trotman, 2003, p. 396). The primary decisions under investigation in the current study are (1) EA evaluations of the effectiveness of the IAF and (2) EA decisions to rely on the work of the IAF. In order to gain

insight into the decision making processes of EAs, the literature of human information processing must be reviewed.

Several review articles (Ashton, 1974; Libby, 1995; and Solomon & Shields, 1995) assess Judgement and Decision-making studies in internal audit. Setting aside the individual variations among these studies, common themes in these studies can be summarized as follows:

- 1- Focus on the individual auditor rather than on auditing as a social activity, inferring limited interaction between auditors.
- 2- Handling of information is crucial and described as sequential and process-like. Humans are believed to have a limited capacity in this respect.

Human information processing (HIP) and judgements in accounting and auditing decisions are fields of study within the wider area of behavioural decision theory (Libby, 1981; Trotman, 1996, p. 4). Audit research on internal control is a part of behavioural research on human decision processes (Carmichael, 1970) as it involves a combination of complex qualitative and quantitative judgements. Shadish et al (2002) argued that the audit production process comprises audit planning, risk assessment, audit procedures, and evaluation of audit evidence. Additionally, Nelson and Tan (2005) found that much of the audit task research focused on the main phases of the audit process like risk assessments, analytical procedures and evidence evaluation, auditors' correction decisions, going concern judgements and fraud detection, and less focused on the audit task structure.

Gansberghe (2005) argues that IA can assist management in its decision-making if the IA functions professionally and takes a more proactive and forward-looking role. It is vital that the IA function balances its work of developing, assessing and maintaining internal controls within the priorities for effective and efficient service delivery, to ensure that management fully understands and endorses the value added by IA to organisational objectives (Gansberghe, 2005).

Trotman (1996) argued that judgement and decision making studies in auditing are undertaken to understand how individuals make relevant decisions, such understanding potentially improving business decisions. Moreover, Trotman pointed out that there were

three basic goals of investigations into judgement and decision-making in auditing (Trotman, 1996, p. 4): 1) evaluating auditor judgement quality, 2) identifying the process and factors involved in auditor judgements and 3) testing theories about how auditor decisions and judgements are made (i.e. cognitive process theories).

Success in achieving the three goals presented by Trotman (1996) could enable auditors to better understand why some information requirements and audit team structures are more appropriate for particular audit settings (Libby & Luft, 1993). An investigation of the audit review process, for example, reveals that audit firms seem to use a hierarchical and sequential audit review process (Libby & Luft, 1993). This hierarchy was also investigated by Libby and Trotman (1993) who suggested that, among other reasons, it arose to address issues resulting from differences in the information processing capabilities of auditors involved in the audit. Moreover, Libby and Trotman (1993) suggest that the sequential review process forces a reviewer to consider a decision 1) made by another auditor and 2) made at an earlier point in time, thus systematically introducing a different point of view to offset potential biases or errors in the initial decision maker's information selection, information processing and decision-making process.

In order to improve decision making we need to understand how individuals make decisions and what role data and information play in that process. To better understand this situation we need to understand what influences the degree to which decision makers use data to make decisions rather than judgement or intuition. The next sections review the judgement decision making literature. A summary of the following aspects is given: (1) Information processing, (2) main effects, linearity and configularity, (3) self-insight, and (4) decision accuracy and confidence, together with a summary on future directions in JDM research, which includes calls for its application in the field of accounting and auditing research.

### **2.5.1.1 Information Processing**

The study of judgement decision making in accounting and auditing has been at the forefront of methodological innovation, particularly in the application of experimental designs (Gibbins & Swieringa, 1995; Trotman, 1996). The use of experimental designs for judgement research in accounting and auditing derives from psychology and is mostly theory driven

(Gibbins & Swieringa, 1995). Findings in audit judgement research have been broadly in line with generic judgement studies (Solomon & Shields, 1995). Accordingly, Solomon & Shields (1995) have suggested that audit based research is of interest and guidance to researchers of judgement decision making in other fields. The main application of experimental designs in the field has been in undertaking policy capturing studies using statistical methods to measure cue usage (Solomon & Shields, 1995). In such studies, a series of differing cues or treatments are presented to subjects as independent variables, and the results of their decisions are analysed as dependent variables to establish associations with particular cues or combinations of cues. Judgement decision making studies have employed diverse statistical analysis techniques, most commonly ANOVA but also discriminate analysis, conjoint measurement and the analytical hierarchy process (Solomon & Shields, 1995).

Many studies in the accounting and auditing arena employed the judgement decision in the experiments (for example: Solomon & Trotman, 2003; Schultz, Bierstaker & O'Donnell 2010; Martinov- Bennie, Cohen & Simnett, 2011; Ng & Tan, 2003; Trotman, 1996). Furthermore, Gibbins & Swieringa (1995) argued that studies that employed experiments have been influenced by psychological research.

According to Tversky and Kahneman (1974, p. 1131), in situations of uncertainty and incomplete information, three different heuristic (i.e. experience-based) methods are used to make decisions. In the first heuristic, Representativeness, the way the decision maker treats an event or object depends on his/her judgement of the probability that the event or object belongs to a particular category. In the second heuristic, Availability of Instances or Scenarios, the decision maker attempts to judge the frequency or likelihood of a particular event Kahneman (2011). In the third heuristic, Adjustment from an Anchor, the decision maker attempts to predict a value based on previous values. Tversky and Kahneman (1974) suggest that even though these three heuristic methods usually produce useful results in situations of uncertainty and are quick and easy to use, they are also prone to producing particular systematic errors, an understanding of which could result in better judgements and decisions under risk.

According to Kahneman (2011, p. 269), one major concern regarding so called “expert judgements” is that people are often inconsistent in their judgements, with some individuals providing different answers each time they are asked the same question. This inconsistency in



judgements, in some cases with a second decision coming just a few minutes after the initial decision, is apparent in at least 41 different studies of the reliability of auditor decisions, including a study by Kahneman of 101 external auditors (Kahneman, 2011, p. 224-225). This concern might have negative implications for the qualitative data in the current study, but the overall validity of the results is strengthened by the use of additional approaches in the mixed method (i.e. the case-based experiment and the survey questions regarding EA self-insight).

### **2.5.1.2 Main Effects, Linearity and Configurability**

Judgement decision making studies try to recognize the influences of key cues on the judgement decision and their contributions towards outcomes (i.e., independence of outcomes or interaction with influence). Configural information processing defined by Brown & Solomon (1990, p. 19) as: "cognition in which the pattern of stimuli is important to the subsequent judgement/decision". Moreover, Slovic (1972, p. 786) argued that "Configurality means that the analyst's interpretation of an item of information varies depending on the nature of other available information" (Slovic, 1972, p. 786).

Although the linear models of judgement are commonly used (Slovic, 1969; Einhorn, 1970; Mear & Firth, 1987b), non-linear models are also used in some superior models (Einhorn, 1970; Stumpf & London, 1981). The use of linear models can be justified by the monotonic relationship between the cues and the outcome, which is usually consistent regardless of the level of other cues (Libby, 1981). On the other hand, the use of non-linear models is justified by salient compound cues resulting from mapping the individual extant knowledge to specific learning tasks (Garcia-Retamero, Hoffrage, Dieckmann, & Ramos, 2007).

According to the literature on the subject, configural cue processing (i.e. simultaneously taking into account multiple information cues when making a decision or judgement) is influenced by various factors. According to Ganzach (1997), experienced decision makers are more likely to consider decision cues configurally. Decision makers are also more likely to use configural cue processing when the available information seems, in the eyes of the decision maker, to be appropriately structured to facilitate configural processing (i.e. the decision maker can quickly identify all the necessary cues) (Garcia-Retamero et al, 2007). Moreover, as decision makers become more experienced in identifying decision information

cues, the more likely they are to process information configurally (i.e. consider interactive effects) and the lower the influence of each individual information cue (i.e. main effects) (Hitt & Barr, 1989).

Researchers (Libby, Artman, & Willingham, 1985; Maletta & Kida, 1993) have also found that decision makers who take into consideration their environment's risk factors are more likely to use complex and systematic configural decision processes (i.e. use more complex processes in higher risk situations). However, as the complexity of configural decision processes increase, decision makers become more likely to use simpler heuristic methods (i.e. beyond a certain level of complexity, decision makers increasingly consider the benefits of configural decision processing to be less than the problems associated with such processes) (McGhee, Shields, & Birnberg, 1978). According to Payne (1982), dimensional (i.e. configural) processing is more often used in decisions about choices rather than judgements.

### **2.5.1.3 Self Insight**

In the context of this thesis, judgement insight refers to how aware an auditor is of his/her own judgement formation processes. According to studies by Ashton (1974), Gibbins & Swieringa (1995) and Solomon & Shields (1995), auditors seem to have relatively high levels of self-insight, a characteristic not commonly found among financial analysts (Libby, 1981; Mear & Firth, 1987; Slovic et al, 1972). Both sets of studies (i.e. of auditors and analysts) utilized relatively experienced subjects, as recommended by Maines (1995), thus enhancing the validity of the comparisons between these studies. This relatively high level of self-insight is perhaps the result of the audit profession's auditing standards and consistency in auditor training (Libby, 1981; Pike, Sharp, & Kantor, 1988), although more experienced individuals usually demonstrate greater self-insight (Feldman & Arnold, 1978). All of these studies were conducted in developed countries, although one recent study revealed a high degree of self-insight among the Jordanian financial analysts (Shbeilat, 2013).

In this study, self-insight is investigated by correlating and matching the objective outcomes obtained from cue usage (the 8 scenarios of the factorial experimental questionnaire) against the subjective weightings which have also been gathered from the participants via the same instrument. It is important to perceive the level of self-insight because that helps improve

understanding of the learning process (Libby, 1981) and improve the accuracy of judgement as noted by Hooper & Trotman (1996).

#### **2.5.1.4 Decision Accuracy and Confidence**

Ashton (1985) argues that there is a highly positive relationship between "consensus" and "accuracy". Kahneman (2011) observes that "confidence in JDM is not a reasoned evaluation of the probability that this judgement is correct. Confidence is a feeling, which reflects the coherence of the information and cognitive ease of processing it" (p. 212).

According to Bazerman and Moore (2009), individuals run the risk of falling prey to various cognitive traps. The confirmation bias, for instance, relates to the way the mind retrieves information from memory, with a bias towards beliefs that are already held by the individual. In this way, new evidence is assimilated in accordance with the individual's previous beliefs, and serves only to confirm a strongly held position (Gilbert, 1991). The confirmation bias can also be seen in the way decision makers search for information, by seeking out only the kind of information that appears to be commensurate with the individual's held hypothesis. The confirmation bias is explained, through various research programs largely attributed to the works of Tversky and Kahneman, as a result of the limitations of human cognitive processing. Because of these limitations in information processing, individuals rely on heuristics and biases to assist in decision-making where information is limited.

In conclusion, Human Information Processing (HIP) literature has examined how auditors make decisions. Such studies have often been used to inform business and public policy. The current study utilizes elements of HIP, particularly: (1) configularity, in terms of the interactive effects of the three dimensions on auditor decisions, and (2) self-insight, in terms of external auditor self-insight into the decision making, such as the weights they assign to the three dimensions.

#### **2.5.2 Culture and External Auditors Judgement**

This section discusses a recent literature review by Nolder and Riley (2014) regarding the relationship between culture and EA judgement. The study organized existing literature on culture and EA judgement into five categories based on five factors of judgement decision-

making (JDM) the researchers believed most likely to reveal cross cultural differences in auditor JDM. This framework is based on the work of Bik (2010) and Weber and Morris (2010). The types of judgements were as follows: auditors' confidence; risk and probability judgements; risk decisions; conflict decisions; and ethical judgements. The study only included cross-cultural studies of EA judgement that included culture as an independent variable and at least one of the five judgement types as a dependent variable. The researchers identified 18 studies meeting these requirements.

### **2.5.2.1 Confidence**

The literature review revealed that researchers identified evidence of overconfidence in Asian EAs (except for Japanese) in comparison with American and European EAs (e.g., Phillips and Wright 1977; Wright and Phillips 1980; Yates, Lee, and Shinotsuka, 1996; Yates, Lee, and Bush 1997; Yates, Lee, Shinotsuka, Patalano, and Sieck, 1998). These finding seemed to contradict cultural stereotypes of Asians being less confident than westerners (Heine, Lehman, Markus, and Kitayama, 1999). One potential explanation for cross-cultural differences in overconfidence is differences in information search strategies (Yates, Lee, Shinotsuka, and Sieck, 2000). Yates et al. (2000) argue that Americans learn to think more critically than Chinese regarding their own and others' judgement; Chinese learn to follow tradition and precedents and may be more likely to look for information that supports their initial hypotheses rather than information that could disprove them. Yates et al. (2000) test this theory by an experiment in which American, Japanese and Chinese students are requested to provide both reasons for and against their answers to two general knowledge questions. Although Americans and Japanese students were able to provide an almost equal number of reasons both for and against, only 24% of reasons provided by Chinese students were against. These findings suggest that culture influences confirmation bias during information search and, consequently, help explain cross-cultural differences in overconfidence (Yates et al, 2000).

### **2.5.2.2 Risk and Probability**

Risk judgements in auditing can refer to assessing the probability of negative events in various areas of a business; these areas of risk include control, audit, inherent, engagement, business, fraud and material misstatement risks (Nolder and Riley, 2014, p. 145). The authors

identified seven studies that used culture as an independent variable and some type of risk or probability judgement as a dependent variable. Five of these studies revealed significant cross-cultural differences in judgements (Patel and Psaros, 2000; Chen, Huang, and Barnes, 2007; Hughes, Sander, Higgs, and Cullinan, 2009; O'Donnell and Prather-Kinsey, 2010; and Sim, 2010); two studies found no differences (Ho and Chang, 1994; and Yamamura, Frakes, Sanders, and Ahn, 1996). Of the five studies that found significant differences, three attempt to explain the differences in terms of uncertainty avoidance traits of cultures (Chen et al., 2007; Hughes et al., 2009; and Sim, 2010), based on Hofstede's (1980) cultural values. Chen et al. (2007) found that Taiwanese auditors, considered to exhibit high uncertainty avoidance, judged control risks higher than did Singapore auditors, considered to exhibit low uncertainty avoidance. Similarly, Hughes et al. (2009) found American students (low uncertainty avoidance) judged the risk of material misstatement to be lower than did Mexican students (high uncertainty avoidance). Finally, Sim (2010) found that Taiwanese (collectivist) students judged control risk lower than did Australian (individualist) students. In contrast, Patel and Psaros (2000) and O'Donnell and Prather-Kinsey (2010) suggest that cross-cultural differences in EA judgements are due to differences in environmental factors such as acculturation or organization cultures. Patel and Psaros (2000) found that Australian and British students are exposed to similar socio-political and economic factors (i.e. are acculturated) and thus arrive at similar risk judgements. Patel and Psaros (2000) found that Indian and Malaysian students were exposed to different environmental factors depending on which parts of the country they were raised (i.e. are less acculturated) and, consequently, arrive at different risk judgements. O'Donnell and Prather-Kinsey (2010) found that the culture influenced how the presentation of risk assessment tasks (i.e. individual or aggregate) impacted the assessed risk. The study controlled the impact of organization culture by studying US, UK and French auditors working in the different branches of the same firm in their own countries. The study identified significant differences in risk assessments at the individual account level in contrast to no significant differences at the overall (aggregate) risk assessment. The results suggested that organization culture could mitigate the effects of national culture on risk assessments.

### **2.5.2.3 Risk Decisions**

In the framework proposed by Nolder and Riley (2014), risk judgements (i.e. assessments) lead to risk decisions; risk decisions involve making a choice among alternatives under conditions of uncertainty or risk. Some research shows that cross-cultural differences in attitudes towards risk (Slovic, 2000) are often due to emotional reactions to risky options (Loewenstein et al., 2001). Consequently, cross-cultural differences in risk decisions could be due to individuals' risk assessment, risk attitude (i.e. risk averse, neutral or seeking) or emotional reaction to risk. For example, while auditors from different cultures might reach similar assessments regarding the level of audit risk associated with a given level of audit evidence, differences in the emotional reaction to that risk may result in different decisions regarding how much additional evidence should be collected (Hurne and Gutteling, 2008). Nolder and Riley (2014) identified three studies in audit literature regarding culture and risk decisions; all these studies found significant relationships between culture and risk decisions (Gul and Tsui, 1993; Yamamura et al., 1996; Arnold et al, 2001) and explained these relationships in terms of individual traits (Hofstede, 1980). Gul and Tsui (1993) found that Honk Kong auditors, presumed to feel less anxiety about losing a client, were more likely than Australian auditors to issue a qualified audit opinion. Yamamura et al. (1996) found that US auditors chose to conduct more audit procedures than did Japanese auditors given the same level of risk, suggesting that US auditors were more risk averse or face greater costs if the decision taken is found in hindsight to be incorrect. Arnold et al. (2001) found that US auditors had lower materiality thresholds (i.e. are risk averse) than auditors in Denmark, Ireland, Italy, Spain, Sweden, the U.K., and the Netherlands.

#### **2.5.2.4 Conflict Decisions**

According to Nolder and Riley (2014), some cultures are more likely than other cultures to seek to avoid conflict; an auditor that avoids conflict can suffer from impaired independence. Nolder and Riley (2014) identified three studies of cross-cultural differences in conflict decisions that involve an auditor and a client (Tsui, 1996; Patel, Harrison, and McKinnon, 2002; and Lin and Fraser, 2008), and two studies involving an auditor and a superior (Ge and Thomas, 2008; Fleming, Chow, and Su, 2010). Tsui (1996) found that Honk Kong auditors, considered to be more collectivist, were more likely to bend to client pressure than were US auditors, considered to be more individualist. Similarly, Patel et al (2002) found that Indian and Malaysian auditors, considered to be more collectivist, were more likely to bend to client

pressure than were Australian auditors, considered to be more individualist. Lin and Fraser (2008) found that Chinese auditors, considered to be more collectivist, were more likely to bend to client pressure than were UK auditors, considered to be more individualist. To some degree, all three studies involving clients explained the relationships between culture and conflict decisions in terms of cultural values (Hofstede, 1980).

Ge and Thomas (2008) found that Chinese students, considered to be more collectivist and exhibit high power distance, were more likely to bend to questionable supervisor demands than were Canadian students, considered to be more individualist and exhibit low power distance. Similarly, Fleming et al. (2010) found that Chinese auditors are more willing to bend to questionable supervisor pressure than both Chinese and US students.

#### **2.5.2.5 Ethical Judgements**

Nolder and Riley (2014) identified three studies of cross-cultural differences in ethical judgements in auditing (Cohen, Pant, and Sharp, 1995; Smith and Hume, 2005; Sweeney, Arnold, and Pierce, 2010). Cohen et al. (1995) conducted an experiment involving responses, from 138 auditors from the USA, Japan and Latin America, to eight cases. In general, the biggest differences in judgement were found between US auditors, belonging to what is considered an individualistic and low power distance culture, and Latin American auditors, belonging to what is considered a high collectivist and high power distance culture. Latin American auditors perceived the situations described in the cases to be significantly more unethical than did the US Auditors. The responses of US and Japanese auditors were generally similar, except in one case where Japanese auditors were more willing to understate hours worked in order to remain within budget. The US auditors were also more willing to accept unethical actions that would help preserve or grow their client base; Cohen et al. (1995) explained this could be due to the individualistic nature of US culture, although they suggested that it may be due to the high competition in the US market. Given that the ethical judgements were not predictable based on the cultural traits alone, Nolder and Riley (2014) suggest that both the task's ethical variables and the larger national context (environmental variables) might interact with cultural values.

Smith and Hume (2005) compared the ethical attitudes of auditors from Hong Kong, Mexico, and Venezuela, countries considered to have high collectivism / high power distance cultures, and auditors from the US, New Zealand and the Netherlands, countries considered to have high individualist / low power distance cultures. The researchers found that auditors from countries with high collectivism cultures were more likely to support unethical actions that benefited the organization, although the researchers acknowledged that organizational ethical climate could have influenced the results.

Sweeney et al (2010) compared perceptions of what US and Irish auditors considered to be ethical or unethical, based on responses to eight cases. US auditors scored higher in terms of ethical behavior and lower willingness to engage in unethical behavior; again, the authors acknowledged that the results may be influenced by organizational ethical climates.

### **2.5.3 Other Relevant Theories**

This section discusses a number of theories that help create context for the relationships between the variables in this study. These theories are agency theory, informational asymmetry theory, certification theory and the resource dependency theory.

#### **2.5.3.1 Agency Theory**

Agency theory, in general, describes how behaviour varies between different members of a group (Adams, 1994; Eisenhardt, 1989). More particularly, agency theory explains the relationship in which one party (the principal) determines the work while another party carries out the work (the agent) on behalf of the first party (Luypaert and Van Caneghem, 2014). Agency theory has, over time, become primarily focused on behaviour in businesses. As far back as 1932, Berle and Means (1932) have discussed how the interests of managers and directors differ from those of the owners, although Jensen and Meckling (1976) are credited with first formalizing the theory and coining the term ‘agency theory’. According to Jensen and Meckling (1976), corporations are structured in such a way as to minimize the cost of ensuring that agents follow the principal’s instructions and protect the principal’s interests.



According to Imhoff (2003), the industrial revolution and the increased financing it required resulted in the development of capital markets and a separation between ownership and management. According to agency theory, separation of ownership from management creates an opportunity for management to exercise the authority delegated them in ways that do not serve the interests of the owners (Imhoff, 2003; Leung et al., 2011), thus leading to what is referred to as the 'agency problem'. This created a need for an independent third party to provide owners with sufficient assurance that the financial reports produced by management disclosed all materially significant information (Imhoff, 2003; Leung et al., 2011). As such, auditors are part of the corporate governance system responsible for ensuring the quality of financial reports and helping monitor management (Beasley & Salterio, 2001). EAs thus help improve investor and owner confidence in the quality of financial reports and the transparency of the company (Solomon, 2010). The importance of this role of EAs is such that procedures for improving their independence, objectivity and professionalism can be found in most corporate governance codes (UNCTAD, 2006).

In the framework of agency theory, EAs, in their role as independent auditors protecting the best interests of shareholders, have a duty to ensure that company assets are safeguarded (i.e. internal controls are effective) and that management's financial reports disclose all relevant information (Adams, 1994). Logically, EAs should take into consideration anything that substantially impacts their ability to carry out their primary duty. Accounting literature and standards suggest that auditors should aim for objectivity, competence and work performance in conducting audits (ISA, 610; Krishnamoorthy and Maletta, 2012). As such, it is logical that EAs might seek evidence of these three dimensions when evaluating the effectiveness of a client's IAF (Schneider, 1985a; Brown, 1983; Messier and Schneider, 1988; Edge and Farley, 1991; Maletta, 1993). In decisions to rely on the work of the IAF, it is logical to expect EAs to evaluate individual IAs and the IAF as a whole, both in terms of the benefits they bring (i.e. aspects of their effectiveness) and the risks of relying on them (i.e. lack of independence as well as other shortcomings) (Abdel-Khalik et al, 1983; Brown, 1983; Schneider, 1984, 1985; Margheim, 1986; Messier and Schneider, 1988; Edge and Farley, 1991; Krishnamoorthy, 2002; Haron et al, 2004; and Al-Twaijry et al, 2004).

In the conceptual framework of agency theory, it is possible to frame a possible explanation for the low quality of IAFs (as opposed to individual IAs in them) in Jordan: major

shareholder-managers create less independent, under-resourced and insufficiently financed IAFs in order to create the appearance of safeguards without real substance (Adams, 1994). This allows the major shareholder-managers to operate with relatively little internal audit oversight.

### **2.5.3.2 Informational Asymmetry and Certification Theory**

Informational asymmetry is a difference in available information between two parties (Heinle, Ross, & Saouma, 2013). Akerlof (1970) first highlighted this concept when he demonstrated, using examples of the insurance, credit and used car markets, how a market can become biased due to the differences in the amount and quality of information available to different parties. The theory assumes that individuals work to serve their own interests and will thus use any differences in information availability to further these interests.

Partly based on the concept of information asymmetry, certification theory states that businesses can use their reputation to provide guarantees about the quality of their products or services (Booth & Smith, 1986, p. 261). As such, the reputation of a business reduces uncertainty about actions and transactions in which it takes part (Booth & Smith, 1986) and might thus reduce other parties' need for information.

The need for such reputation-based 'certification' is especially important in situations where one party possesses an information advantage (i.e. information asymmetry exists), as is the case when managers and other insiders (e.g. IAs) have access to information that owners may lack (Myers & Majluf, 1984). In such cases, the additional cost of obtaining a reputable agent is compensated by reduced uncertainty and risk of fraud or breach of contract (Klein & Leffler, 1981; Darby & Lott, 1989).

In the framework of information asymmetry theory (Balakrishnan and Koza, 1993), IAs are likely to have information (i.e. insider and/or specialist knowledge) that is not available to outsiders like EAs. Since it is the job of auditors to make sure that all materially significant information is reflected in the client's financial reports, EAs are likely to try to access some of this insider knowledge by relying on IAs or their work, to some extent, all other things being equal. In evaluating decisions to rely on internal auditors and/or their work, EAs are likely to

consider if doing so will help them access such insider knowledge. EAs are also likely to consider the risks of relying on the work of the IAF (Maletta, 1993; Libby, Artman, and Willingham, 1985; Maletta and Kida, 1993).

Certification theory (Booth & Smith, 1986) implies that clients are likely to seek audit firms with reputation capital (i.e. reputable firms) to guarantee the "quality" of their financial reports. This means that the reputation of audit firms has value to both company management and owners. EAs that do not protect their reputation (e.g. by failing to reveal problems in the financial reports) are likely to lose value in the eyes of company owners. This implies that it is in EAs' best interests to protect their reputation by ensuring that their evaluations of internal controls, including IAF effectiveness, are accurate. Furthermore, it implies that it is in the interest of EAs that their decisions regarding relying on internal auditors and / or their work not call into question the auditing firm's reputation. This suggests that EA judgements regarding relying on internal auditors may be more conservative (i.e. negative) than judgements regarding IAF effectiveness since there is an additional element of risk to the audit firm's reputation in relying on the work of the IAF or in using internal auditors as assistants. Since independence is perhaps the defining attribute of EAs, this suggests that EAs will be especially concerned with the objectivity of the IAF, particularly in countries like Jordan where there is a public perception of widespread corruption.

Prior research has shown that negative information about internal controls has a negative impact on EA reliance on IAs (Malaescu and Sutton, 2013), suggesting that evidence of deficiencies in IAF objectivity, competence and work performance might reduce EA reliance.

### **2.5.3.3 Resource Dependency Theory**

Pfeffer & Salancik (1978) are primarily credited with the development of the resource dependency theory, a theory later further developed by many other researchers, including Barney (1991). This theory states that the survival of any organization depends on its ability to acquire and maintain resources. Given the importance of resources, the internal and external providers of an organization's most critical resources have greater influence over that organization. Furthermore, dependence on a resource is affected by its importance, the

organization's control over allocation of that resource, and the availability of alternative resources.

According to Barney (1991), resources that have the potential to create a competitive advantage for an organization are (1) valuable, (2) rare, (3) imperfectly imitable, and (4) lack substitutes. According to Ireland, Hitt & Sirmon (2003), a company's most important resources are its financial, human and social capital. Human capital includes the 'articulable and tacit' knowledge within an organization (Ireland et al, 2003).

In terms of the resource dependence theory, IAs are likely to possess knowledge that can be described as (1) valuable, (2) rare, (3) imperfectly imitable, and (4) lacking substitutes (Barney, 1991). As such, EAs may consider the use of IA knowledge and work as a source of competitive advantage, resulting in EA reliance on competent IAs. Furthermore, if the auditing firm has to decide between assigning additional EAs (which might be costly, either because they need to hire more people or because they have to move them from other audit projects) and relying on internal auditors, the audit firm is likely to consider the competitive advantages of either choice.

It should be noted that resource dependency is related to information asymmetry since information is a valuable resource and can be used to influence individuals, organizations and systems (e.g. markets) (Pfeffer & Salancik, 1978).

## **2.5.4 Summary**

Sections 2.5.1 to 2.5.4 covered three main areas of research into the judgement of EAs: human information processing, culture, and other theories.

Findings in audit judgement research have been broadly in line with generic judgement studies (Solomon & Shields, 1995). This suggests that findings from such audit-based studies may be generalizable to other fields, to some extent. According to Kahneman (2011, p. 269), one major concern regarding so called "expert judgements" is that people are often inconsistent in their judgements, with some individuals providing different answers each time they are asked the same question. This issue is addressed in the current research in two ways: (1) by presenting EAs with eight cases which they are instructed to evaluate, and thus

analysis is not based on a single data point from an instant in time, but over a period of time, albeit a short one, and (2) the use of both a survey and an interview gives EAs two opportunities to provide feedback.

The section on cultural-based differences in the judgment decision-making of EAs focused on a review by Nolder and Riley (2014) of this type of cross-cultural studies. Across 18 studies, they identified five judgment areas in which cultural-based differences are most likely to appear: auditors' confidence; risk and probability judgements; risk decisions; conflict decisions; and ethical judgements. This suggests that the current study, which is about the judgement of EAs and involves some or all of these areas (e.g. strategies for obtaining information on which to base EA judgements is influenced by EA confidence in their judgments (Nolder and Riley, 2014)), is influenced by the culture of the EAs in the study. This implies that the generalizability of the findings of studies on EA judgment is limited, particularly in countries whose culture greatly differs from the countries in which the study is conducted (in this case, conducted in Jordan).

The third and final section covered four theories that have some relevance in explaining EA judgments in the current study: agency theory, informational asymmetry theory, certification theory and the resource dependency theory. According to agency theory, separation of ownership from management creates an opportunity for management to exercise the authority delegated them in ways that do not serve the interests of the owners (Imhoff, 2003; Leung et al., 2011), thus leading to what is referred to as the 'agency problem'. This created a need for an independent third party to provide owners with sufficient assurance that the financial reports produced by management disclosed all materially significant information (Imhoff, 2003; Leung et al., 2011). In the framework of agency theory, EAs, in their role as independent auditors protecting the best interests of shareholders, have a duty to ensure that company assets are safeguarded and that management's financial reports disclose all relevant information (Adams, 1994). Given that auditing literature and standards state that auditors should aim for objectivity, competence and work performance in conducting audits (e.g. Krishnamoorthy and Maletta, 2012) and to evaluate these three dimensions in decisions to use IAs or the work of the IAF (e.g. ISA 610), it is logical that EAs trying to meet their duties as agents of company owners would consider the three dimensions in their judgments.

Informational asymmetry is a difference in available information between two parties (Heinle, Ross, & Saouma, 2013). The theory assumes that individuals work to serve their own interests and will thus use any differences in information availability to further these interests. This suggests that EAs might seek to use IAs or the work of the IAF in order to access information that may be available to the EAs (i.e. insider knowledge).

Partly based on the concept of information asymmetry, certification theory states that businesses can use their reputation to provide guarantees about the quality of their products or services (Booth & Smith, 1986, p. 261). The need for such reputation-based 'certification' is especially important in situations where one party possesses an information advantage (i.e. information asymmetry exists), as is the case when managers and other insiders (e.g. IAs) have access to information that owners may lack (Myers & Majluf, 1984). Certification theory (Booth & Smith, 1986) implies that clients are likely to seek audit firms with reputation capital (i.e. reputable firms) to guarantee the "quality" of their financial reports. This implies that it is in EAs' best interests to protect their reputation by ensuring that their evaluations of internal controls, including IAF effectiveness, are accurate. Furthermore, it implies that it is in the interest of EAs that their decisions regarding relying on IAs and / or their work not call into question the auditing firm's reputation. As the three dimensions have been stressed as factors in the quality of auditing (e.g. ISA, 610; Krishnamoorthy and Maletta, 2012), efforts to protect the reputation of EAs is likely to lead them to consider the three dimensions.

Pfeffer & Salancik (1978) are primarily credited with the development of the resource dependency theory, a theory later further developed by many other researchers, including Barney (1991). This theory states that the survival of any organization depends on its ability to acquire and maintain resources. According to Barney (1991), resources that have the potential to create a competitive advantage for an organization are (1) valuable, (2) rare, (3) imperfectly imitable, and (4) lack substitutes. According to Ireland, Hitt & Sirmon (2003), a company's most important resources are its financial, human and social capital. Human capital includes the 'articulable and tacit' knowledge within an organization (Ireland et al, 2003). In terms of the resource dependence theory, IAs likely possess knowledge (i.e. insider knowledge) that can meet the requirements suggested by Barney (1991) for a resource providing a competitive advantage. As such, EAs may consider the use of IA knowledge as a source of competitive advantage, resulting in EA reliance on IAs with insider knowledge.

Furthermore, if the auditing firm has to decide between assigning additional EAs (which might be costly, either because they need to hire more people or because they have to move them from other audit projects) and relying on IAs, the audit firm is likely to consider the competitive advantages of either choice.

In conclusion, the literature review presents several implications for the generalizability of the findings of the current study and, potentially, for explaining the findings.

## **2.6 The Three Dimensions' Relationship with Audit Effectiveness and Reliance on Internal Auditors**

Section 2.6 reviews prior international and Jordanian research studies specifically about the relationship of the three dimensions (objectivity, competence, and work performance) with the effectiveness of the IAF and EA reliance on the work of IAs. Section 2.6.1 reviews studies of internal audit function effectiveness. Section 2.6.2 reviews studies of EA reliance on the work of the internal audit function. Section 2.6.3 reviews Jordanian studies about internal audit effectiveness and external auditor reliance on the work of the internal audit function.

### **2.6.1 The Three Dimensions of the Internal Audit Function Effectiveness**

In the literature of auditing, there are two key sources related to the evaluation of the IAF and the reliance of EAs on the work of IAs: professional and academic. In the professional literature, SAS No. 500, issued by the Auditing Practice Board (APB), emphasised the role of the IAF as an appraisal or monitoring activity established by the management and directors for the review of accounting and internal control systems as a service to the entity. The IAF includes, amongst other things, examining, evaluating, and reporting to management and directors on the adequacy and effectiveness of the components of the accounting and internal control system. SAS No. 65, issued by the American Institute of Certified Public Accountants (AICPA) recognises that the IAF is a part of the control environment and specifically requires the EA to understand the internal audit function. In particular, SAS No. 65 (AICPA, 1991) addressed the following issues:

- Obtaining an understanding of the internal audit function (IAF).
- Assessing the effect of the IA work on the independent EA.
- Judging the effect of internal audit work on the independent EA.
- Coordinating external audit work with the IAs.
- Directly supervising the IAs.

According to a study conducted by Haron (1996) focusing on evaluations by internal and external auditors of the quality of a payroll internal control system in the United Kingdom, no significant differences were found between IA and EA evaluations. This suggests that, technically, EAs can rely on the work of IAs, and that EAs can judge the work of the IAs. The study also implied that there is stronger justification for IAs and EAs to rely on the work of each other in the case of UK than would appear to be the case in the USA. The implication for the current study is that it is not safe to generalize the results of a Jordanian study to other countries, and vice versa.

The Haron study used 8 cases (internal control procedures) distributed to both (IA and EA) groups, in the performance of an internal control test to evaluate the effectiveness of certain internal control procedures over a cash disbursement system. The study employed a quantitative method analysis of three independent variables, "experience, educational and position level", based on data gathered through a mail questionnaire. Haron's study considered the three independent variables to be measures of competence. The research variables do not exactly match the three dimensions used in this study, as the current research considers experience and education to be elements of IAF Competence, and position level (independence) to be considered an element of IAF Objectivity, and thus Haron's study seems not to have considered IAF Work Performance. This might suggest that the three dimensions of IAF effectiveness are not always looked on as being equally important or as being equally quantifiable.

A later study by Obeid (2007) was conducted in the Sudanese banking sector to investigate the strength of the internal audit function in Sudanese banks in terms of internal audit departments' "objectivity, competence and work performance and monitoring of internal controls". The study employed a questionnaire survey of 117 internal auditors in the bank sector. Obeid found that internal auditors in the Sudanese banking sector had, overall, a higher detection rate than that of EAs (63.2% compared to 59%). This indicates that internal



auditors in at least one country in the Middle East can perform internal control tests efficiently and can assist the EAs in performing their tests. One implication for the current study is that the internal audit function in companies in the Middle East is, in at least some cases, effective and can offer some value added to EAs, at least in theory. The current study does not attempt to duplicate the work of Obeid, but complement it. It does not directly measure the overall effectiveness of the IAF, but seeks to understand the importance of the Three Dimensions to IAF effectiveness, with data from Jordan. Furthermore, while Obeid's study did provide some evidence of IAF effectiveness, it leaves open the question of whether EAs would be willing to make use of the work of the IAF. The current study will attempt to answer that question in the case of Jordanian EAs.

Abdel-Khalik et al. (1983) used two experimental methodologies<sup>27</sup>, in a small group of senior auditors and managers in CPA firms, to examine how the extent of testing planned by EAs is effected by three "Electronic Data Processing" (EDP) audit techniques<sup>28</sup> (Integrated Test Facility, Test Data, and Generalized Audit Software) and two organizational variables relating to 1) objectivity of IAs related to the reporting levels of the relevant IA department and 2) the IA's level of responsibility in reviewing changes in application programmes. The experimental tasks were set in both accounts receivable and accounts payable systems. The results indicated that "objectivity" (independence) in terms of administrative level to which the IA department reported is the most important of the five factors used in the study. The implication that IA objectivity could be more important than the audit technique used by the EAs in determining the extent of audit planning provides justification for further studies to focus on other IAF characteristics, including the three dimensions in the current study.

It should be noted that while the Abdel-Khalik et al. (1983) study investigated the impact of objectivity and the work performance of IAF, the study did not include the competence of the IAF. However, a majority of studies (e.g. Schneider, 1985a; Brown, 1983; Messier and Schneider, 1988; Edge and Farley, 1991; Maletta, 1993) considered competence to be one of the important factors that impact on the effectiveness of the IAF and impact on the degree of reliance on the work of IAs by EAs. One implication for the current study is the importance of properly defining the three dimensions. The current study will attempt to avoid confusion

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<sup>27</sup> Participants in the two experiments represented from three large accounting firms and came from offices in New York City, Chicago, Miami, Atlanta, Dallas, Jack-sonville, Houston, and New Orleans.

<sup>28</sup> EDP-audit techniques are mentioned also in Mair et al. (1976), Cash, Bailey, & Whinston (1977), and Stanford Research Institute SRI (1977).

and artificial interactions between the three dimensions by ensuring that the variables used to measure them are sufficiently distinct and clearly defined to the participants.

Schneider conducted several studies about external audit evaluation of the internal audit function. One such study (Schneider, 1985a), involving 18 audit managers from CPA firms in Columbus, Ohio in the U.S., was an experiment on how EAs evaluate the strength of IAF, using the three criteria recommended by SAS No. 65, competence, objectivity and work performance, as measurements. The results of the study revealed that EAs viewed work performance as the most important factor when evaluating the internal audit function, followed by competence and objectivity factors. Another experimental study by Schneider (1985b), involving 20 audit managers and supervisors from ‘Big Eight’ CPA firms in Atlanta, Georgia in the U.S., examined the relationship between external auditors’ evaluation of internal audit functions and their evaluations of internal audit strength. Included in the investigation was an assessment of the levels of importance auditors attach to the three criteria recommended in SAS No. 65 in forming evaluation judgements and reliance decisions. The results showed that the auditors generally relied on internal auditing to reduce their external audit work. Another earlier study by Schneider (1984)<sup>29</sup> found that EAs perceived competence and work performance factors to be almost equally important, and the objectivity factor to be less important. Schneider manipulated the competence of IA by changing the experience level of the internal audit staff and the quality of supervision. The study (Schneider, 1984) used an experimental design approach to obtain descriptive models of how EAs evaluate the IAF. Schneider's study used a large number of cases [64 IA profiles  $4^3$ ] and that creates some external validity problems. The current study seeks to avoid these external validity problems by limiting the number of cases (8 cases [ $2^3$ ]). Despite superficial similarities between Schneider's study (1984) and the current research, the smaller number of cases is not the biggest difference. Schneider's studies focused on the way in which EAs evaluate the IAF. The current study also touches on this question, but it also investigates how EAs decide to rely on the work of the IAF, allowing some conclusions to be drawn on how the importance of the three independent variables changes according to which of the two judgements is being made. Despite these differences, the methodology by which Schneider analysed the data (1984) helped inform the data analysis methodology of the current study.

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<sup>29</sup> “The study contacted 22 audit managers from US CPA firms in Columbus, Ohio” Same subjects as Schneider, 1985a.

Edge and Farley (1991) conducted a study in Australia examining the relative importance of the factors<sup>30</sup> that are used by external auditors when evaluating the internal audit function based on the factors mentioned in the Statement of Auditing Practice AUP 2 “Using the Work of the Internal Auditor”. Results indicated that technical competence, which is measured by experience, supervision and training/educational background was the most significant factor. Work performance was considered as the second most significant factor, and previous audit work was considered as the third factor. Organizational status (objectivity) was considered as the least important factor. The study suggested that one reason for the lower importance of objectivity could be the difficulty of obtaining evidence about the objectivity of the internal auditors. This difficult could cause external auditors to instead focus on competence and work performance, which are relatively easier to assess. This has some implications for the current study. In order to avoid some of the problems in assessing internal auditor objectivity (when considered as an internal attitude), the current study defines objectivity through three characteristics suggested by the international standards of auditing: level of planning, supervision, and level of auditor independence (i.e. organization structure). All three characteristics are relatively tangible and measureable, and can be assessed by external auditors.

Haimon (1998) conducted a study to evaluate the effectiveness of internal auditing in municipalities in Israel, as perceived by five different groups of users [Staff of the municipality internal auditing unit, Councillors, Top management, Middle level management, and Journalists]. The study also developed a model based on the following components: independence, competence, scope of work, performance of internal auditing, and management of the internal audit department. The purpose of the study was to compare the evaluation of the effectiveness of the internal auditing unit as evaluated by the internal auditors themselves against evaluations made by other groups in municipalities in Israel. The study found that internal auditors offer a higher evaluation for the effectiveness of the IAF than that offered by other groups. This is further evidence that perhaps internal auditors should not be relied upon to give completely objective assessments of their performance. The current study seeks to avoid this problem by instead seeking the opinions of external auditors as they are required as part of their duties to assess IAF effectiveness.

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<sup>30</sup> The factors which are the subject of Edge and Farley (1991) study are: "1- Organisational status; 2- scope of function; 3- Technical competence; 4- due professional care; and 5. previous audit work."

Davidson and Gist (1996)<sup>31</sup> examined the relation between the extent of the audit planning and total audit effort. They stipulated that if audit planning enhances efficiency, an increase in audit planning hours should result in a more-than-equal decrease in verification hours, so that total audit hours should decrease. They presented empirical evidence that audit planning leads to a more effective or efficient audit, with a reduction in total audit effort which is subject to diminishing returns. The researchers used a quantitative method in which they asked the ‘Big Six’ accounting firms to select a random sample of 25 auditors to provide information on audit and client. Their study suggested that “some audits require comparatively more planning because they are comparatively more risky and more complex than other audits” (Davidson and Gist, 1996, P. 122). This has implications for the current study, suggesting that EA decisions might be influenced by situational factors like risk and audit complexity.

O’Leary, Iselin, & Sharma (2004) used two different methods in examining the consistency of Australian external auditors in evaluating internal control structures. The study acknowledges that in the current audit climate, auditors change firms more frequently in big four and second tier firms than previously, therefore gaining exposure to different methodologies. The study suggests that, given this situation, evaluating consistency across methods rather than over time would appear beneficial. Irrespective of the method used, an auditor should arrive at the same evaluation. The study found that a total of 94 practicing auditors from five different firms<sup>32</sup> conducted the same evaluations by using two different evaluation methods and achieved a satisfactory level of consistency. This helps to support the concept of a self-regulating profession maintaining a satisfactory level of performance among its members in the same country as regards to one professional trait, consistency. The study also acknowledges the current public interest in the performance of auditors and their firms. The conclusions of the study could have some implications for interpreting the results of the current study if a large variation in participating auditor responses is detected, since this could be further evidence of a lack of common standards and practices in the external auditing profession in Jordan.

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<sup>31</sup> The study used sample from Big Six accounting firms, they were asked to provide confidential information on a random sample of their public clients for fiscal year ends 1988-1990. Each firm selected a random sample of 25 audits on public clients and to provide information on both the client and the audit.

<sup>32</sup> “The five different firms are Two of Australia’s Big 5, two large second tier firms, and one state Auditor General’s (AG) office”.

Desai et al (2010) developed an internal audit assessment model based on interrelationships among specific factors used by external auditors when they evaluate the strength of the IAF in USA. The study used the three factors (Competence, Work Performance, and Objectivity) which had already been identified in International Auditing Standards (SAS no. 600 & 610). The researchers found that modelling the relationship between the three factors is essential for assessing the strength of the internal audit function (i.e. the factors should not be examined in isolation of each other). As far as interrelationships are concerned, the analysis revealed that when the three factors have a strong or a perfect relationship with each other, the strength of the IAF is perceived as being high if external auditors believe that the IAF is strong in at least two of the three factors, even if they have negative evidence about the strength of the remaining factor. However, the study found that external auditor belief in the strength of the IAF is non-existent if they are very sure that the objectivity of the internal auditors is impaired. The implication for the current study is that, in addition to analysing the relationships between the three dimensions and IAF effectiveness, the interrelationships between the three dimensions themselves should be analysed.

Krishnamoorthy (2002) conducted a study in the U.S to examine how the three factors (objectivity, work performance and competence of internal auditors) identified by auditing standards and by prior research interact in determining the strength of the internal audit function. The study used an analytical method based on 'Bayesian probability' to model external auditors' evaluation of the internal audit function. Models based on a multistage (cascaded) inference theory<sup>33</sup> were developed and analysed using numerical sensitivity analysis. Krishnamoorthy's study focused on SAS No. 65 (AICPA, 1991) which mainly dealt with the nature of the relationship between external and internal auditors and describes specific ways in which the external auditor can enhance efficiency and effectiveness by utilising the internal auditors' work. The results indicated that the importance of the three factors varies with the type of the evidence (convergent or conflicting) observed, and is contingent on the interrelationships among the three factors. A greater understanding of the importance of the factors that determine the strength of the IAF and the interactions among the factors can help auditors gain an understanding of the internal control structure of the client, and can lead to a more accurate assessment of risks, thus improving audit efficiency and effectiveness. The study is interesting in that it not only investigated external auditor

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<sup>33</sup> This theory was previously used in his earlier study Krishnamoorthy (2001).

evaluations of the internal audit function, but also how external auditor effectiveness could be improved by reliance on the work of the internal auditors. The study suggested that reliance on the work of internal auditors could potentially improve the effectiveness of external auditors. The implication for the current study is that if the three dimensions are found to positively influence IAF effectiveness but not willingness to rely on the work of internal auditors, then Jordanian external auditors could be missing a golden opportunity to improve their own performance and/or to pass on cost reductions to their clients.

Messier and Schneider (1988)<sup>34</sup> conducted a study in the US on evaluations of the IAF by EAs. The study used an Analytical Hierarchical Process (AHP) with 22 audit supervisors and managers. The study found that EAs consider competence to be an important factor when evaluating the internal auditor function. The study found that the objectivity and work performance of the IAs followed competence in regards to level of importance. The AHP methodology allowed them to assess which specific attributes were most important to the EAs assessment of these factors. However, the variability of the weights of these attributes indicates low agreement among the practitioners as to which attributes were most important.

In another study of internal and external auditor perceptions of the IAF, Wright and Bargranoff (1995) evaluated the effectiveness of internal auditing in the United States, using different factors, one of them being the work performance of the internal audit function. The study found that the IAs' self-image is significantly different from the external auditors' image of IAs, and the IAs' self-image is more positive than external auditors' image of IAs. The results indicated that the difference was of special significance in the evaluation of competence and objectivity. Again, this is further evidence of the difference in the perceptions of internal and external auditors.

In a more recent study using an experimental design, Stewart & Subramaniam (2010, p. 16) wanted to ascertain how to increase the effectiveness of the IAF and to achieve that they examined the organizational status of the IAF, the IA's dual role as a provider of assurance and consulting activities, internal audit's involvement in risk management, outsourcing and co-sourcing of internal audit activities, and the use of internal audit as a training ground for managers. The researchers conducted a literature review, after which they identified gaps in

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<sup>34</sup> The study was conducted in the USA, by representative Big eight firm in Atlanta (United States).

the existing body of knowledge relating to internal audit independence and objectivity, and where further research is needed. Moreover, the study found that the IAF's independence, objectivity and range of skills (i.e. the ability to perform activities beyond the basics of internal auditing such as assurance audits and consulting) and, as a result, internal audit's role in corporate governance, is affected by the function's organizational status; a weak organizational status impairs the function's ability to serve in a corporate governance capacity (Stewart & Subramaniam, 2010, p. 16). However, based on the researcher's experience at Jordan Electric Power Company, one of the largest firms in Jordan, the typical scope of the activities of the IAF in listed companies in Jordan is more focused on doing Assurance Audits than Consulting Services.

Arena & Azzone (2009) conducted a study in Italian companies to understand the organizational drivers of internal audit effectiveness in the light of recent changes in the 'mission' of internal auditing and its central role in corporate governance. Arena & Azzone's study used a questionnaire survey sent to the top 364 organizations in Italy, covering various sectors, and got a response from 153 companies (a response rate of 47%). Their study adopted ordinal logit regression to test the research hypotheses, whereby the effectiveness of IA is linked to three dimensions: (1) the competence of the internal audit team, (2) the audit processes and activities, and (3) the organizational role and work performance of the IA. Arena & Azzone's study found that internal audit effectiveness tended to be higher when there was a higher ratio of internal auditors to other employees. The study also found that IAF effectiveness tended to be higher "when the Chief Audit Executive is affiliated to the Institute of Internal Auditors, [as] the company adopts control risk self-assessment techniques, and when the audit committee is involved in the activities of the internal auditors" (Arena & Azzone, 2009, p. 43). One implication for the current study is that relative size of the internal audit department should be taken into consideration when evaluating IAF effectiveness. In the current study, the relative size of the IAF is indirectly incorporated into Work Performance; the definition of Work Performance states that there "needs to be sufficient resources to adequately carry out the tasks required", resource sufficiency implying that a larger IAF is required as the size of the organization increases.

Prior to their 2009 study, Arena & Azzone (2006) conducted a case study comparing the internal audit practices of six Italian companies and found, in two of the companies, that the internal audit function was considered a training function. The study used multiple data

collection methods, including semi structured interviews with accounting and finance staff and the Chief Internal Auditors.

Coram, Ferguson & Moroney (2008a) conducted a study to measure the effectiveness and importance of the internal audit function within organizations in Australia and New Zealand, and "to assess whether organizations with an internal audit function are more likely to detect and self-report fraud than those without" (Coram, et al 2008a, P. 543). The study used a research method suggested by Kachelmeier and Messier (1990), with a questionnaire mailed to the chief financial officers of 480 organizations, across Australia and New Zealand, which had responded to the 2004 KPMG<sup>35</sup> Fraud Survey. The study got a 68% response rate (324 organizations). The study found that there is "a significant positive relation between an organization having an internal audit function and the number and value of self-reported frauds" (Coram, et al 2008a, p. 544). The study suggests that 1) internal audit adds value to management through improving the control and monitoring environment within organizations to detect and self-report fraud; and 2) keeping the internal audit function within the organization is more effective than completely outsourcing that function to EAs. Additionally, both the ACFE<sup>36</sup> (2008) and KPMG<sup>37</sup> (2008) argued that Internal Audit is the most effective corporate control available to management to address the threat of fraud. Moreover, Carey, Subramaniam, and Ching (2006) and Caplan and Kirschenheiter's (2000) argued that the companies that decide to use an external firm (outsource) perceive that the providers are technically more competent. Carey et al (2006, p 28) "Future studies, therefore, need to examine the trade-offs between cost and quality in the decision to outsource".

Cohen & Sayag (2010, p. 300) conducted a study aimed at building a conceptual understanding of the effectiveness of internal audit in organisations. The study used two types of questionnaires (one for general managers and one for the internal auditors in the same organisations), mailed to 292 organisations in Israel. The response rate was 37% (108 participated). The general manager questionnaire was designed to measure internal audit effectiveness, and the IA questionnaire was designed to identify and measure the determinants of effectiveness. The five independent variables used in the study are "professional proficiency, quality of audit work, organisational independence, career and

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<sup>35</sup> KPMG Fraud Survey 2004.

<sup>36</sup> ACFE stands for Association of Certified Fraud Examiners which provides anti-fraud training, education and certification.

<sup>37</sup> KPMG Fraud Survey 2008.



advancement, and top management support". The study found very high correlations between perceptions of top management support and the three dimensions of auditing effectiveness. It also found significant correlations between the variables of professional proficiency and career advancement on the one hand and auditing effectiveness on the other. The study recommended further consideration and study of the other two determinants that were found significant in the correlation analysis: perceptions of organisational independence and the quality of the auditing work. The finding that top management support is very strongly related to all of the three dimensions implies that the current research should avoid defining any one of the three dimensions in terms of the extent of top management support (i.e. top management support can be considered a component of all three dimensions).

Soh & Martinov-Bennie (2011) conducted a study in Australia to investigate factors perceived to be necessary to ensure the effectiveness of IAF, and to provide insights into the current roles and responsibilities of the internal audit IAF. The study used a qualitative method approach to collect evidence, using semi-structured interviews with six audit committee chairs (ACCs) and six chief audit executives (CAEs). The study found that there is significant expansion and refocus of the role (within the corporate governance mosaic) of internal auditors and perceptions of internal audit effectiveness. It also found that performance evaluation mechanisms of internal auditors have not evolved contemporaneously. The misalignment between the role and evaluation gives rise to difficulty in assessing the extent to which IAFs are meeting stakeholders' expectations.

Eden and Moriah (1996) examined the effect of internal auditing on organisational performance in 'Branch Bank Performance' by developing and testing an explanatory model of IA effectiveness. Eden and Moriah assigned 224 bank branches randomly to experimental conditions (audited or not audited) and monitored their performance for a year. The study found that performance significantly in Israel improved during the half year following the audit in the experimental branches, while the control branches experienced a decline due to poor general business conditions. This study is interesting since it suggests that the IAF can indirectly boost organization performance. This implies that an effective internal audit function could result in several benefits to the organization, beyond simply reducing fraud and reducing auditing costs. This implication strengthens the case for further studying IAF effectiveness.

Sutton and Lampe (1991) conducted a study to develop scales for assessing the effectiveness of IA based on an evaluation of the actual audit processes completed for a unique engagement, by identifying 19 key quality factors that contribute to an effective audit and then categorising them into three stages of the auditing process: planning (3 factors), fieldwork (12 factors), and reporting and review (4 factors). Sutton and Lampe suggested measurements they considered valid and reliable measures for those factors. This categorization approach differs from the one employed in the current study. The current study considers both “planning” and “reporting and review” to be elements of objectivity.

Another study conducted by Lampe and Sutton (1994b) compared the UK standard SAS number 500 with the same standard issued by international auditing standard ISA, Canadian and U.S standards, and in comparison with audit quality factors derived from practising internal auditors. The study found that there are strong similarities between the guidance provided by SAS 500 and that proposed or promulgated by the UK, international, Canadian and U.S audit groups. Furthermore, Lampe and Sutton (1994b, p. 335) argue that: “The guidance provided by these SASs for items to consider in evaluating the quality of internal audit work are largely in agreement with the factors determined by practising internal auditors. There are, however, several items listed in SAS 500 that are not considered useful by internal auditors and there are other factors considered crucial by internal auditors but not mentioned in the SASs”<sup>38</sup>. Since the current study employs external auditors to evaluate the effectiveness of the IAF, this implies that the results could be slightly different than if internal auditors were employed. The current research, however, employs external auditors since the study looks at how external auditors make decisions regarding the effectiveness of the Internal Audit Function, such decisions being required of them as part of their daily work.

Gramling and Vandervelde (2006) conducted a study to evaluate the quality of the internal audit function using an experimental questionnaire of 21 IAs and 23 EAs from the USA. The study found that the assessment of competence, work quality, and overall quality were not influenced by the internal audit sourcing arrangement but the assessment of objectivity was. Specifically, they found that external auditors rate the objectivity of an outsourced function

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<sup>38</sup> “The Other factors not recognised by any of the SASs, but which internal auditors considered critical, include corporate political pressures, sensitivity of audit findings and the level of internal audit manager involvement with the on-site internal audit team” (Lampe and Sutton, 1994b p. 345)

higher than in-house function, while internal auditors rate the objectivity of an in-house function higher.

Dittenhofer (2001, p. 445), in his study on internal audit effectiveness, argued that:

“there are two basic reasons why it is important to measure productivity. One is because it is an indication of performance and it can describe whether or not an organization is performing in a satisfactory manner. The second reason is that the measuring can serve as a motivator for an individual or an organization. It is accepted psychological theory that counting and measuring creates a sense of competition with one’s self or with an organization’s prior performance or with a predetermined standard”. Additionally, the study found that the effectiveness of internal audit greatly contributes to the effectiveness of each auditee in particular and the organization at large. Moreover, maintaining the quality of the internal audit will contribute to the appropriateness of procedures and operations of the auditee, and thereby internal audit contributes to effectiveness of the auditee and the organization as a whole. This is further evidence of the direct and indirect potential benefits of having an effective IAF.

Albrecht et al. (1988) conducted a study to evaluate the roles and benefits of the IAF, and developed a framework for evaluating internal audit effectiveness in 13 companies in the USA by using 15 factors as criteria for evaluating effectiveness. Albrecht et al. (1988) identified four areas in which internal audit departments could be strengthened to help increase the effectiveness of the companies they served: 1) changing the corporate environment, 2) obtaining the support of top management, 3) improving the quality of internal auditors themselves, and 4) improving the quality of the work of the internal audit function.

Cohen et al. (2007) argued that the quality of corporate governance could play a pivotal role in the evaluation of the IA function by the external auditors. Certain factors in the governance structure such as the audit committee quality and effectiveness, independence and financial literacy of the audit committee, and the level of communication between the IA function and the audit committee could have a significant influence on the work performance and objectivity, and thus the strength, of the IA function. In the current study, the objectivity dimension can be said to take into consideration some elements of the “quality of corporate

governance". For example, IAF independence implies that internal auditors report directly to the audit committee.

Abu-Azza (2012) conducted a qualitative study in Libyan state-owned enterprises, investigating perceptions of seven factors seen as being important to IAF effectiveness. The seven factor studies were: independence, competence, scope of internal auditing work, performance of internal auditing work, coordination and co-operation between the internal and external auditor, management support, and awareness of the benefits of effective internal auditing within organizations. The study used semi-structured interviews with CEOs, IAF directors, administrative managers, finance managers and general auditors, in addition to archival data. The results showed that participants identified major wide-spread deficiencies in four areas of IAF effectiveness: (1) direct communication with the board of directors; (2) submission of reports to the highest levels of management; (3) dissemination of IAF findings; and (4) IAF access to information. Respondents also identified deficiencies in some elements of IA competence, including experience, qualifications and computer skills. The results showed that a number of other factors limited respondents' perceptions of IA effectiveness, including: narrow scope of IA work; limited use of professional IAs; and lower organizational status of IAs. The results suggest that respondents expect a greater scope of work and professionalism from IAs. According to the author, the results suggest that forced (i.e. compulsory) establishment of IAFs does not necessarily result in effective IAFs unless professionalism is present. The study also suggests that participants are unhappy with the level of management support of IAFs and that there is a general lack of awareness in Libyan state-run enterprises of the benefits of having an effective IAF.

Finally, Mihret et al. (2010) conducted a study to develop propositions regarding the antecedents and organizational performance implications of IAF effectiveness. The study reviewed and synthesized relevant theoretical and empirical literature, within the framework of institutional theory and Karl Marx's theory of the circuit of capital. On the basis of the synthesis, the authors sought to propose justifiable hypotheses regarding the antecedents and organizational implications of IAF effectiveness and to develop research agendas for exploring them. The authors argued that IA effectiveness is influenced by the dynamics in an internal audit setting. The study suggests that since the aim of IAFs is to assist an organization in achieving its objectives, an approach combining focus on compliance with

professional IA standards and achieving organization objectives might be an appropriate way to measure IAF effectiveness.

### **Conclusions on the Three Dimensions and IAF Effectiveness**

The literature review on the Three Dimensions and audit effectiveness covered 27 studies in addition to some discussion of various standards of internal and external auditing. Most of the studies that were conducted in the 1980s focused on the big accounting and auditing firms, and thus these studies were primarily about external audits instead of internal audits. The large audit firms that are the subject of the majority of these studies have a large number of auditors, which is distinctly different from the situation in Jordan, where audit firms are relatively small in comparison and even JLCs do not have large auditing departments.

Of the studies covered in this section of the literature review, some but not all the studies tried to rank the three dimensions in order of importance in the context of determining IAF effectiveness (e.g. Brown, 1983; Schneider, 1984, 1985; Messier and Schneider, 1988; Maletta, 1993; Messier et al, 2011; Desai et al, 2010; Krishnamoorthy, 2002). Overall, these studies have shown that the three dimensions “competence”, “objectivity” and “work performed” are important in assessing internal audit efficiency and effectiveness, even though there are differences in their order of importance between the various studies. Table 5 below summarizes the ranking of the three dimensions of the internal audit function in relation to the effectiveness of the IAF, as found in the studies covered in this section of the literature review.

Table 5: The Ranking of the Three Factors of the IAF Effectiveness as Found in these Selected Studies

Researcher	Scope / Country	Objectivity	Competence	Work performance
Abdel-khalik et al. 1983	CPA firms, Canada	A	--	B
Schneider 1984	CPA firms, Columbus, Ohio, USA	C	B	A
Schneider 1985a	CPA firms, Columbus, Ohio, USA	B	A	A
Schneider 1985b	CPA firms, Atlanta, Georgia, USA	C	B	A
Messier and Schneider 1988	USA	B	A	C
Edge and Farley 1991	Australia	C	A	B
Maletta 1993	Big Six accounting firm, USA	B	A	C
Obeid 2007	Banking sector, Sudan	B	C	A
Al-Matarneh 2011	Banking sector, Jordan	C	B	A
		1 A, 4 B, 4 C	4 A, 3 B, 1 C	5 A, 2 B, 2 C

where A is the most significant factor,  
 B is the second most significant factor, and  
 C is the third most significant factor.

This Table shows that most studies place emphasis on ‘work performance’ as the most significant factor of IAF effectiveness (Schneider 1984, 1985a, 1985b; Margheim 1986). On the other hand, Messier and Schneider (1988); Edge and Farley (1991); and Maletta (1993) all found ‘competence’ to be the most significant factor in evaluating IAF effectiveness. Only one study, conducted by Abdel-khalik et al (1983), claimed that ‘objectivity’ was the most significant factor. In the case of Abdel-khalik, the study investigated five different factors<sup>39</sup> but did not include the ‘competence’ factor.

Given that ‘work performance’ is the most highly ranked dimension of IAF effectiveness, and that adequate resourcing is a key aspect of the definition of this dimension, this implies that

<sup>39</sup> The Abdel-khalik study employed five different factors :”1-Integrated Test Facility, 2-Test Data, 3-Generalized Audit Software, 4-the level to which the internal auditing department reports (Represent the independence and Objectivity of IAF) and 5- the internal auditor's level of responsibility in reviewing changes in application programs”

companies in Jordan, few of which have large staffs of internal auditors, might be found to have low IAF effectiveness.

The literature review brings to light variations in the definitions of the factors used in the studies of IAF effectiveness. In particular, 'competence' and 'work performance' might look, at first glance, to be very similar. A study by Margheim (1986) examining the reliance of external auditors on the work of the IAF, covered in section two of the literature review, does offer an insight into why 'competence' is sometimes combined with 'work performance' or not included at all. Margheim (1986) elected to combine 'competence' and 'work performance' in his study in order to avoid "unrealistic combinations" such as low competence and high work performance.

Given the stated importance of all the three dimensions in auditing standards, the current research will include all three factors. Furthermore, the issue of avoiding 'unrealistic combinations' is not truly a factor in the current research since the focus here is on external auditor perceptions and judgements based on a wide range of combinations. The current research reduces confusion among the external auditors participating in the study by setting out a clear definition for each of the three dimensions. Moreover, the current research seeks to avoid artificially creating a relationship between any of the three dimensions by ensuring that definitions of the three dimensions do not overlap (i.e. are distinctly different and that none of the factors used to measure any one of the three dimensions can be confused with any other factors used to measure any other dimensions).

In general, all the studies that investigated the effectiveness of internal auditors (e.g. Abdel-Khalik et al. 1983; Schneider, 1985a; Brown, 1983; Messier and Schneider, 1988; Edge and Farley, 1991; Maletta, 1993) suggested that they were effective, although the exact perceptions of performance varied depending on the observer (internal auditors themselves, external auditors, etc.). One study compared the effectiveness of internal auditors and external auditors in the UK (Haron, 1996) and suggested that external auditors could rely on the work of external auditors more than seemed to be the case in the US. This implies that it is not safe to generalize the conclusions about audit performance in one country to other countries.

Studies that discussed the benefits of the IAF suggested that the IAF could indeed offer various benefits to both the organization being audited and to external auditors. Benefits included: improved organizational performance (due to improved monitoring) (Cohen & Sayag, 2010; Eden and Moriah, 1996); fraud detection (Coram et al., 2008a; 2008b); reduction in required time for audit planning (Abdel-Khalik et al. 1983; Felix et al 1998; Davidson and Gist, 1996); reduction in audit cost (Krishnamoorthy, 2002; Felix et al 1998); IAF's ability to perform consulting and value creating activities (Stewart & Subramaniam, 2010; Arena, Arnaboldi and Azzone, 2006). This suggests that organizations without effective IAFs are missing out on many opportunities to positively impact their operational and financial results.

In the next section, the thesis presents a review of international literature about external auditors' decisions to rely on the work of internal auditors, including research on the factors influencing such decisions.

## **2.6.2 Reliance on the Work of Internal Auditors**

EAs' degree of reliance on the work of IAs depend on different determinants, one of the most important of these determinants being the efficiency and effectiveness of the IA, as measured by a variety of variables.

The following four national standards are all based on international standards, so it is not surprising that all four addressed the issue of EA reliance on the work of IAs:

1. Statements of Auditing Standards (SAS) 500 in the UK.
2. Statements of Auditing Standards (SAS) 65 in the USA.
3. International Standards of Auditing ISA (610).
4. Australian Standards Auditing ASA (610), sections 8-13.

Previous professional standards on auditing have addressed the issue of EA reliance on the work of IAs. They also provided guidelines on EAs' consideration of IA work in the conduct of financial statement audits. The American Institute of Certified Public Accountants (AICPA) requires EAs to consider the three factors (objectivity, technical competence and



work professionalism) when relying on work of IA, and stated that the EA may use IAs as assistants (AICPA, 2008). The ISA no.610 also requires EAs to evaluate the three factors as well as the nature and extent of IA assignments performed and communication when considering whether IA work is adequate for the purpose of their audit (ISA 610, 2009). In addition, when the Australian Auditing and Assurance Standards Board updated ASA 610 paragraph 9(d) in October 2009, the changes in the standard included addressing the issue of effective communication between the IA and EA as an element in decisions to rely on the work of the internal auditor. According to the ASA 610, in determining the planned effect of the work of the internal auditors on the nature, timing and/or extent of the EA's procedures, the EA shall consider (among other things) "the nature and scope of specific work performed, or to be performed, by the internal auditors" (ASA 610 paragraph 10(a)).

The literature indicates that EAs' reliance on IA work could produce a significant cost saving through reduction of external audit time. EAs assess IA work to determine the extent to which they will rely on the IAF. Such reliance is considered as an area where IA adds value through reduced audit fees (Maletta and Kida, 1993; Krishnamoortby, 2002; Mihret & Admassu, 2011; Mihret, 2010; Schneider, 2009; and Brandon, 2010).

Unnecessary duplication of audit work can be avoided by relying on some of the IAs' work (Schneider, 2009). Moreover, EAs can benefit from some of the advantages inherent in IAs, including an insider's knowledge about company procedures, policies, and business environment. However, Schneider also states that EAs must weigh these advantages and compare them against the need to "maintain both the appearance and reality of independence as defined for EAs." Schneider mentions three ways in which EAs could rely on internal auditing: 1) as part of the company's overall system of internal controls, 2) to test specific internal controls, accounts or transactions; or 3) to directly assist them in conducting audit procedures.

Although the Statement of Auditing Standard (SAS) No. 9 provides guidelines on the characteristics of IA that might affect auditors' evaluations and subsequent decisions to rely on clients' IA functions, it does not suggest their relative importance. According to the Statement of Auditing Standard (SAS) No. 9, the three primary factors affecting the

evaluation and reliance decisions are IAs' competence, objectivity and work performance (Schneider, 1985a).

Furthermore, 'current governance' has contributed to increasing the extent of the relationship between internal and EAs, having placed greater emphasis on this relationship (Gramling et al 2004). Determining the degree of EAs' reliance on the work of IA is a key element of evaluating the effectiveness of the IAs in the organization.

A study by Bame-Aldred, Brandon, Rittenberg and Stefaniak (2013) reviewed existing literature on EA reliance on the IAF in order to identify gaps in the literature and proposed a number of research questions to close identified gaps. The research focused on how environmental and IAF-specific factors influence three areas: initial EA reliance on the IAF; the nature and degree of reliance; and the observed effect of EA reliance decisions. The study found that EA reliance decisions are complex and involve simultaneous consideration of several factors. Furthermore, auditing standards introduce additional intermediate decisions that must be considered both before and during EA reliance on IAs. The study concluded that very little is known about how and to what degree EAs evaluate IAF quality factors. The study found that the nature and degree of EA reliance is influenced by factors like account risk, inherent risk and IAF sourcing, but researchers do not completely understand how EAs choose the audit task environment (e.g. revenue recognition versus payroll) or the tests to be relied upon. Finally, little is known about the impact on audit quality of reliance on the IAF.

Gramling et al (2004) encouraged the line of research followed in the current study because they recognized a gap in research concerning the processes by which the EAs combine evidence on the three factors of IA effectiveness when deciding whether or not to rely on the work of the IAs. Gramling et al concluded that additional research is needed to provide insights into the relative importance of the IA function quality factors and to "explore the interrelationships among the quality factors" (Gramling et al, 2004, p. 236). They emphasized that the relative importance of a quality factor is likely to be contingent on the level of the other quality factors. Having modelled the interrelationships explicitly, the current research seeks to analyse the results for various special conditions such as no relationships, weak relationships, and strong relationships among specific factors. Gramling et al. (2004) highlight that "a quality relationship between the IAF and the audit committee also works towards providing the IAF with an appropriate environment and support system

for carrying out its own governance related activities (e.g. risk assessment, control assurance and compliance work)”( p. 148 ).

Haron, et al (2004) studied the Malaysian auditing standard No. 610. The objective of the study was to determine which of the criteria mentioned by the standard (AI 610) are used by EAs to evaluate the work of IAs. The subjects of the study were EAs- partners, managers and senior staff- from auditing firms in Malaysia. The researchers collected their data from both ‘big four’ and ‘non-big four’ firms located in Malaysia, using a structured questionnaire. The study found that the technical competence and scope of function are the two most important criteria that EAs consider in decisions about their reliance on IAs. The study highlighted two variables (both representing ‘competence’) as being the most important to such judgements by EAs: 1) the strength of the IAs' training programme and (2) the performance of satisfactory follow-up procedures in prior audits. The study suggests that "company policy makers should emphasize development of precise, operational criteria for these factors when selecting the internal auditors and also when determining the type of work that they perform. If these criteria were in place, it would mean that EAs would rely more on the internal auditors and, in turn, the EA would be more cost effective for companies". Moreover, Haron et al (2004) argued that some previous studies (e.g. Maletta, 1993; Schneider, 1983; Tiessen and Colson, 1990) consistently identify two important variables (competence and work performance). It should be noted that the Haron et al (2004) study differs from the current study in its definition of ‘competence’. The current study considers “performance of satisfactory follow-up procedures in prior audits” to be evidence of ‘work performance’, not of ‘competence’.

A study by Mihret & Admassu (2011) examined external auditor reliance on internal audit work, utilizing a questionnaire survey of 119 external auditors in Ethiopia. The study found that organizations can enhance corporate governance effectiveness by strengthening the internal audit and by fostering internal-external auditor coordination. The study suggests that strengthening IA effectiveness is one of the important things that can be done to improve the linkage between IA and EA, thus enhancing the effectiveness of corporate governance.

Numerous studies have been conducted on the question of whether EAs should use the work of IAs. Maletta (1993), for example, asserted that prior research has generally indicated that there are three IA variables identified in audit professional standards: ‘objectivity,

competence and work performance'. These variables significantly affect EAs' judgement regarding the degree of reliance to be put on the work of the IAF. Most of these studies have examined EAs' evaluation of the IAF. Furthermore, the guidelines of the Canadian Institute of Chartered Accountants (CICA, 1997) stated that "EAs can rely on the work of IAs when it involves reviewing and testing the system of internal controls". Maletta's review of prior research provides a foundation for further research using the three dimensions in relation to their impact on IAF effectiveness and EA decisions on the degree of reliance on the work of the IAF. Maletta's work is one of the reasons the current study's research model focuses on the three dimensions in question.

Haron (1996) compared the competence of IAs and EAs in the United Kingdom and stated that there is stronger justification for IAs and EAs in relying on the work of each other in the case of UK than the case of USA. If so, the report of directors of internal control can be relied upon more confidently by EAs in the UK. The study, however, does not actually investigate the willingness of EAs to rely on the work of IAs. The current study attempts to answer this question.

A study conducted by Al Mdallal (2007) on corporations listed on the Palestine Securities Exchange pointed out that external auditor could reduce costs by avoiding the duplication of auditing effort. The current study adopts this idea and proposes that this is one example of how increased IAF effectiveness could result in benefits to Jordanian companies.

In the area of internal controls, Ward and Robertson (1980) surveyed external and internal auditors in the West Australian public sector to ascertain the degree and nature of participation of the IAs in the external audit function. Ward and Robertson argued that the increasing use of an IAF by companies lead to an increasing reliance of EAs on the audit work of IA. In regards to the internal controls, the survey found that 72% of EAs and 57% of IAs reported reliance on IAs by EAs in performing tests of internal accounting control. The reasons for the large discrepancy in results included "timing of cycles, duration examined and scope of the audits". One implication for the current study is that internal and external auditors can have significantly different perceptions about external auditor reliance on the work of the IAF. For this and other reasons, including a potential for internal auditor subjectivity when evaluating themselves, the current study employs a sample of EAs. It is reasonable to assume that EAs are probably more objective when evaluating the effectiveness

of the IAF, and they are also the decision makers when deciding whether to rely on the work of the IAF.

In another early study, Margheim (1986) conducted an experiment to examine the factors that EAs consider important in their decisions on whether to rely on the work of IAs, and whether such reliance results in adjustment of the audit plan<sup>40</sup>. According to the Margheim (1986), competence and work performance were treated as one factor in order to avoid unrealistic combinations such as low competence and high work performance. The current study addresses “unrealistic” combinations by attempting to make the definitions of the three dimensions sufficiently distinct to the participants in the study in order to avoid confusion and artificial interactions between the three dimensions. The study’s results seem to indicate that EAs reduce planned audit hours if IAs had a high level of ‘competence and work performance’. Finally, the study showed that EAs were insensitive to the degree of IA objectivity and no significant interaction effects were found between competence-work performance and objectivity factors.

The insensitivity of EAs to IA objectivity has an interesting implication for the current study: given that EAs are being asked to evaluate the importance of the three dimensions to IAF effectiveness as well as to their own willingness to rely on the work of the IAF, will they rank objectivity in the same way in both experiments or does the risk<sup>41</sup> inherent in relying on someone else cause them to exercise caution in relation to objectivity because of potential conflicts? Another implication for the current study is the importance of properly defining the three dimensions in order to avoid confusion and artificial interactions between the three dimensions by ensuring that the variables used to measure them are sufficiently distinct and clearly defined to the participants.

Brown (1983) conducted an experimental study of 101 EAs in four “Big Eight”<sup>42</sup> US firms [most of the research done in the 1980s in this field used auditors from the big eight firms] and focused on six factors which might be seen as important by EAs when evaluating the reliability of IAs. The study explored how consistently were these factors employed by EAs.

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<sup>40</sup> Margheim’s subjects were CPA auditors from Big Eight firms (located in the 30 largest metropolitan statistical areas) and AICPA members for at least three years.

<sup>41</sup> The topic of risk is discussed later in this section.

<sup>42</sup> The firms were Deloitte Haskins & Sells; Price Waterhouse; Peat, Marwick, Mitchell & Co.; and Touche Ross & Co.

The research found that independence (i.e. objectivity) and previous years' audit work (i.e. work performance) were the primary factors used by the EAs, regardless of their firm affiliation or years of audit experience. Competence was placed a distant third. Moreover, Brown suggested that even when the work of IAs was satisfactory in previous years, the auditor must still assess whether similar conditions justifying reliance exist in the current year.

Brown's study was one of the first to examine all three dimensions simultaneously, and was the first study to utilize an experimental approach to examine the way which EAs combine the three factors in determining the reliance to be placed on IAF. Interestingly, Brown also asked the subjects to indicate which of the six factors they associated with each of the three dimensions. The study has several implications for the current study: (1) It provides an example of research similar to the current study; (2) Its discussion of the research design provides ideas useful in determining the sample size and other sample characteristics for the current research; (3) The design of the questionnaires in the current study is influenced by Brown's research design; (4) It supports the consideration of both the interaction of the variables and the direct effects, not just the direct effects alone. The current study does not, however, have the same level of complexity as Brown's study. For example, it does not attempt to determine statistical relationships between the three dimensions (or their sub variables) on the one hand and the specific characteristics of the respondent (e.g. EA's experience, the identity of the firm at which the EA is employed, etc.). One of the reasons for departing from this aspect of Brown's research design was to increase the attractiveness of participation in the study, since it is possible that EAs might feel that disclosing private characteristics could expose their identities. Another reason was that there was no guarantee that enough Jordanian EAs would participate to ensure that each type of personal characteristic was sufficiently represented in the study sample; Jordanian businesses are quite conservative about revealing information to outsiders, a situation exasperated by the recent level of scrutiny of businesses and auditors following a number of high profile failures and frauds.

A more recent study by Margheim and Label (1990) was conducted in order to examine the extent of the external auditor's testing of IAF work that is relied upon by the external auditor. The study found that the extent of reliance on work already performed by the IAF was influenced by management integrity. Specifically, when management integrity was high

(low) external auditors were more (less) likely to rely on work performed by the IAF. Moreover, the newer (1990) study obtained similar results as the earlier (1986) Margheim study in regards to external auditors' planned usage of IA as assistants.

At least three studies (Maletta, 1993; Libby et al, 1985; Maletta and Kida, 1993) focused on how risk influences the way in which EAs make decisions.

Maletta (1993) investigated the impact of inherent risk on EAs' decisions to use IAs as assistants. Maletta's research subjects were audit managers from "Big Six" accounting firms<sup>43</sup>. The study utilized an experimental approach to examine the effect of inherent risk on (1) the extent to which auditors consider factors related to the IAF in making decisions to use IAs as assistants and (2) the complexity of auditors' decision processes in making such judgements. Maletta found that in situations of high inherent risk, EAs took IA work performance into consideration when IA objectivity was high. Maletta's results thus showed interactions between objectivity and work performance when inherent risk is high. This indicated that in situations of high inherent risk, auditors appeared more likely to use complex configural decision processes when evaluating decisions to use IAs as assistants than when inherent risk was low. In cases of low inherent risk, there was no interaction between work performance and objectivity.

Along similar lines, Libby, Artman, and Willingham (1985) suggested that auditors should be more sensitive to IA quality when making decisions to use IAs as assistants in high versus low inherent risk conditions. The study of Libby et al (1985) examined the impact of inherent risk factors on the extent to which changes in audit test strength affected audit planning decisions. The study used an audit risk model to generate hypotheses concerning the effect that evaluated level of internal control exerts on audit planning decisions. Based on existing audit pronouncements, they defined inherent risk as "the susceptibility of an account or class of transactions to material error irrespective of the system of internal controls". Audit test strength was effectively described as the overall strength of the tests performed. Consistent with their expectations, Libby et al. found that changes in audit test strength had a greater

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<sup>43</sup> The big six accounting firm were: 1-Arthur Andersen L.L.P. ("Andersen"), 2-Coopers & Lybrand L.L.P. ("Coopers"), 3-Deloitte & Touche L.L.P. ("Deloitte & Touche"), 4-Ernst & Young L.L.P. ("Ernst & Young"), 5-KPMG Peat Marwick L.L.P. ("KPMG"), and 6- Price Waterhouse L.L.P. ("Price Waterhouse").

effect on auditors' planning judgements in high inherent risk conditions than in low inherent risk conditions.

Another study conducted by Maletta and Kida (1993) investigated the role of environmental risk factors on the configularity of audit decisions. The study used the audit managers from the same “Big Six”<sup>44</sup> accounting firm as the previous study by Maletta. The study found that reliance on the IAF was based on a configural relationship between the level of inherent risk and control strength. Moreover, Maletta and Kida (1993) found that the EAs can reduce their work up to 28%, depending on the extent of reliance on the work of the IAF. Their study suggests that “auditors consider configuration relationships between task specific information cues and that configuration processing is predictable, given auditing knowledge specific to the task”.

While the current research experiment does not focus on risk as a factor in EA decisions on whether to rely on the work of the IAF, the interview part of the study allows some flexibility, and the auditors participating in the study can, if they choose to do so, discuss risk as a factor.

In another study, Al-Twajjry et al. (2003) examined the extent of co-operation between the internal audit department directors and partners and managers in the external auditing firms in Saudi Arabia. The researchers used a mixed methods approach utilizing questionnaires and interviews to collect their data from Saudi Arabian companies. The results showed that external auditors in Saudi Arabia were more positive than internal auditors about the extent of co-operation between EAs and IAs when the IA department was of high quality (i.e. maintain professionalism and skill). Internal auditors considered the co-operation between the IAs and EAs to be limited. The implication for the current study is that external auditors might be more willing to rely on the work of the IAF if work performance (professionalism) and competence (skills) are high. This study provides further evidence of the difference in perceptions between internal and external auditors. One implication for the current study is that even if the results indicate that EAs would be more willing to use the work of internal

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<sup>44</sup> The accounting firms were: 1-Arthur Andersen L.L.P. ("Andersen"), 2-Coopers & Lybrand L.L.P. ("Coopers"), 3-Deloitte & Touche L.L.P. ("Deloitte & Touche"), 4-Ernst & Young L.L.P. ("Ernst & Young"), 5-KPMG Peat Marwick L.L.P. ("KPMG"), and 6- Price Waterhouse L.L.P. ("Price Waterhouse").



auditors if measures were taken to improve IAF effectiveness, it might be difficult to convince internal auditors of the truth of the findings.

Felix et al (1998) conducted a study that investigated the effects of IA work performance on the relationship between internal and EAs, and examined the reasons for co-ordination of efforts between the internal and EAs. The study used a mixed methods approach that included a quantitative analysis (with two different questionnaire designs, that were administered to internal and EAs), as well as qualitative, face-to-face, interviews. The study found that there was co-operation and co-ordination in terms of planning the audit work and accessing each other's working papers and reports. The study indicated that more than 25% of the IA's time was spent on financial accounting auditing, while only 6% was spent on assisting the EAs. Both of the groups agreed that 50% of IA work was related to the internal controls. Internal and EA coordination of audit planning and joint access to each other's working papers and reports is interesting, but it does not tell us if the EAs actually rely on the work of the IAs, although it increases the possibility that they could be doing so. The current study attempts to answer this question, at least in hypothetical cases.

Several studies investigated the relevance of IA outsourcing on EA decisions to rely on the work of the IAF (e.g. Munro and Stewart, 2010; Glover et al., 2008; Brandon, 2010). In a recent study using an experimental design, Munro and Stewart (2010) explore whether IA outsourcing and the role of IA in systems consulting impact EAs' reliance on IA in the current governance environment. The study used an experimental design approach using a 2 \* 2 between-subjects design, by manipulating two factors [the audit committee and the client's business risk] at strong and weak levels on 66 auditors and managers. They found that involvement in consultancy activities relating to the financial reporting system impacts on the extent of reliance on the work of the IA. EAs also make greater use of IAs as assistants for substantive testing when IA is provided in-house, suggesting an availability influence. In addition, EAs are more likely to use IA for control evaluation tasks than for substantive testing. While the specific tasks in which EAs might rely on the work of IAs is not a primary research question in the current study, the interviews conducted during the course of preparing the current study do offer an opportunity for some discussion of the issue.

Davidson et al (2013) conducted a study on the effect of the IAF's use of continuous auditing on the relationship between internal audit sourcing and EA reliance on the IAF. The research

is based on prior research that found that EAs were more willing to rely on the IAF when that function was outsourced or co-sourced (Felix et al. 2001; Gramling et al. 2004; Krishnamoorthy, 2002; Prawitt, Sharp, & Wood, 2011). 142 auditors (all CPAs) participated in an experiment in which IAF sourcing (in-house or outsourced) and audit type (periodic or continuous) were manipulated and the participants requested to indicate their level of reliance on the IAF. The results showed that when an IAF uses continuous auditing, EAs relied on the IAF irrespective of sourcing; when periodic auditing was used, EAs reliance on the IAF was greater when the IAF was outsourced. This suggests that continuous auditing is a reasonable alternative to outsourcing as a means of increasing EA reliance on the IAF.

Another study of the effect of continuous auditing on EA reliance, and the impact of such reliance on budgeted audit hours, was conducted by Malaescu and Sutton (2013). The study also considered prior research findings that reliance was reduced and budgeted hours increased when EAs had evidence of deficiencies in internal control. 87 experienced auditors participated in an experiment in which audit type (periodic or continuous) and prior year material deficiencies (present or absent) were manipulated and the participants requested to indicate their level of reliance on the IAF. The results showed that EAs relied more on IAFs that used continuous auditing; this effect was further boosted when there was no evidence of deficiencies in internal control effectiveness in the prior year. When there was evidence of prior deficiencies, the results showed that EAs increased budgeted audit hours at a higher rate when the client uses periodic auditing when compared to continuous auditing.

Glover et al. (2008) conducted a study of the impact of IA outsourcing on EAs' decisions to rely on IA work. The study utilized an experimental approach to examine 127 EAs at training sessions for one 'Big 4' accounting firm. In the study, the researchers predicted that EAs would rely more on work performed by outsourced IAs than by in-house IAs because the latter are closely aligned with management. Their results support this prediction but only when inherent risk is high. On the other hand, Gramling and Vandervelde (2006) found a group affiliation bias when IA services are performed by another public accounting firm. Both internal and EAs participated in the Gramling and Vandervelde (2006) study, with the EAs assessing IA objectivity to be higher when the provider was another accounting firm, and the IAs assessing objectivity to be higher when IA was provided in-house.

Brandon (2010) investigated how EAs evaluate Internal Auditing outsourcing providers. The study also investigated EA reliance on the work of providers of outsourced internal audit services such as outsourced internal audits, systems design and implementation, and consulting. The study used an experimental approach based on a survey of 89 experienced EAs. The study results indicate that EA evaluations of the outsourced internal auditing providers' objectivity were negatively affected by the provision of the services of systems design, implementation, and consulting. The study found that both audit fees and external auditor reliance on internal audit are affected by the provision of non-audit services. However, the Brandon results do not appear to be tempered by audit and non-audit staffing decisions. Furthermore, the differences in EAs' perceptions of IA outsourcing providers' objectivity are tempered by the use of different personnel to provide consulting services. Competence perceptions were not affected. These results suggest that external auditors indeed perceive objectivity concerns when outsourced internal auditors provide consulting, outsourced internal audit, and systems design and implementation.

### **Conclusions in relation to Reliance on the Work of IAs**

International and various national standards of auditing discussed Three Dimensions of internal auditing but not rank them in order of importance.

Several studies investigated the relationship between reliance on the work of IAs and one or more of the three dimensions, and these studies did find that one or more of the three dimensions had significant impact on reliance decisions. Few studies, however, specifically set out to rank all three of the dimensions simultaneously, unlike the case of studies focusing on IAF effectiveness. As Gramling et al (2004) concluded, additional research is needed to provide insights into the relative importance of the IA function quality factors and “explore the interrelationships among the quality factors” (Gramling et al. 2004, P. 236). They emphasized that the relative importance of a quality factor is likely to be contingent on the level of the other quality factors. Having modelled the interrelationships explicitly, the current research seeks to analyse the results for various special conditions such as no relationships, weak relationships, and strong relationships among specific factors.

At least three studies (Maletta, 1993; Libby, Artman, and Willingham, 1985; Maletta and Kida, 1993) included an investigation of how risk influences the way in which EAs make

decisions. All three studies found that risk did influence the way in which decisions were made. The implications of the importance of risk are interesting given that Jordan's social and business culture might be considered a risk factor. While the current research does not focus on risk as a factor in EA decisions on whether to rely on the work of the IAF, but the interview part of the study allows some flexibility, and the auditors participating in the study can, if they choose to do so, discuss risk as a factor.

As in the review of studies on the subject of IAF effectiveness, some studies of reliance on IAs (e.g. Ward and Robertson, 1980) have shown that perceptions differ between internal and EAs. The degree of reliance on IAs is perceived to be greater among EAs than among IAs. This difference in perception could be partially due the fact that EAs who have access to the work papers of IAs may use information from these papers without telling the IAs that they are using that information. Given that EAs are likely to be more objective judges of the degree of reliance, the current study employs a sample of EAs rather than IAs.

In summary, the literature review suggests that EAs might be more willing to rely on the work of the IAs if IAs exhibit objectivity, competence and work performance, all other factors remaining equal.

In the next section, this thesis presents a review of literature about the IAF in Jordan, focusing on research on the effectiveness of the IA and decisions to rely on the work of IAs.

### **2.6.3 Jordanian Literature Review**

The Thnaibat & Shunnaq (2010) study aimed at examining the extent to which external auditors apply international auditing standard (ISA) 610 when evaluating the internal audit function, according to the opinions of internal and external auditors in Jordan. The study also investigated the relationship between the extent of the application of ISA 610 and various characteristics of external auditors (level and field of academic degree, and number of years of auditing experience). Furthermore, the study investigated the perceived relative importance of criteria mentioned in ISA 610. The researchers designed and distributed questionnaires to a sample made up of external and internal auditors. Descriptive and nonparametric statistics were used to analyse the data and test the hypotheses. The study found that there are

significant differences between external and internal auditors' opinions regarding the extent to which external auditors were applying ISA 610 when evaluating the internal audit function. External auditors perceived above average application of ISA 610 while internal auditors perceived below average application. This pattern of differences in perception is similar to that found in studies in other countries.

In another study using a quantitative design, Suwaidan and Qasim (2010) investigated the perceptions of a sample of 100 Jordanian external auditors on the importance given by them to a number of factors which may influence their reliance on an internal auditor during their external audit. They also examined the relationship, if any, between the degree of reliance on IA work and the amount of the external audit fees. The study employed a quantitative approach, with a sample of 100 EAs replying to a questionnaire investigating their perceptions of the importance of a number of factors which may influence their reliance on an internal auditor during their external audit. The first part of the survey was designed to obtain information about the respondents to the questionnaire, the second part was designed to get data on 19 factors measuring the degree of EA reliance on the IA, and the third part was designed to find out the relationship between their reliance on internal auditors and audit fees. They found that external auditors in Jordan considered IAF objectivity to be the most significant factor affecting their reliance decisions, followed by 'competence' and 'work performance' of internal auditors. One complication in the study is that eight factors were used to reflect the objectivity of an internal auditor, while six and five factors were used to reflect the competence and work performance of an internal auditor respectively. This study has several implications for the current study, and it most closely matches what the current study aims to achieve. The ranking of the three dimensions in regards to external auditor decisions on reliance seems to be the exact opposite of the rankings in regarding to external auditor evaluations of IAF effectiveness found in section one of the literature review. It should be noted that the literature review did not uncover any significant accumulation of literature on the ranking of the three dimensions in regards to external auditor decisions on reliance. Given this lack of ranking data on reliance in the context of the three dimensions, it is unclear what the Jordanian rankings might imply. It is possible that external auditors consider Jordan to be a high risk environment due to its social and business culture, and thus they focus on the 'objectivity' dimension, seeking to identify evidence of 'shady' behaviour. The current study, by looking at both the direct and indirect effects, will help gain insights into why the results across countries may be different. The Suwaidan and Qasim (2010) study

does not investigate EA evaluations of IAF effectiveness, an area that will be covered in the current study. The study's use of 19 factors, and the difference in number of variables assigned to each of the three dimensions, is puzzling and seems to lend itself to possible statistical validity problems. The results of the Suwaidan and Qasim (2010) study could also have been influenced by the timing of the research in a period of high publicity in regard to corporate misconduct.

Another recent study was conducted in the banking sector in Jordan by Al-Matarneh (2011), examining the relationship between the Three Dimensions of the internal audit function and the quality of internal audit. The study aimed to provide evidence on the question of whether the internal auditor's objectivity, competence, and performance affected internal audit quality (effectiveness). Al-Matarneh designed a survey questionnaire and distributed it to a sample of internal auditors in the Jordanian banking sector. The study results indicated that internal auditors in Jordanian banks consider the competence, objectivity and work performance of internal auditors as important factors affecting the internal audit quality. It was found that "performance" had the highest mean score, followed by "competence" and "objectivity". The study recommended that Jordanian banks must work to ensure the availability of these key factors to achieve a higher quality internal audit function.

Another study in Jordan (Obaidat, 2007) investigated the extent to which "external auditors complied with International Standards on Auditing ISA according to the last pronouncement by the International Auditing and Assurance Standard Board (IAASB)". Data was collected through a questionnaire administered to a random sample of external auditors in Jordan. The study found that Jordanian auditors complied with all auditing standards with some variance in the degree of compliance among them. The results indicated that further measures and steps could be taken to improve ISA compliance.

Rahahleh (2010) conducted a quantitative study using 118 internal auditors and Chief Financial Officers in 107 companies<sup>45</sup> in Jordan. The study aimed at facilitating the strengthening of IA practices of internal audit in Jordan through first identifying internal auditor and management perceptions towards internal audit concepts and the practices

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<sup>45</sup> Jordanian corporations registered with the Ministry of Industry and Commerce for the year 2009 and employing internal auditors.

prevalent in the profession of IA. The study used a quantitative method utilizing a questionnaire to collect initial data in addition to a theoretical analysis explaining the technical and functional development of the IA practice in regards to internal audit standards. The study found that 88.3 % of internal auditors (from his sample) have an academic qualification majoring in accounting, and 78% of them have a bachelor degree. It also found that 50% of internal auditors surveyed have internal auditing experience of more than 11 years, and 38% of internal auditors surveyed have internal auditing experience of between 11 years and 15 years.

In his conclusions, Rahahleh suggested that a necessity exists for improving management perception of the importance of Internal Auditing. He also suggested issuing IA standards appropriate to the Jordanian environment, improving regulations, and establishing a professional body for Internal Auditors (currently there is only a professional body for accountants in general). Rahahleh also recommended that management should pay more attention to the job requirements for internal audit positions, and that each position should have defined minimum requirements that potential candidates and incumbents are required to meet, and that all IA job vacancies should be filled with candidates that have professional certificates for internal audit.

While Rahahleh examined the private sector, Khasharmeh (2009) conducted a study to examine the qualifications required of public sector auditors. The study sample was selected randomly from the control department chiefs, financial managers and accountants in government agencies managed and supervised by the Jordan Audit Bureau (120 individuals selected, 93 responded). The study included both primary and secondary sources of data. The respondents were asked for their opinions about the importance of 18 different characteristics and criteria in regards to facilitating effective and objective auditing results. The study found that most of the criteria were of significant importance. The study included an analysis of the personal data of the respondents. The analysis found that “67.7 percent of the respondents are over 30 years of age, 75.3 percent are male, 55.9 percent possess an accounting specialization, 31.2 percent of specializations are related to administration and economics, 64.5 percent of the sample hold a BA degree or higher, 75.3 percent of respondents have 6 years or more of experience” (Khasharmeh, 2009, p. 42).

In a more recent study, Zureiga (2011) investigated the relationship between the quality of external audits (as measured by the size of audit firm) and the ownership structure among Jordanian listed firms. The study examined a sample of 198 companies selected from the Amman Stock Exchange (ASE). The results indicated a significant positive relationship between audit quality and foreign and institutional ownership. Whereas ownership concentration was shown to have a negative relationship with audit quality, that relationship was not significant. Zureiga recommended that companies in Jordan adopt new policies and procedures in order to maintain audit quality. Such policies and procedures would also be reflected in high quality financial statements, and encourage auditors to be more objective. Moreover, Zureiga submitted that management and corporate culture in Jordanian companies must ensure that their IAs be knowledgeable and skilled in accounting and auditing processes. Zureiga recommendations were consistent with Khasharmeh (2009), who found that Jordanian auditors should have good computer skills to facilitating effective and objective auditing results.

Al-Nawaiseh (2006) studied the factors affecting audit quality in Jordanian companies from the perspective of the external auditor. The study utilized a quantitative method with questionnaires applied to a sample of auditors representing Jordanian EAs. The study results indicate general agreement among 62 Jordanian EAs regarding the importance of audit quality. The factors perceived to have the strongest effect on effectiveness were the factors associated with the audit work team, while the factors with the least effect were those related to the organization of the audit company. Al-Nawaiseh recommended that the Jordanian Association of Certified Public Accountants (JCPA) consider improving and supporting external auditor job performance, increasing auditor training, and setting audit fees. He also recommended conducting more studies to measure the level of audit quality in Jordan.

In another study, Al-Rahahleh (2005) sought to measure the effectiveness of the internal auditing in Jordanian public and private universities. The study used Institute of Internal Auditors (IIA) standards as the basis of IAF effectiveness. The study identified 1) the extent of each university's commitment to the standards promulgated by the American Institute of Internal Auditors and 2) the impact of factors related to the university, and personal factors related that university's workers, on the extent to which they apply these standards. The study included all employees in the internal auditing units in the private and public universities in Jordan, and found that Jordanian universities meet the international standards



issued by the American Institute of Internal Auditors. Al-Rahahleh recommended there be an exchange of knowledge between universities in the area of internal auditing to increase the effectiveness of internal auditing in Jordanian public and private universities.

Al Farajat (2003) also conducted a quantitative study in Jordanian public universities to evaluate the effectiveness of their IAFs. The study investigated internal auditors, financial managers and directors of internal controls in public universities. The study found that the IAFs in public universities achieve a high degree of effectiveness.

Al-Sawalqa and Qtish (2012) conducted a study to examine the relationship between the internal control system and the effectiveness of audit programs in Jordan. The study used a quantitative method and had 43 respondents. They found that the control environment and control activities do not contribute significantly toward an effective audit program by internal auditors. “These results give an indicator that Jordanian companies lack the necessary experience to deal with the current tools for internal control evaluation. Some applications and recommendations were suggested for both company management and external auditors” (Al-Sawalqa and Qtish, 2012, p. 128).

### **Conclusions on the Jordanian Literature**

A modest number of studies of relevance to the current study’s research questions and hypothesis have been uncovered in the review of Jordanian literature, all of which are relatively new. All the studies conducted in Jordan employed a quantitative approach utilizing questionnaires, never using qualitative or a mixed method approach, and all but one study (Suwaidan and Qasim, 2010) used variables that did not match the definitions of the Three Dimensions as described in the international standards.

A study conducted in Jordan by Al-Matarneh (2011) did study the relationship of the three dimensions with IAF effectiveness, but used a sample of IAs and was limited to the banking industry. In regards to studies of the relationship of the three dimensions on decisions to rely on the work of IAs, the researcher found only one study that simultaneously tackled all three dimensions, and it is a study conducted in Jordan by Suwaidan and Qasim (2010). The study by Suwaidan and Qasim (2010) differs from the current study in the choice of methodology.

The Suwaidan and Qasim (2010) study makes no attempt to measure the statistical effect of the three dimensions on reliance, instead calculating the statistical means of the importance of the three dimensions as indicated by EAs based on their replies regarding the importance of 19 different comprising factors. The primary focus of Suwaidan and Qasim's (2010) study was on measuring the relationship between reliance on IAs and audit fees.

The lack of depth in the area under study, the scarcity of studies that examine all three dimensions simultaneously, in addition to results which seem to run counter to those found in other countries (Suwaidan and Qasim, 2010) require further investigation of the subject.

## **2.7 Gaps in the Literature**

This section identifies the major gaps in the relevant literature and which this study aims to close.

First, many studies have investigated and proved that one or more of the three dimensions (IAF objectivity, competence and work performance) are important to IAF effectiveness, but fewer studies have examined and compared the relative importance of each of the three dimensions (e.g. Brown, 1983; Schneider, 1984, 1985; Messier and Schneider, 1988; Maletta, 1993; Messier et al, 2011; Desai et al, 2010; Krishnamoorthy, 2002).

Second, several studies have investigated and proved the one or more of the three dimensions are important to EA decisions to rely on the work of the IAF, but very few have set out to identify the relative importance of the three dimensions (e.g. Gramling et al., 2004). As Gramling et al. (2004) concluded, additional research is needed to provide insights into the relative importance of the IA function quality factors and “explore the interrelationships among the quality factors” (Gramling et al. 2004, P. 236). They emphasized that the relative importance of a quality factor is likely to be contingent on the level of the other quality factors.

Third, there is a lack of Jordanian studies investigating the relative importance of the three dimensions in relation to either IAF effectiveness or EA decisions to rely on the work of the IAF.

Fourth, there is a lack of studies investigating why the three dimensions influence EA perceptions of IAF effectiveness or decisions to rely on the work of the IAF.

## **2.8 Chapter Summary:**

This chapter presented a literature review covering several topics relevant to subject of the current study. A review on the history of auditing in Jordan shows how the regulatory framework for the accounting and auditing professions developed. It revealed that the regulatory framework was mostly focused on external auditing; no organization is responsible for overseeing the internal auditing profession. It also revealed that Jordan has approximately 300 audit firms, 26 of which carry out the majority of work for publicly listed companies in Jordan. These top audit firms are associated with the 'Big Four' international audit firms. The chapter also covered Jordan's economic challenges and its culture. It revealed that Jordan's economy suffered from several problems, including low wages, high unemployment, rising prices, insufficient or inappropriate staffing (due to lack of financial resources or nepotism), a pervasive public perception of widespread corruption, and a government that had almost become bankrupt during 2012. A review of the literature on Jordanian culture reveals that its culture has been categorized as a 'high context' culture. The chapter discussed the implications of a high context culture on business culture and auditing, including problems like nepotism and cronyism. The chapter also covered the relationship between IAs and EAs, revealing several similarities and differences in their roles and key concerns. It also revealed several potential benefits of cooperation and coordination between IAs and EAs. The chapter also reviewed literature covering topics of relevance to how EAs make judgement decisions. The review covered the topic of Human Information Processing, including configural decision-making. It also covered the relationship between culture and external auditor judgement. It also covered several important theories that might influence EA judgement, including agency theory, information asymmetry theory, certification theory and the resource dependency theory. The chapter then reviewed literature studying the

relationship between objectivity, competence and work performance on IAF effectiveness. The review revealed that the majority of studies argued that work performance was the most influential factor, followed by some studies that found competence to be the most influential. Only one study found objectivity to be the most influential, but that study did not include competence as a factor. The chapter also reviewed the literature on the relationship between objectivity, competence and work performance on external auditor decisions to rely on the work of internal auditors. The review revealed that there was a lack of studies that examined all three factors; there were no studies comparing the relative influence of all of these factors. The chapter then reviewed Jordanian literature on the influence of objectivity, competence and work performance on IAF effectiveness and decisions to rely on the work of internal auditors. While a number of research studies have investigated the field of auditing in Jordan, the literature review in this chapter is mostly restricted to the studies directly related to the research questions and hypothesis of the current study. The review revealed that there is a lack of Jordanian studies investigating the relative importance of the three dimensions in relation to either IAF effectiveness or EA decisions to rely on the work of the IAF.

In the next chapter, this thesis will discuss in detail the research methodology and research implementation of the current study, including details of the survey-based experiment (the quantitative element) and the interview based qualitative element. The chapter will also present a review of the predominant methodologies employed in accounting and auditing research, discuss and evaluate the quantitative, qualitative methods and mixed methods, and discuss where (and why) the current study falls within the 'Research Onion' of research methodologies.

# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.1 Introduction and Chapter Overview

This chapter discusses the methodology employed in this thesis. The next section (3.2) reviews the predominant methodologies employed in accounting and auditing research, discusses and evaluates the quantitative, qualitative and mixed methods, and concludes with discussion of where (and why) the current study falls within the ‘Research Onion’ of research methodologies. Section 3.3 details the research implementation process employed in this study, including a description of the sampling process and the design and application of the questionnaire and interview elements. Finally, Section 3.4 details the limitations of the methods.

## 3.2 A Review of Research Methods

Crotty (1998) defines methodology as:

“The strategy, plan of action, process or design that is lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes” (p. 3).

Saunders, Thornhill and Lewis (2009) define the research method as the way of collecting, analysing, and interpreting data that the researcher obtained for his studies, or alternatively the way in which the research design is developed.

Research design (and thus methodology) has two basic purposes: to answer the research question (in this case, to evaluate the effect of the objectivity, competence, and work performance on the IAF effectiveness in JLCs and on the degree of EA reliance on the work of the IAF) and to control error variance. The process of research design is to make sure that the evidence acquired allows the researcher to answer the main research question in a clear

and convincing manner (Bryman & Bell, 2007). Additionally, the way in which researchers develop their research designs is basically influenced by the fact that the research question is either descriptive or explanatory (Bryman & Bell, 2007). The current study's mixed method approach seeks to take into consideration both the descriptive and explanatory aspects of the research problem.

### **3.2.1 Research Methods Previously Adopted**

In the literature that addresses IAF evaluation and EAs reliance on the work of the IAF, the most commonly adopted research methods are the quantitative and mixed methods. Qualitative methods were used in relatively few studies, such as Soh & Martinov-Bennie (2011). In the quantitative studies (including case studies), numerical data are assigned to several attributes in order to facilitate detecting the dependency between the research variables. Examples include Haron, 1996; Brown, 1983; Schneider, 1984 and 1985; Messier and Schneider, 1988; Maletta, 1993; Messier et al, 2011; Desai et al, 2010; Krishnamoorthy, 2002). Table 6 below highlights a list of key related studies in the fields of evaluating IAs and the IAF, with a brief description of research aims and the methodology adopted in each case.

Cristina & Cristina (2009) conducted a study of the top methods used in determining the performance of internal audit, according to available literature. They argued that method used should focus on internal audit's relevance and efficiency, thus enabling decision makers to make informed decisions about investing necessary resources into developing the internal audit department. They suggested both quantitative and qualitative methods for measuring the effectiveness of an internal audit. The quantitative approach focused on measuring: (1) the degree to which the internal audit plan was fulfilled, (2) the time taken to issue the final internal audit report, and (3) the time required to resolve the issues raised in the audit findings.

Table 6: Highlighting the Methodology Adopted in Related Studies in the Literature Review

	<b>Author(s) &amp; Year of Publication/ Research aims</b>	<b>Brief description of the method</b>
1	Al-Twaijry et al. (2003) examined the extent of co-operation between the internal audit department directors and partners and managers in the external auditing firms in Saudi Arabia.	The researchers used a mixed methods approach utilizing questionnaires and interviews to collect their data from Saudi Arabian companies
2	Felix et al (1998) conducted a study that investigated the effects of IA work performance on the relationship between internal and external auditors, and examined the reasons for co-ordination of efforts between the internal and external auditors.	The study used a mixed methods approach that included a quantitative analysis (with two different questionnaire designs, that were administered to internal and external auditors), as well as qualitative, face-to-face, interviews.
3	Abdel-Khalik et al. (1983) examined how the extent of testing planned by external auditors is effected by three “Electronic Data Processing” EDP audit techniques (Integrated Test Facility, Test Data, and Generalized Audit Software)	The study used two experimental methodologies and involved a small group of Senior auditors and managers in CPA firms.
4	Schneider (1985a) examined how external auditors evaluate the strength of internal audit functions, using the three criteria recommended by SAS No. 65, competence, objectivity and work performance, as measurements.	The study used an experiment by involving 18 audit managers from CPA firms in Columbus, Ohio.
5	Schneider (1985b) examined the relationship between external auditors’ evaluation of internal audit functions and their evaluations of internal audit strength.	The study used an experimental study by involving 20 audit managers and supervisors from ‘Big Eight’ CPA firms in Atlanta, Georgia in the U.S.
6	Edge and Farley (1991) examined the relative importance of the factors that are used by external auditors when evaluating the internal audit function based on the factors mentioned in the Statement of Auditing Practice AUP 2 “Using the Work of the Internal Auditor”.	The study adopts an extension of the methodology of Brown [1983], using Australian data. [The study was conducted in Australia]
7	Brown (1983) explored how consistently were six characteristics of internal audit function factors employed by external auditors.	The study used an experimental package [of 101 external auditors in four “Big Eight” US firms] which required external auditors to provide judgements on numerous case examples representing different configurations of factors of an internal audit function.
8	Al-Matarneh (2011) examining the relationship between the quality of internal audit and the Three Dimensions of the internal audit function	The researcher designed a survey questionnaire and distributed it to a sample of internal auditors in the Jordanian banking sector
9	Haron et al (2004) studied the Malaysian auditing standard No. 610. The study aimed to determine which of the criteria mentioned by the standard (AI 610) are used by external auditors to evaluate the work of internal auditors.	The study used data from both ‘big four’ and ‘non-big four’ firms located in Malaysia, using a structured questionnaire.
10	Ward and Robertson (1980) conducted a study to ascertain the degree and nature of participation of the internal auditors in the external audit function.	The researcher designed a survey questionnaire for external and internal auditors in the West Australian public sector.

### 3.2.2 Quantitative Methods and the Experimental Approach

This section discusses the quantitative method, including the experimental approach. Punch (2005) defines quantitative methods as follows:

“The key concept here is quantity, and a number is used to express quantity. Therefore quantitative data are numerical: they are information about the world, in the form of numbers... Measurement is the process by which we turn data into numbers that involves assigning a number to things, people, events or whatever, according to particular sets of rules” (p. 55).

The quantitative method is comprised of data collection techniques and data analysis procedures that generate and use numerical data (Saunders et al, 2009). In very broad terms, it was described as entailing the collection of numerical data and as exhibiting a view of relationships between theory and research (Bryman and Bell, 2007). The method was originally developed to investigate natural phenomenon. However, this aspect of research is extensively utilized in business and management studies as well. Quantitative methods include surveys and laboratory experiments (Berry and Jarvis, 2006).

Although quantitative methods can provide strong statistical results, the data collection process itself can sometimes lack objectivity (e.g. when surveys are self- completed).

An experimental approach is defined<sup>46</sup> by Kerlinger (1973, p. 315) as "a scientific investigation in which an investigator manipulates and controls one or more independent variables and observes the dependent variable or variables for variation concomitant to the manipulation of the independent variables. An experimental design, then, is one in which the investigator manipulates at least one independent variable". Levin's (1999, p. 5) definition of experimentation only differs in that it adds that the experimenter manipulates the independent variable and controls all other variables.

According to Collis & Hussey (2003, p. 61), the purpose of experiments is “to observe the effects on the dependent variable” of changes in the independent variable. Keppel (1982, p.

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<sup>46</sup> “Experimental design is an area of enquiry wholly devoted to the removal of the relevant sources of variability for the increase of precision and therefore for the increase of the statistical power of tests of null hypotheses” (Cohen, 1988, p. 8).



2) argues that the ability to infer cause-effect relationships is, in fact, the most important advantage of the experimental method. This argument is also made by Libby (1981), Holland (1986) and Coolican (2009).

“In a true experimental design, the independent variable(s) can be manipulated by the researcher who randomly assigns subjects to the various experimental groups (or experimental and control groups). The true experiment is the only research method that allows the researcher to confidently conclude that ‘A caused B’ ” (Trotman, 1996, p. 7). “The aim is to manipulate the independent variable ..... in order to observe the effects on the dependent variable” (Collis & Hussey, 2003, p. 61). “The most important feature of the experimental method is that it is possible to infer a cause-effect relationship” (Keppel, 1982, p. 2).

While there are several means of estimating the effect of a variable (or variables) on a dependent variable, eta squared (i.e.  $\eta^2$ ) is one of the most prominent (Coolican, 2004). According to this method, effect size is mathematically expressed as follows:

$$\eta^2 = \frac{SS \text{ Effect}}{SS \text{ Total}}$$

Or

$$\eta^2 = \frac{SS \text{ Effect}}{SS \text{ Effect} + SS \text{ Error}}$$

Where:

$\eta^2$ : Partial eta squared (Eta<sup>2</sup>)

SS Effect: sums of squares for interactions effects.

SS Error: sums of squares for interactions error.

SS Total: the total sums of squares for all effects, interactions, and errors in the ANOVA.

According to Coolican (2004), effect sizes of approximately 0.06 are commonly considered moderate, while effect sizes greater than 0.14 are considered large. Effect sizes of 0.01 or less are considered small.

According to Cohen (1988), the main thrust behind experimental design is to eliminate (i.e. control) sources of variability and thus increase precision. At its simplest, precision, or statistical power, is the probability of making a correct decision when using a statistical test. Specifically, it is the probability of statistically disproving the null hypothesis (H0) (i.e. determining that it is false) if the alternative hypothesis (H1) is true. Finding H0 to be true when in fact the opposite hypothesis, H1, is true is categorized as a type II statistical error. As such, statistical power is expressed mathematically as follows:

$$\text{Power} = 1 - \beta$$

Where:  $\beta$  – level is the probability of a type II error.

Cohen (1992) suggests a maximum  $\beta$  value of 0.2.

According to Kerlinger (1973, p. 315), quantitative experiments conducted under relatively realistic conditions are called field experiments, and experiments conducted under carefully controlled conditions are laboratory experiments. (Quinlan, 2011) The experiment which are conducted in real-life setting are called field experiments. Kerlinger (1973) argues that the difference between field and laboratory experiments is mainly a matter of the degree of control exercised by the researcher over the conditions of the experiment. Keppel (1982, p. 2) argues that laboratory experiments enhance researchers' ability to control variables, and thus their ability to identify causal relationships, by creating conditions in which some variables are kept constant or eliminated. Coolican (2004 & 2009) and Shadish et al (2002) argue that this feature lends laboratory experiments strong internal validity. Keppel (1982) categorizes experimental studies as having a positivistic methodology.

Decision experiments are a type of experiment in which participants are presented with hypothetical situations and the researcher observes the actual behaviour of participants, rather than their stated intentions (Milne & Chan, 1999).

This study's quantitative element is based on a systematic experimental design by which participants are presented with judgement tasks (Slovic, Fischhoff, & Lichtenstein, 1977; Libby, 1981).

According to Creswell (2008) a factorial experiment, also referred to as a “fully crossed design”, is an experiment with two or more independent variables, each of which can take two or more discrete values (e.g. 0, 1, or 2; true or false; high or low), and the experiment consists of all possible combinations of these values. A factorial experiment with two independent variables and two possible values is called a ‘2 by 2 factorial design’, and requires four different combinations (referred to as ‘treatments’) of the independent variables. A factorial experiment with three independent variables and two possible values (two levels) is called a  $2 \times 2 \times 2$  factorial design’ [read two by two by two]. One example of  $2 \times 2 \times 2$  factorial designs is discussed by Trotman and Sng (1989). Since each additional possible value that the independent variables can take results in an exponential increase in the number of required treatments, most factorial experiments limit variables to only two possible values (Cox & Reid, 2000; Keppel, 1982; Trotman, 1996).

In addition to identifying the effects of each independent variable, factorial experiments permit researchers to identify the effects of the interactions between the independent variables (Hogarth and Einhorn, 1992; Trotman, 1996).

Factorial experiments are also particularly useful for controlling unwanted or problematic variables as factorial experiments permit researchers to simultaneously observe and test a large set of variables and distinguish both the main and interactive effects of each of these variables (Trotman, 1996, p. 18-19). This characteristic of factorial experiments can increase the external validity of research and also enable researchers to test a hypothesis more economically (i.e. fewer experiments are required) (Ismail and Trotman, 1995; Trotman, 1996).

Among the methods used in prior research on self-insight in financial decision making, Hoffman’s 100 point method is among the most used (e.g. Ashton, 1974; Cook & Stewart, 1975; Savich, 1977; Mear & Firth, 1987; Wood & Ross, 2006). This method is relatively simple and thus easy for research subjects to understand (Wright, 1977) and has similar statistical power to other methods (Cook & Stewart, 1975). The current study employs this method to determine external auditors’ level of self-insight regarding the impact of the three dimensions. In this method, research subjects are asked to allocate 100 points among different factors according to how important they are in their decision making. These weights are thus subjective measures of the importance of the factors. These subjective weights are

then compared with the objective weights measured through effect size analysis of the experimental treatments to arrive at a measure of the research subjects' self-insight about their decision making.

The current study utilizes an experimental survey technique since the technique is especially suited to developing strong statistical analysis of the main and interactive effects of the three dimensions, thus enabling the researcher to test the research hypothesis and questions and express the relationships between all the variables in a quantifiable manner. By using the experimental method, the current study gathers data to disprove the null hypothesis (H0) and thus accept the alternate hypothesis (H1) that external auditors use configural decision making when evaluating the effect of the three dimensions. The experimental method is also used to measure the direct and indirect effects of the three dimensions on the perceived level of IA effectiveness (research question RQ1) and on EA decisions to rely on the work of IAs (research questions RQ2). Similarly, the experimental method is used to gauge the level of self-insight demonstrated by EAs when evaluating the impact of the three dimensions on IA effectiveness (research question RQ3) and on the degree of reliance EAs are willing to place on the work of IAs (research question RQ4). Both Brownell (1995) and Trotman (1996) have recommended using experimental treatments in audit research.

### **3.2.3 Qualitative Methods and the Interview Approach**

The qualitative method is an inquiry process of understanding, a social study based on building a complex holistic picture (Creswell, 1994). Objectives of the qualitative methods are based on understanding, discovery, description, meanings and hypothesis generation (Creswell, 2012). However, Bryman and Bell (2007) discuss how it can be difficult to use this method as it is too subjective and impressionistic. That is, findings rely extensively on the researcher's own unsystematic views and it is often unstructured and often reliant upon the researcher's ingenuity.

The interview is a qualitative method in which primary data is collected through asking a sample of interviewees to answer questions about "what they think, do or feel" (Cassell & Symon, 2004).

The interview method provides the opportunity not only to gather information on an event but also to explore interpretations and meanings and develop understanding of the motives and underlying actions (Creswell, 1998). Moreover, Silverman (2009), Symon & Cassel (1998) and Denzin & Lincoln (2005) argued that qualitative studies can answer ‘how’ and ‘why’ questions while quantitative studies cannot do so.

According to Trotman (1995, p. 36), interviews permit researchers to help interviewees better answer the questions they are being asked, as researchers can immediately answer interviewee’s queries and redirect interviewees if their answers deviate from the purpose of the interview.

Although qualitative studies theoretically offer the greatest potential depth of understanding, they suffer from a lack of practical robustness, and so their generalizability can often be questioned (Bryman, 1988). Some concerns about using a qualitative method to investigate external auditor perceptions include: perceived sensitivity of the information, concerns about privacy, difficulty in obtaining accurate information, and the need for generalizability.

The current study utilizes a semi-structured interview technique to develop rich information on external auditor decision making and self-insight and providing context for the results of the experimental technique (See appendix no. 6 for this study’s qualitative survey protocol).

### **3.2.4 Mixed Methods and Analysis**

Johnson & Onwuegbuzie (2004, p. 17) defined mixed methods research as “the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study”. The current study adopts this definition. They also argue that “a key feature of mixed methods research is its methodological pluralism or eclecticism, which frequently results in superior research” (Johnson & Onwuegbuzie, 2004, p. 14). The benefit of using a mixed methods approach is that it can deliver superior results when compared to the quantitative or the qualitative approach alone. This argument is endorsed by numerous scholars and authors (e.g. Bryman, 1992; Bryman, 2006b; Creswell, 2009; Creswell et al, 2004).

Teddlie and Tashakkori (2003) described the mixed methods approach as the “third methodological movement” (following quantitatively and qualitatively oriented approaches). Other descriptions of the mixed methods approach place it in the context of more established traditions, criticizing some for being too divisive by artificially emphasizing differences, specifically the “incompatibility thesis” (Howe,1988) that the quantitative and qualitative models “cannot and should not be mixed” ( Johnson and Onwuegbuzie, 2004, p. 14). Instead, they are proponents of pragmatism, in which “what is most fundamental is the research question—research methods should follow research questions in a way that offers the best chance to obtain useful answers” (Johnson and Onwuegbuzie, 2004, pp. 16–17).

Creswell, Plano Clark, Gutmann, & Hanson (2003) define a mixed methods study as one that "involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research" (Creswell et al., 2003, p. 212). According to Johnson & Christensen (2010), the quantitative and qualitative part of any research study might be conducted concurrently (conducting both parts at approximately the same time) or sequentially (conducting one part first and the other second) to address the research question or a set of related questions.

Saunders et al. (2009) argue that Mixed Methods is “the general term for when both quantitative and qualitative data collection techniques and analysis procedures are used in the research design” (p. 145). However, Saunders et al. (2009) argue that Mixed Methods are subdivided into two types: (1) Mixed methods research and (2) Mixed model research.

Collis & Hussey (2009) argue that the use of mixed methods approach in business research is common, and that the dominant paradigm is that of positivism. The use of two methods, which involves integrating qualitative and quantitative research, is almost routinely used in health services investigations where the integrated approach is considered to enhance generalizability, rigour, validity and reliability (Borkan, 2004). The current study applies this rationale to the auditing field, an approach which, while commonly adopted, is rarely cited.

During the 1970s and 1980s, the combined use of quantitative and qualitative methods in business research was uncommon, and debate over its appropriateness was extensive. Now

the use of mixed methods is common and accepted (Bryman, 2006a; Johnson & Onwuegbuzie, 2004; Johnstone, 2004; Sale, Lohfeld, & Brazil, 2002).

Greene et al (1989, p. 255) pointed out five rationales for using mixed methods which are “Triangulation, Complementary, Development, Initiation and Expansion”. Moreover, Greene, Caracelli and Graham (1989) pointed out the purposes for mixed-method evaluation design [see Table 7]. Greene et al. (1989) suggest that the notion of mixing paradigms is problematic for designs with triangulation or complementarity purposes, acceptable but still problematic for designs with a development or expansion intent, and actively encouraged for designs with initiation intent.

**Table 7: Purposes for Mixed-Method Evaluation Design**

Purposes	Rationale	Key theoretical sources
Triangulation seeks convergence, corroboration, correspondence of results from the different methods.	To increase the validity of constructs and inquiry results by counteracting or maximizing the heterogeneity of irrelevant sources of variance attributable especially to inherent method bias but also to inquirer bias, bias of substantive theory, biases of inquiry context.	Campbell & Fiske, 1959 Cook, 1985 Denzin, 1978 Shotland & Mark, 1987 Webbetal., 1966
Complementary seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method.	To increase the interpretability, meaningfulness, and validity of constructs and inquiry results by both capitalizing on inherent method strengths and counteracting inherent biases in methods and other sources.	Greene, 1987 Greene&McClintock, 1985 Mark & Shotland, 1987 Rossman & Wilson, 1985
Development seeks to use the results from one method to help develop or inform the other method, where development is broadly construed to include sampling and implementation, as well as measurement decisions.	To increase the validity of constructs and inquiry results by capitalizing on inherent method strengths.	Madey, 1982 Sieber, 1973
Initiation seeks the discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method.	To increase the breadth and depth of inquiry results and interpretations by analysing them from the different perspectives of different methods and paradigms.	Kidder & Fine, 1987 Rossman&Wilson, 1985
Expansion seeks to extend the breadth and range of inquiry by using different methods for different inquiry components.	To increase the scope of inquiry by selecting the methods most appropriate for multiple inquiry components.	Madey, 1982 Mark & Shotland, 1987 Sieber, 1973

Sources: Greene, Caracelli, and Graham, *The purposes for mixed-method evaluation design*, 1989.

The current study could be described as employing a mixed method for the following purposes: Triangulation and Complementary. The current study’s mixed method approach of concurrently gathering data from experimental treatments and interviews is used to enhance the validity of the research findings (i.e. triangulation purpose) and to provide additional context and insights (i.e. complementary purpose). As Hesse-Biber (2010, p. 6) argued



regarding the triangulation purpose and the complementary purpose, “All of these reasons provide strong arguments for a researcher to consider a mixed methods approach”.

The next section (3.2.5) describes in detail the advantages of the mixed method used in the current study.

### **3.2.5 Benefits of Combining Experimental & Interview Methods**

Although the previous section (3.2.4) discussed the theoretical basis for a mixed method approach, this section discusses specific advantages to combining experiments and interviews in one study.

A quantitative experiment is a powerful approach for identifying how dependent variables change when the independent variables are manipulated (Collis & Hussey, 2003; Keppel, 1982; Libby, 1981; Holland, 1986; Coolican, 2009) and it allows us to express relationships between variables to be expressed in an objective manner. However, inferring a cause and effect relationship from observations is a problem in research, including research based on quantitative methods (Shadish et al, 2002, p. 6). Moreover, Shadish et al argue that inferring causal relationships is “fundamentally qualitative”. The results of quantitative experiments lack the depth of context and reasoning that is possible using in-depth interviews (Yin, 2003). An interview approach, used to confirm the existence of a causal relationship from an alternative angle of approach (i.e. through triangulation), thus enhances the validity of the research findings.

The specific experimental approach used in this study (i.e. fully crossed within subjects design) is described as having strong internal validity (Shadish et al, 2002; Collis & Hussey, 2003; Coolican, 2004). A causal inference is internally valid if the cause and effect relationship can be demonstrated (Brewer, 2000; Shadish et al, 2002). According to Shadish et al (2002), demonstrating a causal relationship requires that the cause precede the effect in time (temporal precedence), that the cause and effect are statistically related (covariation), and that there are no other alternative plausible explanations for the statistical relationship (nonspuriousness). The use of an interview method allows the researcher to explore alternative plausible explanations for the statistical relationships identified through the

experimental method and thus demonstrate the nonspuriousness of a causal inference (Bryman, 1988; Trotman, 1996; Shadish et al, 2002; Yin, 2003). In this way, the use of an interview method with an experimental method enhances the internal validity of the research findings.

A combination of an experiment and interviews also enhances construct validity (Shadish et al, 2002). Construct validity is the extent to which the observations or measurement tools (i.e. the survey in the case of the current study) actually measure what the study is investigating (Polit and Beck, 2012). The interviews provide the researcher with an opportunity to gather evidence (from experts) that the measurement tools (and study variables) are relevant to the questions being investigated (Shadish et al, 2002). The use of a quantitative and qualitative method also enhances construct validity through reducing mono-method bias (Shadish et al, 2002).

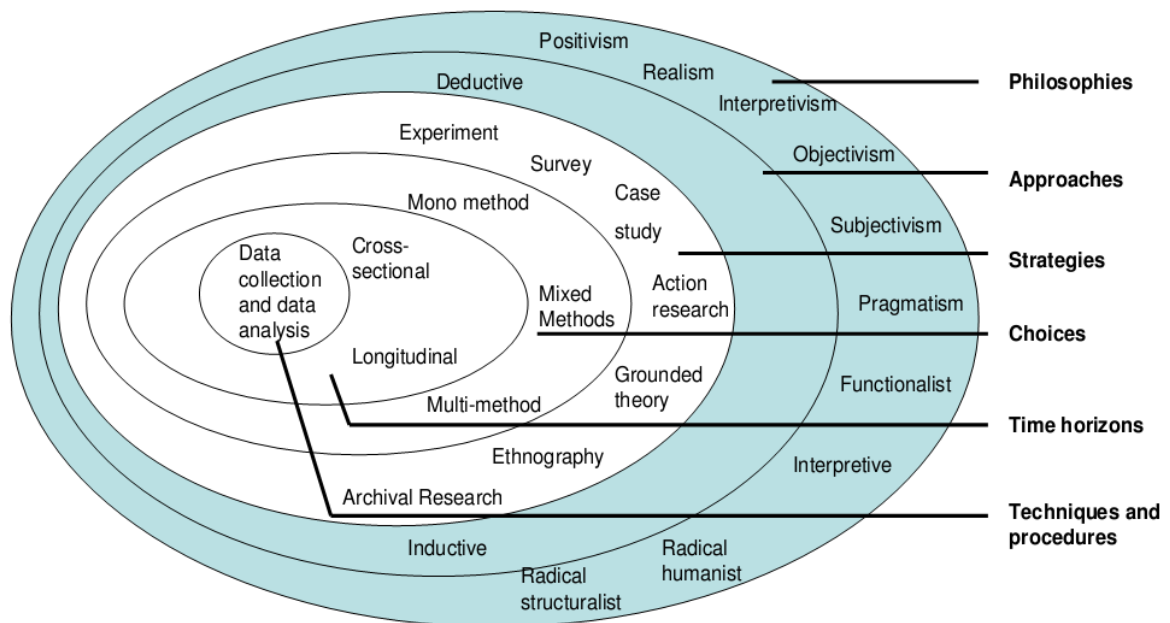
Combining an experiment with an interview method allows the researcher to identify discrepancies between what interview subjects say they do and what they actually do (or how they act when presented with a hypothetical situation) during the experiment (Bouwman, Frishkoff, & Frishkoff, 1987; Milne & Chan, 1999).

The findings of an experimental approach often cannot be generalized or applied to another sample, population or situation because while experiment controls help clarify statistical relationships, they also simultaneously make the experiment less realistic (Shadish et al, 2002; Coolican, 2004). Generalizability is sometimes referred to as external validity. An in depth interview permits the researcher to further explore the relationships revealed by the experiment, thus demonstrating the generalizability of those relationships (Shadish et al, 2002; Yin, 2003). In the context of mixed method research, if some of the findings of a survey and an interview conflict with each other, then it is possible that other parts of an in-depth interview may reveal insights that help explain the conflict and thus help support the survey findings.

### 3.2.6 Defining the Study's Research Methodology

The 'Research Onion' (Saunders, Lewis and Thornhill, 2007) is one way to help define this study's methodology, and it helps us conceptualize where this study lies in the 'universe' of research methodologies. The research onion is made up of six layers [see Figure 3 below], each containing alternative research methodology options.

Figure 2: The Research Onion



Source: Mark Saunders, Philip Lewis and Adrian Thornhill 2006

#### Philosophies

Moving towards the centre of the 'research onion', the first and outermost layer is 'Philosophy'. The current study adopts a 'post-positivist' research philosophy. "Post positivism reflects a deterministic philosophy in which causes probably determine effects and outcomes. Thus the problems studied by post-positivists reflect a need to examine causes that influence outcomes such as issues examined in experiments" (Creswell, 2003, p. 7). Collis

and Hussey (2003, p. 125) argued that under a positivistic paradigm<sup>47</sup>, it is traditional to state the research questions as a hypotheses, particularly if you are conducting an experimental study. Post-positivists believe that human knowledge is based not on unchallengeable, but rather upon human conjectures. As human knowledge is thus unavoidably conjectural, the assertion of these conjectures is warranted, or more specifically, justified by a set of warrants, which can be modified or withdrawn in the light of further investigation. However, post-positivism is not a form of relativism, and generally retains the idea of objective truth.

## **Approaches**

Inductive research design involves formalising theories based on prior research findings and views of experts. Deductive research design involves developing a theoretical or conceptual framework, which is subsequently tested using data. The Research Approach<sup>48</sup> in the current study is a combination of inductive and deductive research design as the study begins with an investigation of available literature to help identify theories and ideas (inductive research) which are then formalised as hypotheses which are then tested using new data (deductive research).

## **Strategies**

Gilbert (1993) explained that good social research should include three main ingredients: the construction of theory, the process of data collection and the design of methods for gathering data. Therefore, the first element that should be taken into consideration is the research strategy that is available to the researcher and the tactics for the work in hand. However, the research strategy could be a general plan of how to answer the research questions.

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<sup>47</sup> Positivistic paradigm: A paradigm based on the natural scientist which assumes that social reality is independent of us and exists regardless of whether we are aware of it. Therefore, the act of investigating reality has no effect on that reality and little regard is paid to the subjective state of the individual. It is usual to associate a positivistic paradigm with measurement (Collis and Hussey, 2003, p. 353).

<sup>48</sup> In research approaches there are two main types 1) a deductive approach 2) an inductive approach.

The Strategy<sup>49</sup> employed in the current study is an Experimental Design survey research, utilizing a questionnaire to obtain quantitative data from respondents, although the researcher chose to complement this quantitative technique with interviews with the survey respondents in order to gain further insight into why they responded as they did. Using the two techniques in combination could increase the validity and reliability of the data and analysis (Bryman and Bell, 2007).

The study could also be said to have an Experimental Design, as defined by Cohen (1988, p .8): “Experimental design is an area of enquiry wholly devoted to the removal of the relevant sources of variability for the increase of precision and therefore for the increase of the statistical power of tests of null hypotheses”.

## **Choices**

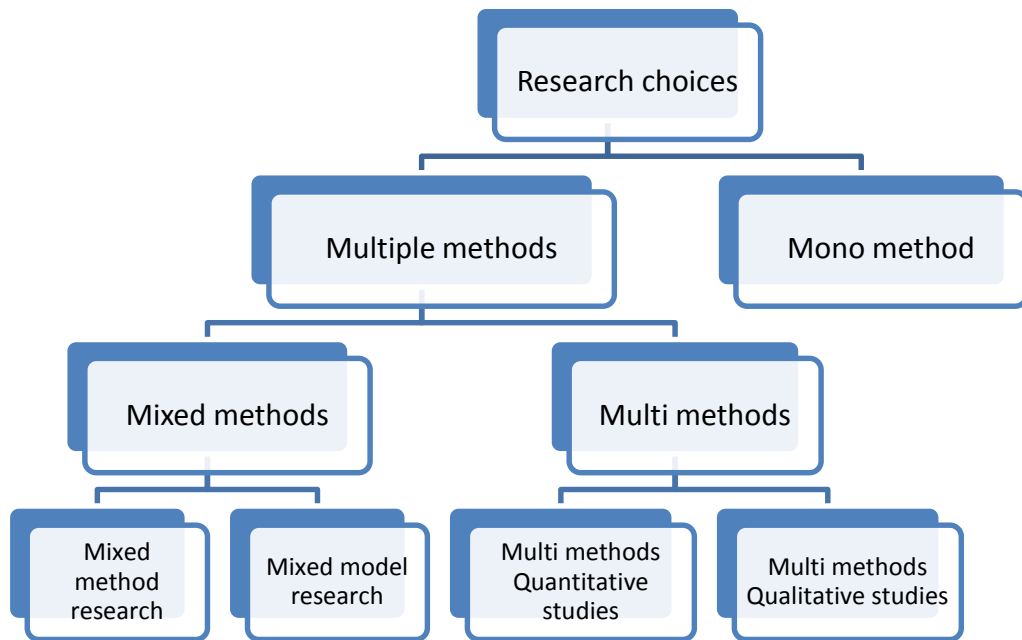
The Choice<sup>50</sup> adopted in the current study is for a Mixed Method approach. Locke et al. (2009) categorised the research methods into three main divisions: quantitative, qualitative and mixed methods, and provide a simple map of these divisions and some of their subcategories. This framework identifying the different types of research and contain the easy recognizable types, but Locke's (2009) framework was not designed to be a comprehensive and exhaustive listing of all the research types or to be elegant taxonomy. The use of multiple quantitative techniques with no qualitative techniques should not be confused with the Mixed Method, and this is categorized as ‘Multi Method’ According to the ‘Research Onion’. Moreover, Saunders et al. (2007) categorised the research methods into mono method and four of different possibilities of multiple method (see figure no. 4 below).

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<sup>49</sup> The strategies design could be include one of strategies: experiment, survey, case study, action research, grounded theory, ethnography, and archival research.

<sup>50</sup> The choice in the research could be one of the choices: mono method, mixed methods, and multi-method.

Figure 3: The Research Choices



Source: Mark Saunders, Philip Lewis and Adrian Thornhill (2006)

The mixed method was adopted in order to deliver internal and external validity and provides contextual richness to the experimental findings. It can add insights and understanding that might be missed when only a single method is used (Johnson & Onwuegbuzie, 2004). In addition, Yin (2009) argues that more complicated research questions can be addressed.

Both qualitative and quantitative approaches can be employed for collecting and analysing data. Qualitative methods were employed by studies in the social sciences to allow researchers to study social and cultural phenomena (Miles, 1979; Denzin and Lincoln, 2005). Quantitative methods are developed in many natural sciences to research phenomena that could be counted and where statistical techniques could be used to summarise and analyse the information gathered (May, 2001).

### Time Horizons

The study adopts a 'cross sectional' Time Horizon, as it is an investigation of the perceptions of external auditors at one point in time. It is not the purpose of the study to follow the changes in perceptions over a period of time.

### 3.3 Research Implementation

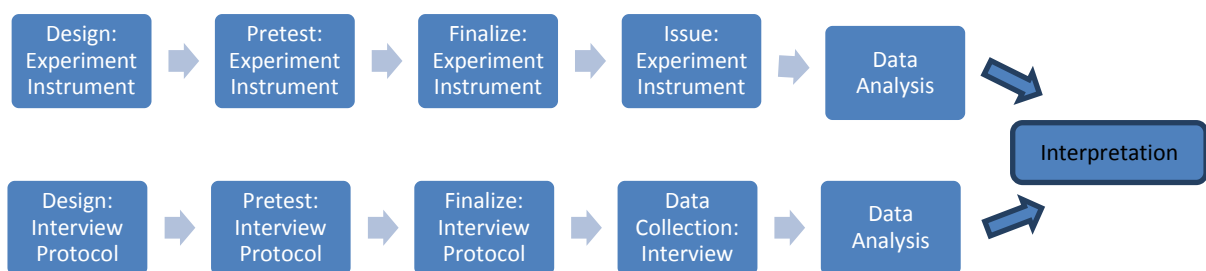
This section describes the overall research implementation process used in this thesis.

The study employed both a survey questionnaire (a quantitative experiment approach) and interview (qualitative approach) to obtain research data. Data from each approach was analysed and then the findings combined at the interpretation stage (Cresswell, 2003). All data collection was undertaken within the guidelines of Australian Catholic University ethical standards and with the formal, prior consent of participants (Bogdan & Knopp Biklen, 2007; Creswell, 1998). See Appendix 1: Ethical Approval Letter from the Australian Catholic University.

The experimental instrument, interview protocol, information letter to participants and the consent forms were all translated to Arabic and then translated back (to English). These documents were reviewed by auditing academicians fully fluent in Arabic and English to ensure the correct translation and interpretation of the research instruments and transcription.

The research implementation process is outlined as follows:

Figure 4: Research Implementation Process



This section includes descriptions of the sample selection process, the quantitative experiment and the design of the questionnaire used in the first stage of this research, and the qualitative interviews used in the second stage of this research.

### 3.3.1 Sample Selection

The population being studied in the current research is that of EAs employed in the 26 biggest audit firms located in Jordan. According to research (Naser & Nuseibeh, 2007; Abdullatif, 2013, p. 63), these large audit firms are estimated to undertake the majority of audit work for clients who are JLCs (see Section 2.2.1 for more information about Jordanian audit firms). Since the study focused on the judgement of EAs in (1) evaluating the effectiveness of the IAF in JLCs and (2) decisions on whether to rely on the work of IA, the researcher sought external auditors of sufficient seniority to have sufficient experience with a wide range of companies and make such evaluations and decisions (i.e. auditors with job titles such as supervisor, senior auditor, manager, executive etc.). Interviewees were selected through a snowball sampling techniques. All the selected external auditors were located in Amman, which is, by far, the largest city in Jordan and the location of the head offices of the majority of audit firms in Jordan. As Heberlein & Baumgartner (1978) advised, the researcher did not exercise any form of direct or indirect pressure, including financial incentives, on any of the selected external auditors in order to obtain their participation.

The research process began with contacting the Jordanian Association of Certified Public Accountants (JACPA), sending them a letter asking for permission to contact and collect data from members of the association. The researcher provided the JACPA with attached copies of the consent form and letter to participants that would be sent to JACPA members working in audit firms in Jordan [Copies of the permission letter, consent form and letter to participants can be found in Appendices No. 3, 5, 2 respectively].

The JACPA invited the researcher to visit the JACPA administration where officials informed the researcher that he was permitted to contact JACPA members. JACPA administrators helped the researcher generate a list of members working at audit firms in Jordan, including job titles and contact details<sup>51</sup>. The researcher then filtered out all but the members working at the 26 biggest auditing firms in Jordan. From this member list, the researcher created a list of members with job titles that suggested authority and experience,

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<sup>51</sup> JACPA provided me a list of 353 members with their contact numbers and emails, and the audit firms in Jordan with total number of 300 audit firms in 2013. 26 out of the 300 audit firms in Jordan are estimated to undertake the majority of auditing of publicly listed companies in Jordan.



selecting job titles such as senior auditor, audit manager, executive, director, partner etc. From this refined list, the researcher randomly selected 90 auditors and then emailed or visited the selected auditors. The researcher visited 17 auditing firms' offices [from the 26 biggest auditing firms mentioned in Table1 of section 2.2.1]. The researcher sought to obtain a survey participant from each of the major auditing firms.

Where direct access was possible, the researcher often received replies to the questionnaire and conducted an interview in the same session. In some cases respondents elected to reply to the survey in their own time and to send back their replies by email. The researcher was present in Jordan during the data collection period.

The researcher's target for phase 1 (experimental treatment) was to collect between 25 and 30 responses from JACPA members. The data collection approach for phase 1 was of a self-administered survey instrument and is described in section 3.3.2.4. The response rate for phase 1 is discussed in section 4.2.1.

### **3.3.2 Experimental Treatments**

To achieve the objectives of the study, the survey based quantitative experiment follows a factorial design, and analysis of variance (SPSS) was used to analysis the data.

The experimental treatments used data collected through self-administered survey instruments, sent by mail and addressed to the selected participants. As stated by Dillman (1991), mail surveys seem to present few special sampling error problems. The instrument was printed on one side of A4 paper, folded to provide five pages, A4 sized booklet to allow ample space for a well set out and easy flow of questions (Dillman, 2000; Scott, 1961). The first page of the booklet carried introductory information highlighting the salience of the subject to respondents (Heberlein & Baumgartner, 1978; Scott, 1961) and instructions. The second and third pages carried the experimental treatments. The last two pages collected the self-reported weights as well as basic demographic data on the respondent, such as the position of the EA, years of experience, qualifications, the type of firms which the auditor typically audited, and the size of their IAF. The final part of the instrument asks if the

participant would like to provide an email address through which to receive a copy of the completed research report (the section is marked as being optional).

There were three variants of the survey instrument, the only difference in the variants being the order of presentation of cases to mitigate practice and carry over effects (Keppel, 1982; Trotman, 1996). The case order for each of the three variants was assigned randomly. A copy of one of the variants of the instrument is shown as Appendix 5.

The experimental treatments were presented to subjects as a series of case scenarios. Subjects were presented with 8 treatments (cases), that is a fully crossed design of three factors, each at two levels. To facilitate understanding of the exercise and assist subjects in conceptualising their typical benchmark case, the instrument introduction included an example layout containing neutral content as illustrated in Figure 6, below. Figure 7 shows an example from an Arabic version of the factorial questionnaire.

Figure 5: Illustrative Example of Treatment Presentation

**Example** - The response for your typical case would appear like this:

**Typical** The objectivity of the IA  
**Typical** The competence of the IAF  
**Typical** The work performance of the IAF

	Assessment relative to your typical IAF (circle)						
	Substantially Worse				Substantially Better		
The effectiveness of IAs	- 3	- 2	- 1	same	1	2	3
Reliance on the work of IAs	- 3	- 2	- 1	same	1	2	3

Figure 6: Illustrative Example of Treatment Presentation- Arabic Version

مثال: في مثل هذه الحالة التي تصف مدى موضوعية وكفاءة وأداء العمل التي يتوقع ان تجدها في وظائف التدقيق الداخلي الخاصة بك. يتعين عليك ان تقوم بوضع دائرة حول اجابتك كالآتي.

مستوى معين من موضوعية التدقيق الداخلي  
مستوى معين من الكفاءة التدقيق الداخلي  
مستوى معين من أداء العمل التدقيق الداخلي

يرجى وضع دائرة حول تقييمك النموذجي فيما على ما يلي .

	<u>مرتفع بشكل جوهري</u>				<u>منخفض بشكل جوهري</u>			
	3	2	1	محايد	-1	-2	-3	فاعلية المدقق الداخلي
	3	2	1	محايد	-1	-2	-3	الاعتماد على عمل المدقق الداخلي

Part A of the instrument presented 8 treatments of different combinations of independent variables. Subjects were instructed to indicate, on a discrete scale with common intervals, their assessment of the two dependent variables in each combination, relative to their assessment in a typical benchmark audit client (i.e. the typical Internal Audit Function in JLCs, according to their own experience).

As shown in Figure 6 (above), Part A used a simple seven points scale from –3 (substantially lower effectiveness) to +3 (substantially higher effectiveness), with a central neutral point of reference labelled “Same” (i.e. same as in a typical IAF) (Dillman, 2000). Each of the three dimensions of IAF effectiveness is given a rating of ‘better’ or ‘worse’ than the ‘typical’ case, where ‘better’ refers to a level of more than 7/10 and where ‘worse’ refers to a level of less than 3/10. In preparation for the MNOVA analysis, participants’ responses indicated on this - 3 to +3 scale are transposed to an interval scale from 1 to 7 (lower and higher effectiveness, respectively).

Part B [on page four of on the experiment instrument] consists of 4 questions. In the first question, participants are instructed to indicate the relative importance of each of the three independent variables on their judgements (i.e. their responses in Part A) regarding both dependent variables. These subjective weights enabled the researcher to collect data on the participants’ self-insight regarding their judgement decision-making. Question 1 of Part B is illustrated in Figure No. 8 (below).

Figure 7: The Subjective Weights of the Independent Variables in Judgements

1. Please indicate the relative importance each of the three variables (Objectivity, Competence, Work Performance) had on your judgements by allocating 100 points between them for each of the outcome measures (i.e. each variable must have a value from 0 to 100 with the total sum of values equaling 100):

	<u>The effectiveness of internal audit (IA)</u>	<u>The Reliance on the work of IAs</u>
<i>The objectivity of the IAF</i>	_____	_____
<i>The competence of the IAF</i>	_____	_____
<i>The work performance of the IAF</i>	_____	_____
<b>TOTAL</b>	<b>100</b>	<b>100</b>

In the second question of Part B, participants are instructed to indicate how confident they feel that the three independent variables cover all the variables they consider when measuring the two dependent variables (i.e. are there better variables for estimating the dependent variables?). This allows the researcher to collect data on the validity of the study's independent variables as measures for estimating the two dependent variables. Question 2 of Part B is illustrated in Figure 9 (below).

Figure 8: Validity of the Independent Variables in Assessing the Dependent variables

2. Please indicate, by circling a number on the scale below, how confident you feel that the three variables (Objectivity, Competence, Work Performance) cover the full range of variables you would consider in evaluating the efficiency and effectiveness of the Internal Audit Function in Jordanian listed companies (where 1 = Low Confidence, 7 = High Confidence):

<i>The Effectiveness of the internal audit (IA)</i>	1	2	3	4	5	6	7
<i>The reliance on the work of IAs</i>	1	2	3	4	5	6	7

In the third question of Part B, participants are instructed to list other variables they use when evaluating the dependent variables. This allows the researcher to collect data that could be useful for further research. Question 3 of Part B is illustrated in Figure 10 (below).

**Figure 9: Other Variables for Assessing the Dependent Variables**

3. Please list other dimensions or factors related factors that you think would be relevant to your assessment on the evaluating the efficiency and effectiveness of the Internal Audit Function in Jordanian listed companies (if any):

Factor Name or Description	Is it relevant to Effectiveness of IA? (Y/N)	Is it relevant to Reliance on IAF work? (Y/N)

In the fourth question of Part B, participants are simply instructed to indicate any further information they would like to provide.

Part C [on page five of on the experiment instrument] consists of 5 questions for collecting descriptive information about the respondents and the organizations they audit. This provides the researcher with additional context for the results of the quantitative experiment and the interviews.

In the first question of Part C, participants are instructed to indicate their job position:

**Figure 10: Respondent’s Job Position**

1. Please indicate your Position (tick):

1- Junior External Auditor \_\_\_\_\_ 2- Senior External Auditor \_\_\_\_\_

3- External Audit Manager \_\_\_\_\_ 4- Audit Partner \_\_\_\_\_

In the second question of Part C, participants are instructed to indicate their qualifications:

**Figure 11: Respondent’s Qualifications**

2. Please indicate the kind of Qualification(s) that you have and please indicate if it is local or overseas (if applicable):

1- Accounting Bachelor degree \_\_\_\_\_ 2- Accounting Master degree \_\_\_\_\_

3- Foreign accounting professional qualification \_\_\_\_\_ 4- Jordanian CPA \_\_\_\_\_

5- Foreign Auditing professional qualification \_\_\_\_\_ 6- PhD \_\_\_\_\_

7- Other \_\_\_\_\_

In the third question of Part C, participants are instructed to indicate the length of their auditing experience:

Figure 12: Length of Respondent's Auditing Experience

3. How many years have you worked as an external auditor?      \_\_ Years

In the fourth question of Part C, participants are instructed to describe their typical audit clients:

Figure 13: Typical Audit Firms that they have Worked for

4. How would you describe the audit firms for which you have conduct audits? (tick all that apply)  
1- One of the "Big Four" international auditing firms \_\_\_\_\_ 2- Another multinational auditing firm \_\_\_\_\_  
3- A large auditing firm (100+ auditors) \_\_\_\_\_ 4- A medium size auditing firm (20-99 auditors) \_\_\_\_\_  
5- A small auditing firm (less than 20 auditors) \_\_\_\_\_.

In the fifth and final question of Part C, participants are instructed to describe their audit clients' typical IAF:

Figure 14: Audit Clients' Typical Audit Client

5. How would you describe the typical Internal Audit Function that you deal with when carrying out audits in client organizations? (tick all that apply)  
1- Listed Jordanian Companies \_\_\_\_\_ 2- Long established firms (more than 10 years) \_\_\_\_\_  
3- Small to Medium firms (less than 200 employees) \_\_\_\_\_. 4- Large firms (200+ employees) \_\_\_\_\_  
5- Have Internal Audit Departments \_\_\_\_\_ 6- Multinational firms \_\_\_\_\_

### 3.3.2.1 The Independent Variables

Part A of the questionnaire provided respondents with definitions for the three independent variables used throughout the questionnaire. The independent variables were defined as follows:

**The objectivity of the internal audit functions (IAF):**

The internal auditor should have an impartial, unbiased mental attitude and avoid conflict of interest situations, as that would prejudice his/her ability to perform the duties objectively (IIA Standards no. 1210 - Proficiency). Objectivity could be indicated by level of planning and supervision and the level of auditor independence.

**The competence of the IAF:**

The internal audit team collectively must possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities (IIA Standards no. 1210 - Proficiency). Competence could be indicated by experience (local or overseas), education (local or overseas), and training (local or overseas).

**The work performance of the IAF:**

Internal auditors must apply the care and skill expected of a reasonably prudent and competent internal auditor. Due professional care does not imply never making mistakes. There also needs to be sufficient resources to adequately carry out the tasks required (IIA Standards no. 1220 - Due professional care).

**3.3.2.2 The Dependent Variables**

Part A of the questionnaire provided respondents with definitions for the two dependent variables used throughout the questionnaire. The dependent variables were defined as follows:

**The effectiveness of the internal audit (IA):**

Refers to the extent to which the designated objectives and functions of the internal audit are achieved properly, are unbiased, and are free from management pressure that may compromise the internal auditor's performance. Examples of those designated internal audit functions are safeguarding assets against loss and theft, providing reasonable assurances that the financial and operating information are accurate and reliable, and ensuring the organization's compliance with laws and regulations.

### The reliance on the work of internal auditors (IAs) by external auditors (EAs):

Reliance is a state of being dependent upon, confident in or having trust in something or someone. The reliance on the work of internal auditors (IAs) by External auditors (EAs) in the standards is defined as "Using the work of internal audit".

### Dependent Variable Presentation

An example of one treatment is shown in Figure 16 below.

Figure 15: An Example Treatment

<b>Case 1</b>	Better	The objectivity of the IAF					
	Better	The competence of the IAF					
	Better	The work performance of the IAF					
<b>Assessment relative to your typical IAF (circle)</b>							
	<u>Substantially Worse</u>				<u>Substantially Better</u>		
The effectiveness of IA's	- 3	- 2	- 1	same	1	2	3
Reliance on the work of IA's	- 3	- 2	- 1	same	1	2	3

### 3.3.2.3 Experiment Instrument Pretesting

A brief pretesting phase was conducted to obtain feedback to improve the design of the experiment instrument (i.e. the survey questionnaire) before the final version was set. According to Collis & Hussey (2003), pre-testing is a common practice in experimental studies. Through pre-testing with an experienced auditor in addition to an academic familiar with the area of study, the researcher confirmed that the language and presentation of the experiment (including introductory email, consent form and the questionnaire) can be understood by research participants (Dillman, 2000). The researcher provided the survey questionnaire to an experienced auditor working in Jordan, and requested that this test participant speak aloud his thoughts while actually reading and answering the survey. After completing the survey, the researcher engaged the test participant in a discussion of his overall impressions and suggestions for improving the questionnaire. One aspect of the discussion involved whether the presented scenarios (i.e. combinations of independent variables) were possible.



The pretesting resulted in some minor changes in questionnaire, mainly in the wording of the instructions and scenario template.

#### **3.3.2.4 Experiment Data Collection**

As described in section 3.3.1, the researcher contacted 90 external auditors whose job titles indicated decision making responsibilities (i.e. senior auditors, audit managers, directors and partners).

The researcher phoned and emailed 90 of the selected participants, introducing himself and informing them of his study, and asked for permission to send them the 'Letter to Participants', 'Consent Form' and Questionnaire, either by hand or by email. The researcher also took the opportunity to introduce the subject of the interview, and explained that survey participants were requested but not required to participate in a face-to-face interview. They were informed that the researcher's contact details were included in all of these documents. The selectees were informed that they could choose to receive a copy of the completed research by providing an email address.

The researcher did not state a deadline for participating in the study, although the researcher was actually on location in Jordan for only two months. While some of the selected participants were willing to give an immediate initial response on their consent, many others simply stated that they would wait until they read the material. The researcher visited those participants who wished a face to face meeting or simply wanted the researcher to collect the filled in forms and questionnaire. Follow-up involved calls to confirm meetings and schedules for picking up material from the respondents. No attempt was made to recontact non-responding selectees beyond the initial phone and email contact attempts.

#### **3.3.3 In-depth Interviews**

The qualitative approach complements the experimental approach used in the first stage of this research by allowing the researcher to validate and explain the results of the quantitative analysis and to explore some of the implications. The interview method provides the

opportunity not only to gather information on an event but also to explore interpretations and meanings and develop understanding of the motives and underlying actions (Creswell, 1998).

In the second stage of this study, data collection was through semi-structured interviews, a method appropriate for theory informed research (Flick, 2002). Research participants are selected through the judgement sampling technique, also known as purposive sampling. This kind of sampling is the most common sampling technique. The judgement sample is selected as it is the most productive sample to answer the research questions (Marshall, 1996). The interview structure adopted in the current study is similar to that of Creswell (1998). Each interview from 40 minutes to more than one hour length was audio recorded after obtaining each participant's consent. Through this approach, the researcher could identify and investigate the variables that are most important to the effectiveness of the IAF, as perceived by EAs.

The interviewees were asked six how and why questions regarding the importance of each of the three independent variables (Objectivity, Competence and Work Performance) in assessing each of the two dependent variables (Effectiveness of the IAF and Reliance on the Work of the IAF). Respondents' interview replies allow the researcher to better interpret the findings of the quantitative experiment. The questions and instructions to the interviewer are provided in the Interview Protocol, as shown in Appendix No. 6.

### **3.3.3.1 Pretesting**

Pretesting was conducted to obtain feedback<sup>52</sup> to improve the Interview Protocol before it was finalized. Pretesting consisted of a 'trial run' of an interview with an experienced EA. Through pre-testing with an experienced auditor in addition to an academic familiar with the area of study, the researcher confirmed that the language and presentation of the interview (including consent form and the interview protocol) can be understood by research participants (Dillman, 2000).

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<sup>52</sup> Pretesting with an experienced external auditor and an academic familiar with the area of the study.

### 3.3.3.2 Interview Data collection

Interview subjects (Junior external auditors; Senior external auditors; External Audit Managers; and Audit Partners) were self-selected from the same pool that responded to the survey (i.e. they decided whether they wished to be interviewed). All nine interviews were conducted between January 2013 and March 2013 in Amman, Jordan. All the interviews were conducted around the interview protocol shown as in Appendix No. 6. The purpose of the interviews was to answer qualitative research questions. According to Creswell (1998), an effective interview based qualitative study requires interviews with up to ten individuals. Samples for qualitative studies are generally much smaller than those used in quantitative studies (Mason, 2010; Ritchie et al, 2003). As stated by Mason (2010, p. 1), “Frequencies are rarely important in qualitative research, as one occurrence of the data is potentially as useful as many in understanding the process behind a topic. This is because qualitative research is concerned with meaning and not making generalised hypothesis statements (see also Crouch and McKenzie, 2006).”

All but one of the interviews were double recorded in Arabic Language. For the purpose of consistency and to put the participants at ease, all interviews were face-to-face and conducted at the workplaces of interviewees, with the researcher attired in a business suit, as befitted the setting (Bogdan & Knopp Biklen, 2007; Denzin, 1970 Glesne, 1999; Patton, 1990).

All interviews were conducted by the researcher, contributing to consistency of approach and stimulus equivalence (Collis & Hussey, 2003; Denzin, 1970). Interviews were first recorded on mobile phone device (Iphone) and then transferred to a computer to ensure accurate and unbiased data recording and to improve interviewer attentiveness (Collis & Hussey, 2003; Coolican, 2009; Creswell, 1998; Easterby-Smith et al, 2002; Patton, 1990). The recorded interviews were translated from Arabic to English before the data analysis stage.

The interview structure was as follows:

1. The researcher thanks the interviewee for the meeting, and provides them with a consent form before the interview begins (unless it has previously been supplied)
2. The researcher explains the terms used in the study and delivers a brief introduction to the anticipated contribution of the study, without discussing any of the questions to be explored.
3. Provides the participant with a written a list of definitions (i.e. the two dependent and three independent variables), taken from survey.

4. Asks the interviewee if they agree to the recording of the interview or not.
5. Asks the questions provided in the 'Interview Protocol', and restricts directions and further questions to simply clarifying the interviewee responses.
6. Thanks the interviewee.

Copies of the invitation letter to JACPA, consent form and the invitation to participate are included as Appendices 2, 3, and 5 respectively.

### **3.3.4 Ethical Considerations**

The previous subsections of Section 3.3 described the sampling process and the design and implementation of the quantitative experiment and interviews. This section addresses the ethical considerations involved in this study.

There are at least four ethical criteria that should be satisfied in any research involving human subjects (Murphy & Dingwall, 2007, p. 339):

- 1) Researchers should avoid directly or indirectly harming the participants (Non-maleficence);
- 2) The proposed research should have some potential and readily identifiable benefit to society (Beneficence);
- 3) Participants' decisions and values should be respected (Autonomy);
- 4) Participants should be treated as equal, all other things remaining equal (Justice).

According to Flick (2009, p. 36), the ethical considerations of qualitative research should be addressed through both rules and a control body to interpret and enforce the rules. In the Australian Catholic University (ACU), research studies involving humans must receive approval from the University's Human Research Ethics Committee prior to the commencement of data collection. Both of this study's two data collection elements (i.e. the survey and the interviews) were approved by the Human Ethics Committee from ACU (for the approval, see Appendix No. 1).

Despite the potential for hampering the research process (Seidman, 1998), the researcher only interviewed those subjects who provided their signed consent based on sufficient information. According to the Human Ethics Committee, it was anticipated that there was negligible risk to this study's participants:

- 1) Participants were asked to provide their authentic views and experiences about the effectiveness of the IAF in JLCs.
- 2) Every reasonable effort was made to ensure that participants were clearly informed of the research's objectives, and were treated with professionalism and respect.
- 3) Detailed information about the study was provided to participants through the invitation email messages, explaining the duration of the study and the voluntary nature of participation, including the participants' unrestricted right to withdraw from the study at any time and without offering any justification. Participants electing to withdraw would not be solicited again by the researcher.
- 4) Participants were provided with both an information letter and a consent form. In the consent form, participants indicated which of the two parts of the study they wished to participate in. Interview participants were required to sign the consent form and information letter prior to the start of the interview. Participants were allowed to ask any questions they had about the survey, interview and the research process as a whole.

### **3.4 Methodological Limitations**

Johnson & Christensen (2013, P. 433) argue that mixed research has some inherent weaknesses: 1) a single researcher could find it difficult to carry out both the quantitative and qualitative research; 2) mixed methods research is more expensive than using a single method; and 3) research methodologists have, as yet, not fully worked out how to resolve all the potential problems related to mixed research (e.g. how to qualitatively analyse quantitative data, and how to interpret conflicting results).

The challenge for a single researcher using mixed methods research is that the researcher not only has to be familiar with both schools of research but he/she must also know how to combine them appropriately (Johnson & Christensen, 2010; Johnson & Onwuegbuzie, 2004). The researcher is familiar with both schools.

It could be argued that using multiple methods<sup>53</sup> (i.e. a mixed method approach) increases the number of things that can go wrong, particularly in combining the findings of the quantitative

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<sup>53</sup> Mark and Shotland (1987) argue that "multiple-method designs are used when trying to achieve one or more of the following objectives: (a) triangulation of findings in order to increase overall accuracy; (b) bracketing of findings in order to develop a "confidence range" in which the correct answer should exist; and (c) complementarity, i.e. different methods are used to assess different study components or phenomena, with the purpose of enhancing interpretability or assessing potential threats to the validity of the results".

and qualitative methods and interpreting them correctly. ‘Methodological purists’ argue that researchers should stick to either a quantitative or qualitative paradigm, and not mix the two. The current study attempts to limit such problems by employing relatively simple quantitative and qualitative elements, and no attempt is made to combine data obtained from the different ‘streams’ until the interpretive stage.

The simplicity of the research design, however, also limits opportunities for developing greater insight into external auditor decision making.

In regards to the survey, one limitation is that, unless the researcher is present during the process, the researcher cannot confirm that the survey is completed by the selected participant. In addition, the researcher is not present to help answer questions about the definitions used, the proper use of the survey questionnaire etc. In an attempt to reduce participants’ confusion, the researcher elected to provide the participants with high-level definitions for all the variables used in the study. In cases where the researcher was not present, the researcher could not confirm that the participants took note of the definitions as described in the questionnaires.

In the next chapter, this thesis presents descriptions of the respondents, the findings of the data analysis from the survey-based experiment, and the results of the interviews.

### **3.5 Chapter Summary:**

This chapter discussed the methodology employed in the current study. First, the chapter reviewed the predominant methodologies employed in accounting and auditing research, discussed and evaluated the quantitative, qualitative and mixed methods, and concluded with a discussion of where (and why) the current study falls within the ‘Research Onion’ of research methodologies. Next, the chapter detailed the research implementation process employed in the current study, including a description of the sampling process and the design and application of the questionnaire and interview elements. Finally, the chapter detailed the limitations of the current study’s methods. In the next chapter, this thesis presents descriptions of the respondents, the findings of the data analysis from the survey-based experiment, and the results of the interviews.

# CHAPTER FOUR: RESULTS AND ANALYSES

## 4.1 Introduction and Chapter Overview

This chapter sets out the findings and analysis of the data collected for this study in Jordan during the period January to March of the year 2013. The chapter begins with a description and summary of the results of the factorial experiment involving judgements made by EAs in regard to IAF in JLCs. In this quantitative experiment, one type of statistical test is used to test the hypothesis: Analysis of Variance (ANOVA). Next, the chapter describes and summarizes the findings of the interviews conducted with nine EAs. The findings from the two data streams (i.e. the quantitative and qualitative methods) are initially described and analysed separately and then subsequently integrated in Chapter 5.

## 4.2 Experiment Results

This section sets out the findings of the research experiment. Data was analysed using the SPSS 19 software package.

### 4.2.1 Description of Respondents

A total of 35 usable surveys were received;<sup>54</sup> four other incomplete surveys were excluded; other EAs did not return their surveys and were thus considered as declining to participate. The response rate was 43.3%<sup>55</sup>, which is not unexpected in a profession concerned with confidentiality, and is acceptable especially given that EAs are likely to react somewhat similarly given the existence of standards of auditing (see footnote 54). The respondent rate

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<sup>54</sup> According to Coolican (1994), a sample size of 25-30 is desirable for an experimental design if the subjects are expected to react in the same way to similar cues.

<sup>55</sup> 90 auditors from 17 audit firms were selected from the list provided by JACPA. (39/90=43.3%).

was also relatively high in comparison to other key studies (e.g. Laswad & Roush, 1996; Dezoort, 1998). The number of completed surveys (i.e. 35) also compares very well with Coolican's (1994) recommended range for experimental designs with homogenous respondents, coming right at the top end of the range.

Descriptive analyses are provided in Tables 8 to 12 (shown below), based on data reported by the respondents in reply to questions in the questionnaires. The surveyed EAs had a wide range of job positions and experience levels. Although the majority of the respondents were senior EAs (62.9%), EAs in other positions were also considered for this study. The Qualification levels ranged from bachelor to doctoral degrees in accounting. All respondents possessed at least a Bachelor degree and the majority of participants held either a Master degree in accounting or a JCPA certificate (28.6% and 34.3% respectively). Although the participants' experiences ranged from 4 to 17 years, the participants can be considered quite experienced, with a mean of 7.6 and a median of 7 years.

**Table 8: Descriptive Auditor Position Statistics of Respondents**

Auditor Position	Frequency	Percentage	Valid Percentage	Cumulative Percentage
1. Junior External Auditor	7	20.0	20.0	20.0
2. Senior External Auditor	22	62.9	62.9	82.9
3. External Audit Manager	3	8.6	8.6	91.4
4. Audit Partner	3	8.6	8.6	
<b>Total</b>	<b>35</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

The questionnaires instructed respondents to indicate their job position. Table 8 (above) displays the descriptive position statistics of the respondents, as reported by them. Most of the respondents were Senior EAs (62.9%). The second largest group, at 20%, was of Junior External Auditors. It should be noted that these Junior Auditors presented themselves, or were presented by their companies, as having decision-making authority in regards to audit planning and management, particularly in smaller audits. Accordingly, the Junior Auditors responding to the questionnaire satisfy the criteria for inclusion in this study. The remaining respondents are divided equally among External Audit Managers and Audit Partners (8.6% each).



**Table 9: Descriptive Qualification Statistics of Respondents**

Auditor Qualifications	Frequency	Percentage	Valid Percentage	Cumulative Percentage
1. Accounting Bachelor degree	35	50.0	50.0	50.0
2. Accounting Master degree	10	14.3	14.3	64.3
3. Foreign Accounting Professional Qualification	6	8.6	8.6	72.9
4. Jordanian CPA	12	17.1	17.1	90.0
5. Foreign Auditing Professional Qualification	3	4.3	4.3	94.3
6. PhD	3	4.3	4.3	98.6
7. Other	1	1.4	1.4	100.0
Total	70	100.0	100.0	

Table 9 (above) displays the qualifications of the respondents, as reported by them. Since the respondents could hold more than one relevant qualification, the sum of qualifications in Table 9 is greater than the number of respondents (in fact, exactly double). All the respondents possessed at least a Bachelor degree (100% of respondents and 50% of all qualifications). In addition to a Bachelor degree, all the respondents had one other relevant qualification. Most of the respondents reported possessing Jordanian CPA certification or a Master degree in accounting (34.3% and 28.6% of respondents respectively). Foreign accounting or auditing professional qualifications were reported by 17.1% and 8.6% of respondents, respectively. 8.6% of respondents reported having PhDs. Only one respondent (representing 2.9% of respondents) reported having another qualification.

In some ways, the figures shown in Table 9 are not very surprising. For example, EAs in Jordan require relatively high qualifications in order to work in this competitive field. Furthermore, Jordanian regulations now restrict inexperienced and unqualified auditors from working in auditing (law no. 32 in the year 1985). Under the Law of the Practice of the Auditing Profession (law no. 32 in the year 1985), applicants for audit licenses are required to sit for the audit profession exam. In order to sit for the exam, applicants should satisfy at least one of the following criteria: (1) accounting bachelor (or equivalent) degree in addition to 3 years' experience in accounting and auditing, of which 1 year should be in auditing, (2)

commerce or economics master (or equivalent) degree in addition to 2 years' experience in accounting and auditing, of which 1 year should be in auditing, (3) community college (diploma) degree in accounting in addition to 6 years' experience in accounting and auditing, of which 2 years should be in auditing or (4) have worked for the Audit Bureau (or any other governmental department) for 7 years as a chief auditor in addition to having a bachelor (or equivalent) degree.

**Table 10: Descriptive Experience Statistics of Respondents**

Experience Statistic	Years of External Audit Experience
Mean	7.55
Median	7.0
Minimum	4.0
Maximum	17.0
Standard Deviation	3.046

Table 10 (above) displays statistics about the number of years that the respondents had worked as EAs. It is important to distinguish between total number of years working at audit firms and the numbers of years working as an external auditor since audit firms often provide non-audit services (e.g. IT and other consulting). The audit experience of the respondents ranged from 4 to 17 years, with an average (mean) of 7.55 years and a median of 7 years. The statistics indicate that most of the respondents were highly experienced and knowledgeable in their field. With such experience, a high level of validity and consistency in the respondents' replies was expected.

**Table 11: Descriptive Audit Firm Statistics of Respondents**

Audit Firm	Frequency	Percentage	Valid Percentage	Cumulative Percentage
1. One of the “Big Four” international auditing firms	5	14.3	14.3	14.3
2. Another multinational auditing firm	1	2.9	2.9	17.2
3. A large local auditing firm (100+ auditors)	8	22.9	22.9	40.1
4. A medium size local auditing firm	18	51.4	51.4	91.5
5. A small local auditing firm <sup>56</sup>	3	8.6	8.6	100.0
<b>Total</b>	<b>35</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Table 11 (above) displays statistics about the type of audit firm that the respondents typically worked at (conducting audits), as reported by them in the questionnaire. Given that the EAs in this study were all selected from the 26 biggest audit firms in Jordan, responses to this question had more to do with the background of the respondents (i.e. in what type of audit firm were they typically employed over their entire EA careers), although the 26 biggest audit firms did differ in size and international affiliations (see Section 2.2.1). According to the statistics, most of the respondents (51.4%) worked with a medium size local auditing firm. The second largest group of respondents reported working at large local auditing firms (22.9%), followed by auditors working at “Big Four” international audit firms (14.3%), small local audit firms (8.6%) and finally other (i.e. not “Big Four”) international audit firms (2.9%).

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<sup>56</sup> Small compare to big four audit firms in Jordan.

**Table 12: Description of Typical Audit Client Statistics of Respondents**

Audit Client	Frequency	Percentage	Valid Percentage	Cumulative Percentage
1. Long established firms (more than 10 years)	9	25.7	25.7	25.7
2. Small to Medium firms (less than 200 employees)	14	40.0	40.0	65.7
3. Large firms (200+ employees)	8	22.9	22.9	88.6
4. Multinational firms	4	11.4	11.4	100.0
<b>Total</b>	<b>35</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Table 12 (above) displays statistics about the typical type of audit clients served by the respondents. While, theoretically, respondents could have reported typically auditing clients that fell within two or more categories (e.g. firms that were simultaneously long established, large and multinational), in practice none of the respondents did so. According to the data, 40% of the respondents typically audited small to medium firms. Long established firms and large firms were reported as being the type of clients typically audited by 25.7% and 22.9% of respondents respectively. Multinational firms were reported as being the typical audit client by only 11.4% of respondents<sup>57</sup>.

Overall, the characteristics of the participants suggest that they are sufficiently qualified to act as expert judges for the purpose of this study.

#### **4.2.2 Experimental Validity**

This section describes the measures taken to enhance the validity of the quantitative experiment in the current study. Experiments can be said to be internally valid when the variation in the dependent variables can be definitely attributed to (i.e. caused by) manipulation of the independent variables (Campbell & Stanley, 1963; Abdel-khalik & Ajinkya, 1979; Trotman, 1996). Experiments can be said to be externally valid when the

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<sup>57</sup> These respondents who typically audited multi-national firms had background mainly in the Big Four Auditing firms in Jordan (PWC, Deloitte, E & Y and KPMG).

results can be generalized across other people, places and points in time (i.e. other than those specifically within the scope of the experiment) (Trotman, 1996).

### Comprehensiveness of the Independent Variables

To help determine the internal validity of the research instrument, specifically the appropriateness of the selected independent variables as a means of determining the dependent variables, two questions in PART B of the questionnaire (Q2 & Q3) were included in the research instrument design.

Q2/Part B asked participants about their degree of confidence that the three independent variables (Objectivity, Competence and Work Performance) selected for this study cover the full range of variables they consider when making judgements regarding the effectiveness of the IAF and decisions to rely on the work of the IAF. The respondents were asked to score, on a Likert scale of 1 (Low Confidence) to 7 (High Confidence), how confident they felt that these independent variables were suitable as shown in the figure 17 below.

**Figure 16: Question 2, Part B – Respondents’ Confidence in the Comprehensiveness of the Independent Variables**

2. Please indicate, by circling a number on the scale below, how confident you feel that the three variables (Objectivity, Competence, Work Performance) cover the full range of variables you would consider in evaluating the efficiency and effectiveness of the Internal Audit Function and the EAs decision to rely on the work of the IAF in JLC (where 1 = Low Confidence, 7 = High Confidence):

<i>The Effectiveness of the internal audit (IA)</i>	1	2	3	4	5	6	7
<i>The reliance on the work of IAs</i>	1	2	3	4	5	6	7

The results were quite positive regarding respondents’ confidence that the study’s three independent variables (Objectivity, Competency and Work Performance) did cover the full range of variables that they would consider in (1) evaluating the effectiveness of the IAF in JLCs companies and (2) making decisions to rely on the work of the IAF.

A majority of respondents (74.3%) indicated that they are confident (i.e. a score of 5 or above) regarding the comprehensiveness of the study’s independent variables when it came to evaluating the effectiveness of the Internal Audit Function. None of the respondents indicated a level of confidence below 4 (neutral confidence). The overall mean of scores was 5.97, with a median of 6.0 and a mode of 6, demonstrating a high level of confidence.

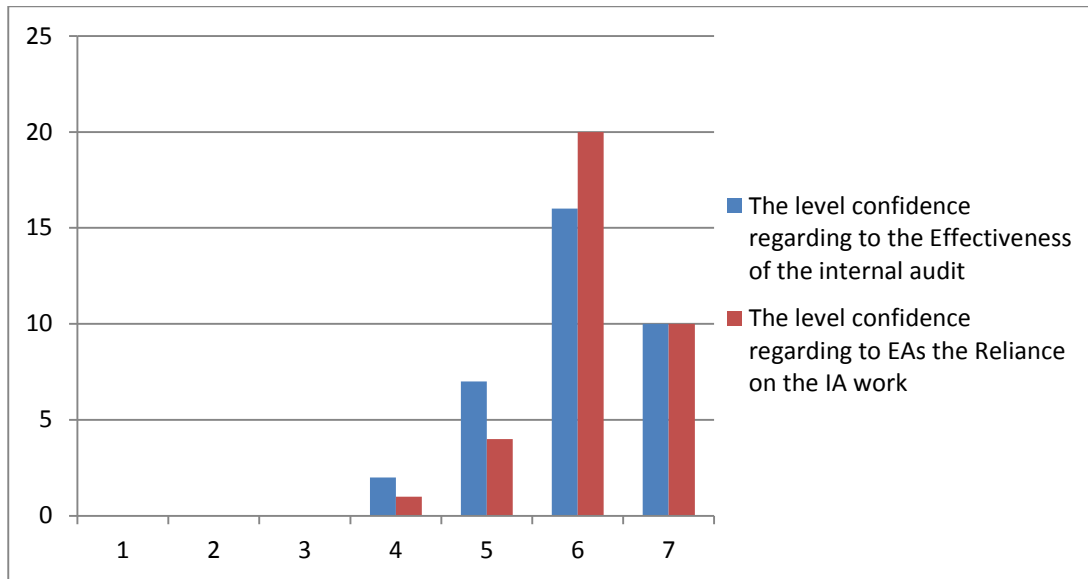
Similarly, the results regarding decisions to rely on the work of the IAF are positive, with 85.7% of respondents scoring a confidence score of 5 or more. The overall scores had a mean of 6.11, a median of 6.0 and a mode of 6, demonstrating a high level of confidence. None of the respondents indicated a level of confidence below 4 (neutral confidence).

**Table 13: Confidence Level that the Independent Variables Explain the Level of the Dependent Variable**

<b>Dependent variable</b>	<b>Mean</b>	<b>Median</b>	<b>Mode</b>
<i>The Effectiveness of the internal audit (IA)</i>	5.97	6.0	6
<i>The reliance on the work of IAs</i>	6.11	6.0	6

The distribution of responses, shown in figure 18 (below), illustrates that most of the respondents were considerably confident that the study’s three independent variables did indeed cover the full range of variables they would consider.

**Figure 17: Distribution of Responses - Confidence in Comprehensiveness of the Independent Variables**



### **Participant Suggestions Regarding Other Important Factors**

Q3/Part B asked participants to identify other variables, if any, that would be relevant during an audit of a Jordanian listed company when assessing the effectiveness of the IAF or deciding whether to rely on the work of the IAF.

Table 14 shows the additional factors suggested by the participants, identifying the frequency of each type of answer<sup>58</sup>.

<sup>58</sup> The relationship between factors suggested by EAs and other data in the study is discussed in section 5.5

**Table 14: Frequency of Mention of Other Factors Seen as Having an Important Impact on the Dependent Variables**

	<b>Additional Factor</b>	<b>Frequency of Response in regards to IAF Effectiveness</b>	<b>Frequency of Response in regards to reliance on the work of the IAF</b>
1	The Communication between IAs and EAs, and effective relationship between them	5	6
2	Prior cases of fraud or significant financial misstatement identified	5	5
3	Expectation of future strategic financial transactions (e.g. merger)	1	2
4	Employee satisfaction	6	5
5	Actual IA Career paths in comparison to what is available in the job market	4	2
6	Job availability	3	5
7	Culture	2	3
8	Management support	3	2
9	The cooperation between IAs and EAs	0	2
	<b>Total Frequency</b>	<b>29</b>	<b>32</b>

Given that the majority of respondents indicated, in their replies to Q2/ Part B, that they were confident that the independent variables (Objectivity, Competence and Work Performance) did cover the full range of variables they would consider when evaluating the effectiveness of the IAF in JLCs and decisions to rely on the work of the IAF, how should the additional factors suggested by respondents be interpreted?

Accounting and audit literature does mention most of the suggested factors, in one context or another, as having an influence on auditor objectivity [e.g. culture (Zureiga, 2011), management support (Albrecht et al, 1988), career path (Cohen & Sayag, 2010)], competence [e.g. management support (Cohen & Sayag, 2010) and career paths that facilitate training and development] or work performance [e.g. job satisfaction]. However, some of the suggested factors can be considered factors that increase the risk of the external audit [e.g. prior cases of fraud, future mergers] and might, conceivably, change the way EAs make judgements (Spira & Page, 2003; Walker et al, 2003; Sarens & Beelde, 2006).



The high level of confidence in the comprehensiveness of the three independent variables suggests that, for the majority of respondents, the additional factors are either significantly less important than the three independent variables or that their relevance is situational (i.e. relevant in only some special situations). Alternatively, they might be considered sub variables of the three independent variables on which some respondents focused. Overall, it would seem that the three independent variables are suitable for evaluating the dependent variables. However, the additional factors could be the focus for further studies (see section 5.8, Suggestions for Future Research).

### **Other Experimental Design Considerations**

An experimental design utilizing hypothetical cases can be expected to create certain difficulties for participants when they evaluate them. Participants' judgement, to a certain degree, had to rely on various assumptions made in these hypothetical cases. The evaluation of the IAF or the decision to rely on the work of the IAF would therefore be systematically more specified and the margin of risk in each case would not be exactly identical to those in real life situations. Nevertheless, a number of measures are used to minimize these adverse effects in the current study:

First: The variables employed in the study are defined quite broadly but distinctly in the first page of the questionnaire, thus helping the participants better understand the cases presented to them. The variable definitions are broad enough to encompass many of the key concepts that different participants might associate with a variable, but an effort is made to clarify how the study differentiates between some aspects that might be perceived as being related to multiple variables. For example experience and knowledge are sometimes used, in studies of one or more of the three dimensions, as indicators of competence or work performance. To minimize confusion, the current study defines the independent variable "Competence" in terms related to potential to perform (e.g. knowledge, practical skills and experience) while "Work Performance" is defined as how the work is actually performed (e.g. planning, execution).

Second: The participants involved in this experiment are all experienced external auditors (participants' average external audit experience is 7.55 years) currently employed at the 26 biggest audit firms. They are not employed as accountants or internal auditors at other companies. Since external auditors are required to evaluate the effectiveness of the Internal Audit Function, experienced external auditors can be considered expert judges in this area. All the participants work at the biggest audit firms in Jordan, firms which, according to research (Naser & Nuseibeh, 2007; Abdullatif, 2013, p. 63), conduct the majority of audit work for JLCs. Moreover, the participants are required to have authority to make decisions regarding the planning or management of external audits. By these experience criteria, the participants are well suited to answer the questions presented in the questionnaire and can be expected to have little difficulty doing so.

#### **4.2.3 Factor Weightings for the Effectiveness of the Internal Audit Function**

The results of the MANOVA analysis, shown in Table 15 (below), revealed a significant relationship between the dependent and independent variables. Given this results, the researcher employed individual ANOVA analysis of the independent variables (Coolican, 2004; Field, 2005). ANOVA analysis measuring the influence of the three independent variables (i.e. O, C, and WP) relative to IAF effectiveness was conducted using the General Linear Model GLM ANOVA from the SPSS 19 software package.

The analysis of the gathered data from the experiment provided evidence in addressing (RQ1).

RQ.1: What are the relative main and interactive weights of:

- ❖ The objectivity of the IAF,
- ❖ The competence of the IAF, and
- ❖ The work performance of the IAF,

on the perceived effectiveness of the IAF?

In answering RQ1, the two measures (subjective [self-reported weights] and objective [the effect size]) used to obtain evidence are:

- 1- Self-reported weights, the subjective measures where each EA was instructed to allocate 100 points among the three dimensions of the IAF (i.e. the independent variables) according to their importance in judging the effectiveness of the IAF.
- 2- The effect size (the objective measure) was obtained by calculating each of the independent variables' main and interactive effects on IAF effectiveness. The effect size is measured by using partial eta squared, thus determining the proportion of variance explained by each of the three dimensions.

The relative weights of the independent variables relative to their influence on Internal Audit Function effectiveness are presented in Table 15.

**Table 15: Variable Weighting of Independent Variables Relative to IAF Effectiveness**

	The importance of objectivity in relation to IAF effectiveness	The importance of competence in relation to IAF effectiveness	The importance of work performance in relation to IAF effectiveness	
<b>Self-Reported Weights (%)</b>				
Mean <sup>59</sup>	29.52%	31.81%	38.67%	100%
SD <sup>60</sup>	7.276031	4.297532	7.134459	
Range	20% - 60%	15% - 40%	20% - 60%	
N=35				
Rank order	3	2	1	
<b>Effect Size †<sup>61</sup></b>				
Main Effects	24.61%	25.53%	26.57%	76.71%
Interactions ‡‡	5.78%	7.48%	10.01%	23.29% <sup>62</sup>
Combined Effects <sup>63</sup>	30.40%	33.01%	36.57%	100%
N=35				
Rank order	3	2	1	

† The difference in judgement means across treatments (Slovic, 1969)

‡ Effect size is measured by partial eta squared

‡‡ Interaction effects are assigned to factors weighted by the size of main effect for that factor

<sup>59</sup> The "standard" average, often simply called the "mean" , ( $\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$ )

<sup>60</sup> SD: Standard Deviation equation is:

$$SD = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (x_i - \bar{x})^2}$$

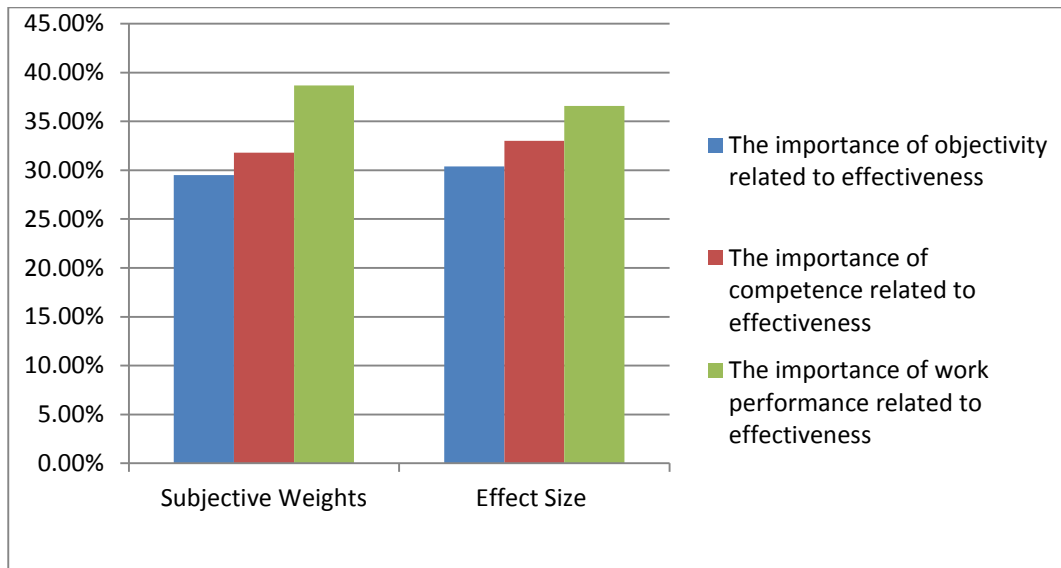
<sup>61</sup> Effect size is measured by partial eta squared (Slovic, 1969). Interaction effects are assigned to factors weighted by the size of main effect for the factor.

<sup>62</sup> The interaction effect percentage= Total Interactions Effects/ Sum of Effect size

<sup>63</sup> The Combined Effects = Main Effects + Interactions

Comparisons of the subjective (self-reported weights) and objective (effect size) weights of the three independent variables relative to their influence on the effectiveness of the IAF are illustrated in Figure 19 (below).

**Figure 18: Weights of Factors' Influence on IAF Effectiveness**



The self-reported weights, based on respondents' replies to Q1/Part B, show a wider distribution, in comparison with effect size, with regard to the influence scores of the three independent variables relative to IAF Effectiveness. Work Performance showed the highest effect, followed by Competence and then Objectivity.

The objective measure (the effect size), based on respondents' replies to all 8 cases [from PART A of the experimental survey], display a tighter range with regard to the ranked order of importance of the three independent variables. The Effect Size suggests that Work Performance is the highest ranking of the three independent variables relative to their influence on the perceived IAF Effectiveness. Competence is the second ranking variable and Objectivity is the last, having the least contribution to effect size.

The results obtained from the two measures (objective and subjective) are consistent with each other regarding the influence of the three independent variables on IAF Effectiveness. This consistency in results demonstrates a high degree of self-insight by the participants.

The detailed Effect Size analysis (Table 16) shows large and statistically significant (at the 1% level) main effects for each of the three independent variables on IAF Effectiveness. Work Performance has the largest main effect, followed by Competence and then Objectivity. The statistical power for all of the three variables is very high and can be considered to satisfy the ‘gold’ standard for statistical power, suggesting that there is little likelihood of Type II errors (Cohen, 1988; Coolican, 2009).

With regard to the interactive effects between the independent variables relative to their influence on IAF effectiveness, the four interactions (Objectivity \* Competence, Objectivity \* Work Performance, Competence \* Work Performance and Objectivity \* Competence \* Work Performance) all reveal large and statistically significant (at the 1% level) interactive effects’ size and high statistical power (see Table 16).

**Table 16: Effect size for IAF Effectiveness**

Factor	Effect size ‡ Partial (Eta Squared)	p value (Sig.)	Power (Observed Power)
<b>Main Effects</b>			
Objectivity	0.854	0.000*	1.00***
Competence	0.885	0.000*	1.00***
Work performance	0.921	0.000*	1.00***
Total Main Effects	2.660		
<b>Interactions Effects</b>			
Objectivity * Competence	0.229**	0.003*	0.871
Objectivity * Work performance	0.054	0.173	0.272
Competence * Work performance	0.346**	0.000*	0.985
Objectivity * Competence * Work performance	0.179**	0.010*	0.752
Total Interactions Effects	0.808		
Sum of Effect size	3.468		

\* Significant at alpha = 0.05

\*\* An effect size of 0.14 or above can be considered large (Coolican, 2004)

‡ Effect size is measured by partial eta squared

\*\*\* exceeds the 0.8 ‘gold’ standard for power (Cohen, 1988; Coolican, 2004)

The large, statistically significant main and interactive effect sizes for all of the three variables, under the experiment's controlled conditions, support and further confirm the validity of the study model and the presence of a causal relationship between the independent variables (Objectivity, Competence and Work Performance) and IAF Effectiveness. Furthermore, the Effect Size analysis also indicates that over 23% of the overall effect size can be attributed to all four interactions (Objectivity\*Competence, Objectivity\*Work Performance, Competence\*Work Performance and Objectivity\*Competence\*Work Performance), providing support for Hypothesis 1 (i.e. that EAs use configural decision making when evaluating the impact of the Three Dimensions).

#### **4.2.4 Factor Weightings for the EAs decision to rely on IA work**

ANOVA analysis measuring the influence of the three independent variables (i.e. Objectivity, Competence, and Work Performance) relative to decisions to rely on the work of the IAF was conducted using the General Linear Model GLM ANOVA from the SPSS 19 software package.

The analysis of the gathered data from the experiment provided evidence in addressing (RQ2).

RQ.2: What are the relative main and interactive weights of:

- ❖ The objectivity of the IAF,
- ❖ The competence of the IAF, and
- ❖ The work performance of the IAF,

on EAs' perceived reliance on the work of IAF?

In answering RQ2, the two measures (subjective [self-reported weights] and objective [the effect size]) used to obtain evidence are:

- 1- Self-reported weights, the subjective measures where each EA was instructed to allocate 100 points among the three dimensions of the IAF (i.e. the independent

variables) according to their importance in judging the degree of reliance to put on the work of the IAF.

- 2- The effect size (the objective measure) was obtained by calculating each of the independent variables' main and interactive effects on the degree of reliance on the work of the IAF. The Effect size is measured by using Partial eta squared, thus determining the proportion of variance explained by each of the three dimensions.

The relative weights of the independent variables relative to EAs' reliance on the work of IAs are presented in Table 17.



**Table 17: Variable Weighting of Independent Variables Relative to Decisions to Rely on the Work of the IAF**

	The importance of objectivity in relation to EAs' decisions to rely on the work of the IAF	The importance of competence in relation to EAs' decisions to rely on the work of the IAF	The importance of work performance in relation to EAs' decisions to rely on the work of the IAF	
<b>Self-Reported Weights (%)</b>				
Mean	39.51%	30.52%	29.97%	100%
SD	8.603558	4.39071	8	
Range order	20% - 60%	20% - 40%	10% - 60%	
N=35				
Rank	1	2	3	
<b>Effect Size †</b>				
Main Effects	30.49%	30.26%	29.25%	89.04%
Interactions ‡‡ <sup>64</sup>	4.82%	3.79%	1.45%	10.06% <sup>65</sup>
Combined Effects	35.31%	34.05%	30.70%	100%
N=35				
Rank order	1	2	3	

† The difference in judgement means across treatments (Slovic, 1969)

‡ Effect size is measured by partial eta squared

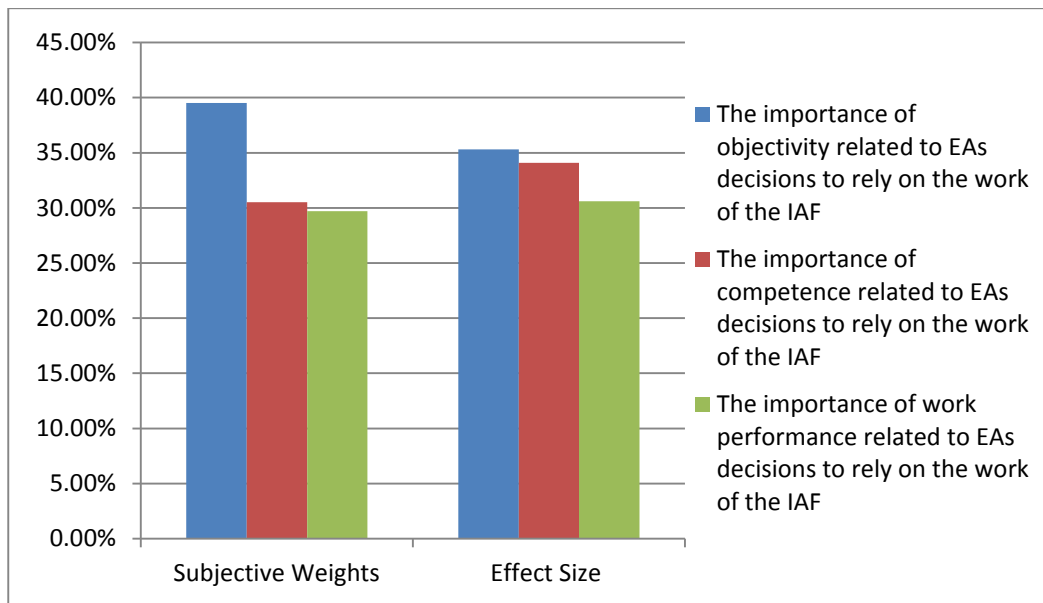
‡‡ Interaction effects are assigned to factors weighted by the size of main effect for that factor

Comparisons of the subjective (self-reported weights) and objective weights (effect size) of the three independent variables relative to their influence on decisions to rely on the work of the Internal Audit Function are illustrated in Figure 20 (below).

<sup>64</sup> The Combined Effects = Main Effects + Interactions

<sup>65</sup> The interaction effect percentage= Total Interactions Effects/ Sum of Effect size

**Figure 19: Weights of Factors' Influence on Decisions to Rely on the Work of the IAF**



The self-reported weights, based on respondents' replies to Q1/Part B, show a wider distribution, in comparison with the objective measure, with regard to the influence scores of the three independent variables relative to Reliance. Objectivity showed the highest effect [self-reported weights], followed by Competence and then Work Performance.

The objective measure (the effect size), based on respondents' replies to all 8 cases from PART A of the survey, display a tighter range with regard to the ranked order of importance of the three independent variables. The Effect Size suggests that Objectivity is the highest ranking of the three independent variables relative to their influence on IAF Effectiveness. Competence is the second ranking variable and Work Performance is the last, having the least contribution to effect size.

The results obtained from the two measures (objective and subjective) are consistent with each other regarding the influence of the three independent variables factors on decisions to rely on the work of the IAF Effectiveness. This consistency in results demonstrates a high degree of self-insight by the participants.

The detailed Effect Size analysis (Table 18) shows large and statistically significant (at the 1% level) main effects for each of the three independent variables on decisions to rely on the work of the IAF. Objectivity has the largest main effect, followed by Competence and then Work Performance. The statistical power for all of the three variables is very high and can be

considered to satisfy the ‘gold’ standard for statistical power, suggesting that there is little likelihood of Type II errors (Cohen, 1988; Coolican, 2009).

With regard to the interactive effects between the independent variables relative to their influence on decisions to rely on the work of the IAF, contrary to the interactions relative to the first dependent variable (IAF effectiveness), only one interaction (Objectivity \* Competence) demonstrates a large and statistically significant (at the 1% level) interactive effect and high statistical power (see Table 18).

**Table 18: Effect Size for Decisions to Rely on the Work of the IAF**

Factor	Effect size ‡ Partial (Eta Squared)	p value Sig.	Power Observed Power
<b>Main Effects</b>			
Objectivity	0.918	0.000*	1.00***
Competence	0.913	0.000*	1.00***
Work performance	0.881	0.000*	1.00***
Total Main Effects	2.712		
<b>Interactions Effects</b>			
Objectivity * Competence	0.215	0.004*	0.843
Objectivity * Work performance	0.074	0.108	0.362
Competence * Work performance	0.008	0.595	0.082
Objectivity * Competence * Work performance	0.005	0.809	0.056
Total Interactions Effects	0.303	--	--
Sum of Effect size	3.015	--	--

\* Significant at alpha = 0.05

\*\* An effect size of 0.14 or above can be considered large (Coolican, 2004)

‡ Effect size is measured by partial eta squared

\*\*\* exceeds the 0.8 ‘gold’ standard for power (Cohen, 1988; Coolican, 2004)

The large, statistically significant main effect sizes for all of the three variables in addition to the interactive effect Objectivity\*Competence, under the experiment's controlled conditions, support and further confirm the validity of the study model and the presence of a causal relationship between the independent variables (Objectivity, Competence and Work Performance) and decisions to rely on the work of the IAF. Furthermore, the Effect Size analysis also indicates that over 10% of the overall effect size can be attributed to interactive effect, mostly due to Objectivity\*Competence, providing support for Hypothesis 1 (i.e. that EAs use configural decision making when evaluating the impact of the Three Dimensions).

The existence of a statistically powerful, large and statistically significant (at the 1% level) interactive effect between Objectivity and Competence suggests that part of the influence of each of these two independent variables is dependent on the value of the other independent variable (i.e. the total influence of Objectivity can't be determined without also knowing the level of Competence, and vice versa).

### **4.3 Interview Findings**

This section reports the qualitative data. It includes brief descriptions of the interview participants and an individual summary of each interview, after which follows a cross case comparison of findings by main topics or themes emerging from the discussions. All nine interviewees also took part in the experiment. The cross case comparison includes direct quotes from participants to illustrate points and contexts. A detailed discussion of the interviewee comments and overall interview findings is reserved for Chapter 5.

The purpose of using a mixed method combining a quantitative experiment as well as interviews is to help confirm the results of the experiment, and thus increase generalizability, and to provide additional context. Indeed, the observations and findings of the interviews explicitly confirmed that the EAs did perceive objectivity, competence and work performance to be important factors in evaluating IAF effectiveness and in decisions to rely on the work of IAs. In terms of additional context, the interviewees discuss some of the reasons that objectivity, competence and work performance influence the dependent variables, and sometimes mention factors that can affect their judgements of the influence of the independent variables.

The Table 19 summarizes the basic characteristics of the interview participants.

**Table 19: List of interview participants in the study**

	<b>Interviewee (label)</b>	<b>Position &amp; qualifications</b>	<b>Length of Experience</b>	<b>The audit firm and the organization</b>
1	<b>Interviewee A</b>	Senior External Auditor	six years' experience in auditing and consulting	a medium sized auditing firm
2	<b>Interviewee B</b>	Senior External Auditor	eight years' experience in auditing	multinational, accounting consultancy firms
3	<b>Interviewee C</b>	Junior External Auditor	Five years' experience in auditing	a large sized auditing firm
4	<b>Interviewee D</b>	Senior External Auditor	seven years' experience in auditing and consulting	Working in one of the 'Big Four' international auditing firms in Jordan
5	<b>Interviewee E</b>	An External Audit Manager	Twelve years' experience in auditing and accounting, having worked at a medium accounting and auditing firms	Working in mostly auditing small & medium companies, and currently audits several listed companies with internal auditing departments.
6	<b>Interviewee F</b>	A Senior External Auditor.	He had approximately ten years' experience in auditing, having worked in one of the four biggest international auditing firms in Jordan.	Mostly auditing large firms, and has frequently audited listed companies. He described himself as being very familiar with IAS for both internal and external auditors
7	<b>Interviewee G</b>	A Senior External auditor in one of the four biggest auditing firms in Jordan	Ten years' experience in auditing, and worked in one of the big four international auditing firms in Jordan	Working in one of the four biggest international auditing firms in Jordan
8	<b>Interviewee H</b>	An External Audit Manager	Fifteen years' experience in auditing and accounting, having worked at a medium and large accounting and auditing firms.	Working conducted auditing for small & medium companies, and audited several listed companies having an internal auditing department.
9	<b>Interviewee I</b>	A Senior External Auditor	Nine years' experience in auditing, having worked in one of the biggest Jordanian auditing firms	Working auditing medium and large companies that have an internal auditing department. And most of them listed companies.

The purpose of this section is to express the views of EAs in Jordan and their perceptions regarding the impact of three dimensions of internal audit effectiveness (objectivity, competence and work performance) relative to a) the effectiveness of the IAF in Jordanian companies and b) the reliance of EAs on the work of the IAF.

The following section summarizes the nine interviews, highlighting and describing their views.

### **4.3.1 Interview Descriptions**

A total of nine interviews were conducted. There follows a brief description of the background of some interviewee in addition to summaries of the interviews.

#### **Interviewee A**

Subject A was a senior auditor who specialized in service firms. He had approximately six years' experience in auditing and consulting, having worked at a medium sized, foreign owned, accounting consultancy firm.

Subject A's experience was mostly auditing small and medium companies, and audited several listed companies though these represented a small proportion of his overall client portfolio. His work mostly involved year-end financial audits, but he also conducted feasibility studies and other accounting and financial consulting. Many of his clients were sole proprietorships and private shareholding companies.

Subject A considered auditor objectivity to be an important factor in assessing the effectiveness of IAs. It is particularly important in cases involving reporting of fraud. Subject A explained that auditors with low objectivity are more likely to avoid revealing deliberate financial misstatements, especially when doing so could expose the IA's employer to significant risks.

Subject A considered auditor objectivity to be important in EA decisions to rely on the work of IAs. Subject A explained that objectivity is closely related to the level of trust he could place on the IA. IAs with low objectivity would not be delegated significant authority, and would have to be supervised closely by someone from the EA team.

Subject A considered competence to be an important factor in assessing the effectiveness of IAs. It is particularly important in large and/ or diversified organizations. According to Subject A, “IAs in more complicated organizations need breadth of knowledge to deal effectively with a wider range of activities and complications. When auditors are faced with large variety in tasks, breadth of knowledge is necessary. Knowledge is also required to effectively use modern internal control tools”. This suggests that competence might be more important in listed companies than in other, smaller, companies.

Subject A considered competence to be useful (moderately important) in decisions to rely on the work of IAs. According to Subject A, “Internal auditors with a wider range of knowledge were easier to brief and coordinate with”, explained that IAs with greater breadth of knowledge were easier to brief and coordinate with.

Subject A considered work performance to be a very important factor in assessing the effectiveness of IAs. Subject A explained that adequate care and attention must be exercised during audits. Subject stressed the importance of work performance, remarking that no control system or depth of knowledge could fully compensate for lack of adequate care.

Subject A considered work performance to be a very important factor in decisions to rely on the work of IAs. Subject A explained that any person could be trained to be a useful assistant, but a careless assistant would be a liability.

In summary, Subject A considered work performance to be the most important factor in both assessing the effectiveness of IAs and in decisions to rely on the work of IAs. Both objectivity and competence of the IAF were considered important in assessing the effectiveness of IAs and in EA decisions to rely on the work of IAs.

## **Interviewee B**

Subject B was a senior EA specialised in large companies. He had approximately eight years' experience in auditing and consulting, having worked at large, multinational, accounting consultancy firms.

Subject B typically audited small and medium sized companies as well as JLCs. Most of his client organizations had internal audit departments (i.e. did not rely on outsourced or part-time IAs). His work mostly involved year-end financial audits, but he also conducted feasibility studies and other accounting and financial consulting.

Subject B considered auditor objectivity to be an important factor in assessing the effectiveness of IAs, but not the most important one. Subject B explained that auditors with low objectivity are more likely to be less effective. Subject B stated that EAs sometimes can't accurately assess the independence, planning and supervision of IAs, but that it was relatively simple to assess the work performance of IAs.

Subject B considered auditor objectivity to be the most important factor in EA decisions to rely on the work of IAs. Subject B mentioned that the difficulty of assessing the objectivity of IAs is reduced in the case of decisions to rely on the work of IAs, as the EAs are able to directly observe and supervise IAs for the duration of their work with the EAs.

Subject B considered competence to be a moderately important factor in assessing the effectiveness of IAs. According to Subject B, "Skilled and experienced IAs should, theoretically, be more effective than less able auditors, resulting in increased audit effectiveness. However, in practice, this was not always true. You need to account for the restrictions under which IAs work. Bureaucracy and conflicts within the organization sometimes prevent IAs from implementing or changing to more effective audit and supporting procedures and policies. Sometimes the problem is in an outdated or inflexible information system."

Subject B goes on to say that EAs know that the majority of IAs in JLCs possess appropriate knowledge and experience for their positions, and that many JLCs offer training to their IAs,



training that is often provided through EAs. It is this involvement by EAs in providing training that allows EAs to claim that most IAs at JLCs have a good level of competence.

Subject B considered competence to be a moderately important factor in decisions to rely on the work of IAs. According to Subject B, “Internal auditors in most medium and large companies are usually competent. We know this from feedback from our training service line. However, we sometimes were unable to use the previous work produced by the internal auditors of a client due to limitations arising from audit procedures or the information system. We may use the internal auditors as assistants even when we can’t use their routine reports.” In other cases, even with IAs with long experience in auditing (e.g. more than 20 years), EAs could not always rely on such experience since that IA’s experience was sometimes effectively “one year’s experience repeated 20 times”.

Subject B considered work performance to be the most important factor in assessing the effectiveness of IAs. Subject B explained that low work performance usually resulted in low effectiveness. Moreover, work performance was relatively simple to assess, contributing to its usefulness as a factor in assessing IAF effectiveness.

Subject B considered work performance to be the second most important factor in decisions to rely on the work of IAs. Subject B stated, however, that even if IAF work performance is assessed as high, the EA should not rely on the work of the IAF unless the IAs are independent (i.e. objective).

In summary, subject B considered the work performance of IAs to be the most important factor in assessing the effectiveness of the IAF, but considered objectivity to be the most important factor in decisions to rely on the work of IAs.

Subject B concluded the interview by stating that good relationships and communications between IAs and EAs can increase both the effectiveness of IAs as well as EA decisions to rely on the work of IAs. Subject B also mentioned that timely and appropriate responses by IAs to EA requests for information (including reports, explanations, work plans, etc.) create a positive impression and increase the likelihood that EAs will rely on the work of IAs.

## **Interviewee C**

Subject C was a junior EA who specialized in small firms. He had approximately five years' experience in auditing and consulting, having first worked at a large Jordanian auditing firm and then one of the four biggest foreign-owned accounting consultancy firms.

Subject C's experience was mostly auditing small companies, and he audited several listed companies. His work mostly involved year-end financial audits, but he also conducted feasibility studies and other accounting and financial consulting. Many of his clients were sole proprietorships and private shareholding companies.

Subject C considered auditor objectivity to be an important factor in assessing the effectiveness of IAs. Subject C explained that auditors need to be objective, since an objective attitude and independence in thinking and the performance of auditing enable auditors to work as effectively as possible without interference in their work.

Subject C considered auditor objectivity to be important in EA decisions to rely on the work of IAs. Subject C explained that objectivity enables auditor efficiency and frees the auditor from interference in his work. Both of these results are important to EAs deciding whether to rely on the work of the IA.

Subject C considered competence to be an important factor in assessing the effectiveness of IAs. Subject C explained that all auditors need to be knowledgeable in at least the field they work in. The more knowledgeable the IA about auditing and the company he serves, the more effective he can be.

Subject C considered competence to be important in decisions to rely on the work of IAs. Subject C explained that the more knowledgeable the IA about auditing and the company he serves, the greater the credibility of his work, and the more it can be relied upon.

Subject C considered work performance to be a very important factor in assessing the effectiveness of IAs. Subject C explained that IAs are directly responsible for everything they report to the audit committee, including financial, operating and compliance audits. An

auditor who does not take adequate care and attention in performing his work has failed in his duty and cannot be said to be effective.

Subject C considered work performance to be a very important factor in decisions to rely on the work of IAs. Subject C explained that an auditor who does not take adequate care and attention in performing his work is not effective and cannot be relied upon.

In summary, all three factors were considered important, but Subject C considered work performance to be the most important factor in assessing the effectiveness of IAs, and considered objectivity to be the most important factor in decisions to rely on the work of IAs.

Subject C concluded the interview by suggesting that support and encouragement by management for internal audit staff training, and for IAs to obtain professional auditing qualifications, can increase the performance of IAs and, thus, the effectiveness of the IAF in companies.

## **Interviewee D**

Subject D was a senior EA who specialized in auditing large companies. He had approximately seven years' experience in auditing, and worked in one of the four biggest international auditing firms in Jordan.

Subject D's experience was mostly auditing large and multinational firms, and frequently audited listed companies. His work mostly involved quarterly and year-end financial audits.

Subject D considered auditor objectivity to be a very important factor in assessing the effectiveness of IAs. Subject D explained that objectivity influences the complete audit process, resulting in unbiased assessments and judgements, as well as disclosing all material facts and improving reporting quality.

Subject D considered auditor objectivity to be a very important factor in EA decisions to rely on the work of IAs, stating that the more objective the IA, the more reliance would be placed

on the work of the IA. Subject D explained that objective IAs perform balanced assessments of all relevant information and are not influenced by other interests or judgements.

Subject D considered competence to be an important factor in assessing the effectiveness of IAs, stating that there was a direct and positive relationship between IA competence and effectiveness. Subject D explained that knowledge, skills and experience will affect the performance of the IA. Subject D suggested that IAs should constantly work to improve their proficiency, and that would result in more effective internal audits and higher quality of work.

Subject D considered competence to be important in decisions to rely on the work of IAs. Subject D explained that IAs should only engage in activities for which they have the necessary knowledge, skills and experience.

Subject D considered work performance to be an important factor in assessing the effectiveness of IAs. Subject D explained that increased IA work performance translates into increased capacity (i.e. increase in productivity per man hour), resulting in faster audits, cost savings and, potentially, increased value added from auditing activities.

Subject D considered work performance to be an important factor in decisions to rely on the work of IAs. Subject D explained that IAs with high work performance are efficient and effective in performing activities assigned them, resulting in added value for the external audit. Given a significant added value from IAs, EAs would be willing to modify their audit process to generate optimal benefit from IAs.

In summary, Subject D considered objectivity to be, by far, the most important factor in both assessing the effectiveness of IAs and in decisions to rely on the work of IAs. Both competence and work performance of the IAF were considered important in assessing the effectiveness of IAs and in EA decisions to rely on the work of IAs.

Subject D concluded the interview by stating that there were other factors that he considered relevant to the assessment of the efficiency and effectiveness of the IAF in JLCs. Subject D suggested that IA wages and career paths (i.e. possibilities for promotion), as well as the

organization's management philosophy and politics, influenced the effectiveness of the IAF. Subject D also stated that having an effective IAF increased reliance on the work of IAs.

## **Interviewee E**

Subject E was an external audit manager who specialized in auditing small and medium sized companies. He had approximately twelve years' experience in auditing and accounting, having worked at medium sized accounting and auditing firms. He is quite well-known in the business community.

Subject E's experience was mostly auditing small and medium companies, and he has audited several listed companies with internal auditing departments. His work mostly involved year-end financial audits. Many of his clients were sole proprietorships and private shareholding companies.

Subject E considered auditor objectivity to be a very important factor in assessing the effectiveness of IAs. Subject E explained that the true value of external auditors arises from the presumed objectivity and independence from company management. As subject E stated, "Demonstration of objectivity throughout the internal audit department and the audit committee is a very positive indicator. It is something I always looks for, especially when conducting audits under risky conditions."

Subject E considered auditor objectivity to be the most crucial factor in EA decisions to rely on the work of IAs, stating "The more evidence there is that an internal auditor is objective, the more he can be trusted and thus more reliance can be placed on his work". According to Subject E, "Other than in terms of the expectation of objectivity and independence from the organization being audited, external auditors are no different from any other experienced accountant."

As Subject E stated, "All audits are joint efforts and, unless objectivity is demonstrated throughout the IAF, I would limit my reliance on the IAF to new work performed by specific IAs... auditors who demonstrated objectivity. I would not fully rely on the products of the IAF as a whole."

Subject E considered competence to be an important factor in assessing the effectiveness of IAs, stating “Knowledge and practical skills are necessary for auditors to fulfil their roles effectively. Knowledge and experience are what enable auditors to interpret data and produce useful information. A wider range of knowledge and experience, for example gained from working with a number of organizations, enables auditors to make sense of a greater range of situations.” Furthermore, according to Subject E, “Management support for knowledge and experience building activities, like training and job rotation, can be effective in boosting the effectiveness of auditors and the internal audit function as a whole”.

Subject E considered competence to be very important in decisions to rely on the work of IAs, saying “I do look for knowledge when deciding on using an IA as an assistant. The extent of knowledge guides the type of tasks I assign to an IA; I am more likely to give more knowledgeable auditors more complex assignments.” However, according to Subject E, “It is difficult for individual auditors to build up expertise in fraud detection, so EAs are unlikely to rely a great deal on IAs in such tasks. Auditors need specific training programs to help them to detect fraud. Moreover, when EAs suspect fraud, consultation with the audit firm’s technical department is prescribed; fraud specialists will likely then join the team. So, in fraud related cases I believe there is less room for direct reliance on IAs.”

Subject E considered work performance to be a very important factor in assessing the effectiveness of IAs. Subject E explained that work performance is the manner in which the audit is planned and executed, and knowledge (i.e. competence) is the lever that maximizes the effectiveness of that process. Subject E states “A careful and well thought-out audit from a new accounting graduate with little experience is sufficient for most routine internal audit tasks, but more knowledge is required when dealing with fraud and unusual conditions”. However, as subject E states, “Great knowledge in an IA is no substitute for carefulness. Careful planning, execution and attention to details are more important than an accounting degree or years of working as an auditor.” Furthermore, according to subject E, “In my experience, auditors who are professional in the execution of their work are more likely to accomplish audit tasks without much wasted time. Even when something goes wrong, and it often does, these auditors quickly realize that there is a problem and take steps to resolve it. An auditor who is professional in his work is someone who is more likely to deliver on time and needs less support and resources to do it.”

Subject E considered work performance to be an important factor in decisions to rely on the work of IAs. According to Subject E, “Solid planning and execution is something I look for in an assistant, but only after assessing the objectivity of the IA. When it comes to relying on the work of the IAF as a whole, I would first need positive evidence regarding the function’s work practices. Professional work practices, including standardized procedures and good results versus benchmarks across the board, might convince the audit team leadership that some audit areas require fewer tests. The extent of such reduction in scope depends on the assessed risk of the audit.”

In summary, Subject E considered all three factors to be important in assessing the effectiveness of IAs and in decisions to rely on the work of IAs. Subject E considered objectivity and work performance to be more important than competence in assessing the effectiveness of IAs, and considered objectivity the most important factor in decisions to rely on the work of IAs, followed by competence and then work performance.

Subject E added that the diversity of an IA’s work experience (i.e. the IA having experience working at different companies) can play a significant role in the effectiveness of the IA. Moreover, he stresses that good planning and ability to meet schedules can play a significant role in the effectiveness of IAs.

Subject E also stated that he assigns a higher value to IAs with a prior record of achievements in detecting and preventing fraud and financial misstatements, and he is thus more likely to recruit such IAs to be part of the audit team. Moreover, the company’s reputation and/or expectation of future strategic financial transactions (e.g. mergers) can also be important to such decisions. Knowing that an IA is effective can increase the degree to which EAs decide to rely on the IA’s work.

## **Interviewee F**

Subject F was a senior EA. He had approximately ten years' experience in auditing and worked in one of the four biggest international auditing firms in Jordan.

Subject F's experience was mostly auditing large firms, and frequently audited listed companies. He described himself as being very familiar with international audit standards for both internal and EAs. His work mostly involved quarterly and year-end financial audits.

Subject F considered auditor objectivity to be a very important factor in assessing the effectiveness of IAs, but not the most important one. As Subject F explained, "Objectivity is the cornerstone of the internal audit profession. An auditor must be objective in order to produce effective reports and avoid conflicts of interest."

Subject F considered auditor objectivity to be the most crucial factor in EA decisions to rely on the work of IAs, stating that the more objective the IA, the more reliance would be placed on the work of the IA. According to Subject F, "Independence, particularly from company management, is the quality that distinguishes EAs from IAs. IAs who are independent in the face of pressure from company management can exhibit performance levels closer to those of EAs, increasing the likelihood of my deciding to rely on such IAs."

Subject F considered competence to be an important factor in assessing the effectiveness of IAs, stating that knowledge and practical skills were necessary for IAs to fulfil their roles effectively. Subject F explained that IAs with experience can detect more frauds and errors since they are better equipped to know where and how to examine accounts.

Subject F considered competence to be very important in decisions to rely on the work of IAs, and that IA competence, education and experience increases the likelihood of him deciding to rely on IAs. Subject F explained that with knowledgeable IAs, he could be confident that they knew how to examine company accounts in accordance with all applicable standards.



Subject F considered work performance to be a very important factor in assessing the effectiveness of IAs. According to Subject F, “Auditing standards require that auditors be prudent and apply due professional care in the execution of audits”.

Subject F considered work performance to be an important factor in decisions to rely on the work of IAs. Subject F stated “Due professional care in the performance of account examinations and follow-ups in accordance with the standards of the institute of IAs, should increase the effectiveness of internal audits”. Furthermore, according to Subject F, “We take into consideration the professionalism of internal audit in our decisions about what activities will be in-scope [of the audit].Based on evidence of a high level of professionalism in the internal audit function, for example full documentation of prior work and low error rates revealed by our tests on their previous work, the team leader may decide that a reduction in audit scope is appropriate.”

In summary, Subject F considered work performance to be the most important factor in assessing the effectiveness of IAs, and objectivity was the most important factor in decisions to rely on the work of IAs.

All three factors were considered important in assessing the effectiveness of IAs and in EA decisions to rely on the work of IAs.

## **Interviewee G**

Subject G was a senior EA who specialized in auditing medium and large companies. He had approximately ten years’ experience in auditing, and worked in one of the big four international auditing firms in Jordan.

Subject G’s experience covered a wide range of organization types, including large and multinational firms, and frequently audited listed companies. His work included financial audits and information systems consulting.

Subject G considered auditor objectivity to be a very important factor in assessing the effectiveness of IAs. Subject G explained that IAs can be effective only if they are unbiased.

Subject G considered auditor objectivity to be a very important factor in EA decisions to rely on the work of IAs. According to Subject G “All auditors, including internal auditors, who are not influenced by pressure from any party, including the client company’s management, can be relied upon by shareholders and others stakeholders”.

Subject G considered competence to be an important factor in assessing the effectiveness of IAs. According to Subject G, “Internal auditors must be experienced, educated or trained in auditing organizations in their company’s industry or field in order to better understand the nature of the risks and controls that apply to the company they serve”.

Subject G considered competence to be important in decisions to rely on the work of IAs. According to Subject G, “IAs who are experienced, educated or trained in identifying the risks involved in their company’s industry are more likely to be relied upon by EAs”.

Subject G considered work performance to be an important factor in assessing the effectiveness of IAs. According to Subject G, “Internal audit effectiveness requires that auditors apply the relevant performance standards; both of the audit profession and the organization they work at”.

Subject G considered work performance to be an important factor in decisions to rely on the work of IAs. According to Subject G, “Internal auditors who demonstrate work performance in accordance with audit standards are more likely to be relied upon as team members. The work of the internal audit function is more likely to be relied upon if work is well documented and organized and spot checks reveal a low likelihood of errors. Again, internal auditing standards provide guidelines for what is expected of the internal audit function.”

In summary, Subject G considered all three factors to be important in assessing the effectiveness of IAs and in decisions to rely on the work of IAs. Subject G did not express any individual factor to be more important than the other two.

## **Interviewee H**

Subject H was an external audit manager with a wide range of experience. He had approximately fifteen years' experience in auditing and consulting, two foreign professional accounting qualifications and worked at three medium and large accounting and audit firms.

Subject H audited companies of all sizes, including listed companies. His work included year-end and interim financial audits, compliance audits, audit training and consulting.

Subject H considered auditor objectivity to be perhaps the most important factor in assessing the effectiveness of IAs. Subject H explained that objectivity is the trait that defines whether the internal audit report is honest and relevant. Furthermore, the findings of internal audit reports will filter down from top management and be used in decision making throughout the organization and thus a lack of objectivity will corrupt other reports and plans. This corruption of information sources will also complicate the work of EAs and increase the risk that the external audit report is incorrect, incomplete or irrelevant.

Subject H considered auditor objectivity to be very important in EA decisions to rely on the work of IAs. According to Subject H, "If the work of internal auditors proves to be meaningful and free from undue influence, then the auditors can become trusted members of the external audit team. Internal auditors whose work is revealed to lack in objectivity can't be trusted; such people can actively work to hinder or influence the external audit."

Subject H considered competence to be an important factor in assessing the effectiveness of IAs. According to Subject H, "A competent internal auditor can properly apply audit rules and procedures and can thus be effective. Competence contributes to the truth and relevance of internal audit reports in the sense that the audit is likely to be procedurally correct."

Subject H considered competence to be useful (moderately important) in decisions to rely on the work of IAs. Subject H explained that a competent IA can carry out useful work for the EA team and improve the quality of audit planning.

Subject H considered work performance to be a very important factor in assessing the effectiveness of IAs. Subject H explained that work performance enables audit work to

proceed according to schedule while exercising adequate care. However, issues arising from instances of poor work performance can be overcome if the audit team is well organized.

Subject H considered work performance to be useful (moderately important) in decisions to rely on the work of IAs. Subject H explained that errors arising from poor work performance can be uncovered through a fair review procedure (i.e. control process).

In summary, Subject H considered objectivity to be the most important factor in both assessing the effectiveness of IAs and in decisions to rely on the work of IAs. Both competence and work performance of the IAF were considered important in assessing the effectiveness of IAFs and in EA decisions to rely on the work of IAs, although work performance was the least critical factor since issues arising from poor work performance are fairly recoverable.

## **Interviewee I**

Subject I was a senior auditor who specialized in service firms. He had approximately nine years' experience in auditing and consulting, and worked at one of the biggest Jordanian auditing, accounting and consultancy firms.

Subject I's experience was mostly auditing medium and large companies with internal auditing departments, most of which are listed companies. His work mostly involved year-end financial audits, but he also conducted feasibility studies and other accounting and financial consulting.

Subject I considered auditor objectivity to be very important factor in assessing the effectiveness of IAs. According to Subject I, "Auditor objectivity is particularly important in cases involving reporting of fraud or misleading information. An objective IAF serves the company by arming management with factual and relevant information with which to protect the company's financial resources. A less objective audit function could provide such information but does not do so when it might cause problems for people and groups with powerful interests within the company. Auditor objectivity is often more important in large

companies. Large companies often mean many powerful interests, including managers, shareholders and government officials, as well as the large sums of money involved.”

Subject I considered auditor objectivity to be the most important factor in EA decisions to rely on the work of IAs. According to Subject I, “Honesty and freedom from improper management influence is a key thing to look for when deciding how to integrate IAs into our audit teams or when deciding to accept prior work of the internal audit function”.

Subject I considered competence to be an important factor in assessing the effectiveness of IAs, but not the most important. According to Subject I, “IAs with experience can detect more frauds and errors since they are better equipped to know where and how to examine accounts. And having experience from different companies can increase the effectiveness of an IA.”

Subject I considered competence to be very important in decisions to rely on the work of IAs. According to Subject I, “IA education and experience increase the probability of my deciding to rely on an auditor. IAs with education or certification in auditing or with plenty of work experience are grounded in many of the same standards that we use. This allows IAs to fit in and work with our audit teams with few problems.”

Subject I considered work performance to be the most important factor in assessing the effectiveness of IAs. According to Subject I, “Internal and EAs are required to be prudent and apply due professional care when examining company financial records”. Furthermore, according to Subject I, “Solid audit planning cuts down on inefficient use of time and resources and thus can significantly boost IA effectiveness”. Subject I added that IAs can provide recommendations in their work and reports to improve managing the significant risks in the auditing process. According to Subject I, a demonstrated history of identifying significant fraud or financial misstatements is a strong indicator of IA effectiveness.

Subject I considered work performance to be an important factor in decisions to rely on the work of IAs. According to Subject I, “An auditor who demonstrates professionalism could be trusted to correctly carry out tasks assigned him by the audit team, with some confidence of a low probability of significant errors. Similarly, the reports of a professionally operating

internal audit function can be trusted to be free of significant errors, although this is no guarantee of the lack of deliberate misstatements or obscurement of information.”

In summary, Subject I considered all three factors were important in assessing the effectiveness of IAs and in EA decisions to rely on the work of IAs in different levels. However, Subject I considered work performance to be the most important factor in assessing the effectiveness of IAs, and objectivity was the most important factor in decisions to rely on the work of IAs.

### **Summary of Responses Regarding the Importance of the Three Dimensions**

All of the interviewees stated that objectivity, competence and work performance were important and had a positive influence on EA evaluations of IAF effectiveness and EA decisions to rely on the work of the IAF.

Table 20 (below) identifies themes and Other Issues of Interest in the responses of the interviewees regarding the importance of the three dimensions in EA evaluations of the effectiveness of the IAF. These themes and Other Issues of Interest are discussed in section 4.3.2.

**Table 20: Themes and Other Issues of Interest Regarding Evaluations of IAF Effectiveness**

<b>Interviewee</b>	<b>Objectivity</b>	<b>Competence</b>	<b>Work performance</b>
<b>Interviewee A</b>	<b>(1) Fraud and (2) Bias / influence:</b> IAs with low objectivity avoid exposing employers to significant losses.	<b>(1) Task variety, (2) Relevant knowledge, (3) Modern control tools:</b> require broader knowledge and special skills respectively.	<b>Compensate for weakness:</b> lack of adequate care during an audit can't be fully compensated for by control systems or the IA's knowledge.
<b>Interviewee B</b>	<b>Difficulty of determination:</b> Objectivity very important in IAF effectiveness, but difficulty determining IA objectivity reduces the importance of this factor in comparison to work performance.	<b>Procedure and IT limitations:</b> EAs know that most IAs in JLCs have adequate knowledge. In practice, however, knowledge and experience are not always translated into effectiveness (e.g. IA inability, management constraints, IT system limitations).	<b>Difficulty of determination:</b> The most important factor; low work performance usually results in low effectiveness. Work performance is relatively easy to determine.
<b>Interviewee C</b>	<b>Interference:</b> An important factor since independent IAs can work more effectively and without management interference.	<b>Relevant knowledge:</b> The more knowledgeable the internal auditor about auditing and the company he serves, the more effective he can be. All auditors need to be knowledgeable in at least the field they work in.	<b>Essential duty:</b> A very important factor; an auditor who does not take adequate care and attention in performing his work has failed in his duty and cannot be said to be effective.
<b>Interviewee D</b>	<b>(1) Bias /influence and (2) Disclosure:</b> A very important factor; objectivity influences the complete audit process, resulting in unbiased assessments and judgements, as well as disclosing all material facts and improving reporting quality.	<b>None:</b> An important factor; there is a direct and positive relationship between IA competence and effectiveness. Greater competence results in greater audit effectiveness and quality of work.	<b>Resource efficiency:</b> An important factor; increased IA work performance translates into increased capacity (i.e. increase in productivity per man hour), resulting in faster audits, cost savings and, potentially, increased value added from auditing activities.
<b>Interviewee E</b>	<b>(1) Essential duty and (2) Risk:</b> A very important	<b>Diversity:</b> An important factor; competence is what	<b>(1) Fraud / misstatement and (2) Resource efficiency:</b>

	<p>factor; the true value of auditors arises from the presumed objectivity and independence from company management. IA objectivity is an indicator that he always looks for, especially when conducting audits under risky conditions.</p>	<p>enables auditors to interpret data and produce useful information. Diversity in work experiences enables auditors to make sense of a greater range of situations and can play a significant role in the effectiveness of the internal auditor.</p>	<p>A very important factor; good planning and ability to meet schedules can play a significant role in the effectiveness of internal auditors. Most audit processes require careful planning and execution in addition to some basic knowledge (e.g. an accounting degree), although more knowledge may be required in some unusual cases and in fraud cases. Work performance is often an indicator of an ability to deliver on time and use fewer resources to do it.</p>
<p><b>Interviewee F</b></p>	<p><b>(1) Essential duty and (2) Bias / influence:</b> A very important factor, but not the most important. Objectivity is the cornerstone of the internal audit profession. An auditor must be objective in order to produce effective reports and avoid conflicts of interest.</p>	<p><b>(1) Fraud, (2) Errors and (3) Account examination:</b> An important factor; IAs with experience can detect more frauds and errors since they are better equipped to know where and how to examine accounts.</p>	<p><b>Essential duty:</b> A very important factor; IA &amp; EAs are required to be prudent and apply due professional care when examining company financial records.</p>
<p><b>Interviewee G</b></p>	<p><b>(1) Essential duty and (2) Bias / influence:</b> A very important factor; IAs can only be effective if they are unbiased.</p>	<p><b>Relevant knowledge:</b> An important factor; IAs must be knowledgeable in auditing organizations in their company's field, in order to better understand the nature of the risks and controls that apply to such a company.</p>	<p><b>Standards:</b> An important factor; internal audit effectiveness requires that auditors apply the relevant work performance standards.</p>
<p><b>Interviewee H</b></p>	<p><b>(1) Essential duty, (2) Bias / influence and (3) information corruption:</b></p>	<p><b>Procedure correctness:</b> An important factor; a competent IA can properly apply audit</p>	<p><b>(1) Resource efficiency and (2) Compensate for weakness:</b> A very important</p>



	Perhaps the most important factor; objectivity is the trait that defines whether the internal audit report is honest and relevant. Reports influenced by lack of objectivity can corrupt other reports and plans throughout the organization.	rules and procedures and can thus be effective. Competence contributes to the truth and relevance of internal audit reports in the sense that the audit is likely to be procedurally correct.	factor; work performance enables audit work to proceed according to schedule while exercising adequate care. However, issues arising from instances of poor work performance can be overcome if the audit team is well organized.
<b>Interviewee I</b>	<b>(1) Fraud, (2) Bias / influence and (3) Organization size:</b> A very important factor, particularly in cases involving fraud. An objective IAF provides management with information with which to protect the company's assets. A less objective IAF conceals such information when it involves powerful interests within the company. Auditor objectivity is likely to be even more important for large companies since the number of powerful interests is usually greater in such companies (i.e. more stakeholders and resources are involved).	<b>(1) Fraud, (2) Errors, (3) Account examination and (4) Diversity:</b> An important factor; experienced and knowledgeable IAs are more capable of detecting fraud and error since they have better knowledge of where and how to examine accounts. Experience from different companies can increase IA effectiveness.	<b>(1) Essential duty and (2) Resource efficiency:</b> The most important factor; auditors are required to be prudent and apply due professional care when examining company financial records. Audit planning that cuts down on inefficient use of time and resources can significantly boost IA effectiveness. IAs can provide recommendations to improve audit risk management. A history of identifying significant fraud or financial misstatements is a strong indicator of IA effectiveness.

Table 21 (below) identifies themes and Other Issues of Interest in the responses of the interviewees regarding the importance of the three dimensions in EA decisions to rely on the work of the IAF. These themes and Other Issues of Interest are discussed in section 4.3.2.

**Table 21: Themes and Other Issues of Interest Regarding Decisions to Rely on the Work of the IAF**

<b>Interviewee</b>	<b>Objectivity</b>	<b>Competence</b>	<b>Work performance</b>
<b>Interviewee A</b>	<b>(1) Trust, (2) Supervision and (3) Resource Availability:</b> Objectivity is directly related to trust. IAs with low objectivity require greater supervision.	<b>Diversity:</b> IAs with breadth of knowledge are easier to brief / coordinate with. However, knowledge is not critical (see work performance)	<b>Compensate for weakness:</b> While anyone can be trained (i.e. provided with knowledge), a careless assistant is a liability.
<b>Interviewee B</b>	<b>(1) Difficulty of determination and (2) Supervision:</b> The most important factor; difficulty determining IA objectivity lessened since EAs can directly supervise the IAs.	<b>Procedure and IT limitations:</b> Despite adequate knowledge, previous work of the IAF could not always be used due to limitations in audit procedures or IT.	<b>Compensate for weakness:</b> Second most important factor; EAs should not rely on the work of the IAF unless the internal auditors are independent (i.e. Objective).
<b>Interviewee C</b>	<b>Interference:</b> An important factor since independent IAs can work more effectively and without management interference.	<b>(1) Relevant knowledge and (2) Credibility:</b> The more knowledgeable the IA about auditing and the company he serves, the greater the credibility of his work, and the more it can be relied upon.	<b>Essential duty:</b> A very important factor; an auditor who does not take adequate care and attention in performing his work is not effective and cannot be relied upon.
<b>Interviewee D</b>	<b>Influence:</b> A very important factor; the more objective the IA, the more reliance would be placed on his work. Objective IAs perform balanced assessments of all relevant information and are not influenced by other interests or judgements.	<b>Relevant knowledge:</b> An important factor; IAs should only engage in activities for which they have the necessary knowledge, skills and experience.	<b>Value Added:</b> An important factor; IAs with high work performance are efficient and effective in performing activities assigned them, resulting in added value for the external audit. Given sufficient added value from IAs, EAs would be willing to modify their audit process to generate optimal benefit from IAs.
<b>Interviewee E</b>	<b>(1) Trust and (2) Essential duty:</b> The most (crucial) important factor; the more objective the IA, the more reliance would be placed on	<b>(1) Fraud and (2) Relevant knowledge:</b> A very important factor; IA knowledge increases the likelihood of the EA relying on IAs. However,	<b>(1) Compensate for weakness and (2) Scope reduction:</b> An important factor; solid planning and execution is something the EA looks for in an assistant,

	the work of the internal auditor. Objectivity is the attribute that separates EAs from other accountants. However, unless objectivity is demonstrated throughout the IAF, the EA would limit his reliance to specific IAs who demonstrated objectivity.	since it is difficult for individual EAs to build up experience in fraud detection, it is essential that EAs consult with fraud detection EA specialists once indications of fraud are found (i.e. EAs are more likely to rely on specialist EAs in fraud cases).	but only after assessing the objectivity of the internal auditor. Evidence of strong work performance can convince the EA to reduce the scope of audit tests (i.e. rely more on previous IAF work), the extent of that reduction in scope depending on the degree of audit risk.
<b>Interviewee F</b>	<b>(1) Essential duty and (2) Influence:</b> The most important factor; the more objective the IA, the more reliance would be placed on the work of the IA. Independence, particularly from company management, is the quality that distinguishes EAs from IAs. IAs who are independent in the face of pressure from company management can exhibit performance levels closer to those of EAs, increasing the likelihood of EAs deciding to rely on the IAs.	<b>(1) Account examination and (2) Standards:</b> Very important factor; IA knowledge increases the likelihood of an EA relying on IAs. With knowledgeable IAs, the EA can be confident that the IAs know how to examine company accounts in accordance with all applicable standards.	<b>(1) Standards, (2) Account examination and (3) Scope reduction:</b> An important factor; professional care in examinations and follow-ups should increase the effectiveness of internal audits. Based on evidence of a high level of professionalism in IAs, the EA may decide that a reduction in audit scope is appropriate.
<b>Interviewee G</b>	<b>(1) Influence and (2) Trust:</b> A very important factor; IAs who are not influenced by pressure from any party, including company management, can be relied upon by shareholders and others.	<b>Relevant knowledge:</b> An important factor; IAs knowledgeable in identifying the risks involved in the company's field are more likely to be relied upon by EAs.	<b>Standards:</b> An important factor; IAs who exhibit work performance in accordance with internal audit standards are more likely to be relied upon by EAs
<b>Interviewee H</b>	<b>Trust:</b> A very important factor; if the work of IAs is objective and meaningful, then the IAs can be trusted	<b>(1) Relevant knowledge and (2) Audit planning:</b> A useful (moderately important) factor; a competent IA can carry out	<b>Compensate for weakness:</b> A useful (moderately important) factor. Errors arising from poor work performance can be

	as members of the external audit team.	useful work for the external audit team and improve the quality of audit planning.	uncovered through a fair review procedure (i.e. control process).
<b>Interviewee I</b>	<b>Influence:</b> The most important factor; honesty and freedom from undue management influence is a key thing to look for when organizing an audit team or when deciding to accept prior work of the IAF.	<b>(1) Standards and (2) Cooperation:</b> A very important factor; IA knowledge increases the probability of the EA deciding to rely on IAs. Auditing qualifications and work experience help IAs absorb standards of audit work practices and concepts, enhancing their ability to work effectively with EAs.	<b>Errors:</b> An important factor; an IA who demonstrates professionalism can be trusted to correctly carry out assigned tasks, with low probability of any significant errors. Similarly, a professionally operating IAF can be trusted to be free of significant errors, although this is no guarantee of the lack of deliberate misstatements or obscurement of information.

### Overview of Additional Factors Suggested by Interviewees

In addition to the three independent variables investigated by this study, other variables have been suggested by the interviewees as having a direct influence on (1) evaluations of the effectiveness of the IAF in JLCs and (2) decisions to rely on the work of the IAF. These suggested factors and some other additional qualitative information, including the frequency with which they are mentioned by different interviews, are shown in Table 14 (in Section 4.2.2).

### 4.3.2 Cross Case Comparison

Several core themes or issues were revealed in the nine interviews. Although some of these issues were anticipated given the findings of the literature review, the interview protocol did not specifically prompt them; the interviewees were free to introduce any topic they felt was relevant to the relationship between the independent and dependent variables of this study. Each of the main issues revealed in the interviews is reported below with relevant analysis, and illustrated with quotes from the interviewees. The issues are organized into two groups: (1) themes and issues raised about evaluations of the effectiveness of the IAF and (2) themes and issues raised about decisions to rely on the work of the IAF. Discussion of conclusions

regarding the interview findings is reserved for Chapter 5. The study distinguishes between themes and issues according to the number of interviews they appear in: themes are present in three or more interviews, while other issues only appear in one or two interviews.

### Themes and Issues Raised about Evaluations of the Effectiveness of the IAF

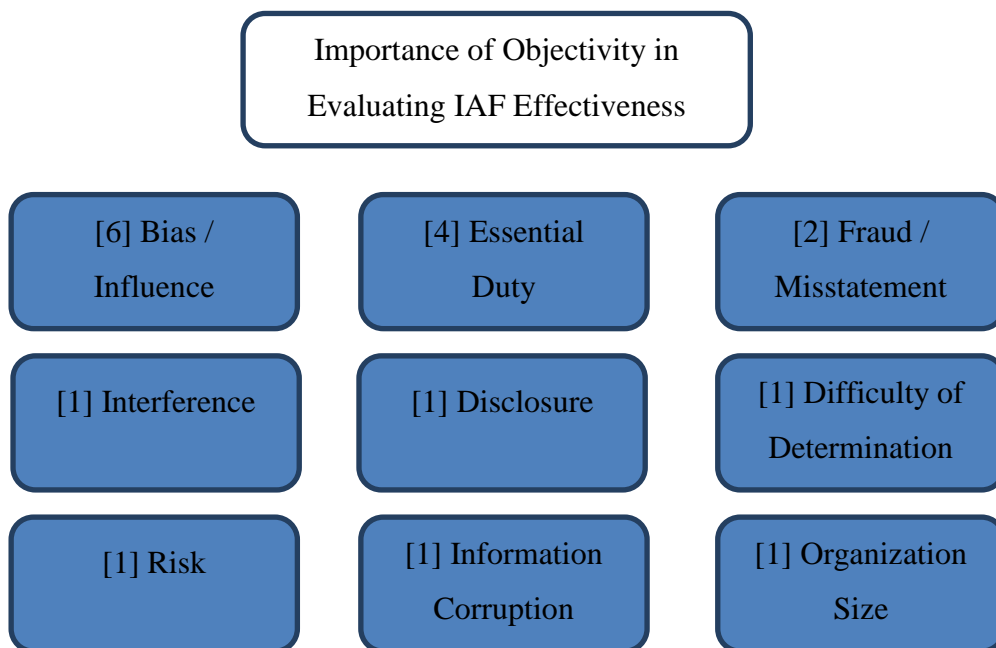
This section reports the researcher’s analysis on the qualitative interview data regarding the first dependent variable: the effectiveness of the IAF. Each of the three independent variables is discussed in its own subsection.

#### Objectivity and the Effectiveness of the IAF

The primary purpose of this section is to analyse key themes and issues raised in the interviews with EAs in regards to the importance of objectivity in evaluating IAF effectiveness in JLCs.

The interview themes and raised issues regarding the importance of objectivity in evaluating the effectiveness of the IAF are shown in Figure 21 (below). The number in brackets beside each topic indicates the number of interviews in which that theme or issue is raised in regards to the importance of objectivity in evaluating IAF effectiveness.

**Figure 20: Themes and Raised Issues Regarding Objectivity in Evaluating IAF Effectiveness**



All the interviewees agreed that objectivity was, at least, important, with approximately two thirds (6 of 9 interviewees) stating that it was very important or the most important factor. The three themes and six issues identified in the interviews in regards to the importance of objectivity in evaluating IAF effectiveness are as follows:

**Theme 1: Bias / Influence**

Bias or influence is the theme that appears with the most frequency in regards to the importance of objectivity in evaluations of IAF effectiveness (in 6 out of 9 interviews). The interviews discuss how an objective IA is free of bias or influence and how that is reflected in the results of the audit.

Some interviews suggest that unbiased audits are simply more effective. For example:

*“Objectivity is the cornerstone of the internal audit function because the IA must maintain an unbiased mental attitude and avoid conflict of interest situations while checking the company’s financial reports in order to produce an effective report”.*

Subject F

One such interview suggested that this is because objectivity in an internal audit results in the disclosure of all material facts.

*“Internal audit objectivity plays a key role in determining the effectiveness of the audit. If the IA handles audit activities in an objective manner, then the results of the audit assessment and the audit opinion will be unbiased. Eventually, this will result in disclosure of all material facts and improve the quality of reporting”.*

Subject D

One interview points out that freedom from bias is an essential element that investors require in audited financial statement. The interviewee may have been suggesting that investors’ expectation of freedom of bias guides EAs’ evaluations of the IAF.

*“The objectivity of auditors is an important element of the level of trust in the audit. Investors’ belief in the impartialness and professionalism of auditors is what encourages the investors to accept and rely on audited financial statements”.*

Subject G

### **Theme 2: Essential Duty**

The fundamental duty of IAs to be objective is the second most frequently appearing theme in regards to the importance of objectivity in evaluations of IAF effectiveness (in 4 out of 9 interviews). The theme suggests that objectivity is important because it is a defining characteristic of auditors; an auditor who is not objective is not effective. For example:

*“Because the profession of auditing depends on objectivity in fact and in appearance, the public sees freedom from interference as enabling the auditor to be as effective as possible”.*

Subject E

*“Objectivity is the cornerstone of the internal audit function because the IA must maintain an unbiased mental attitude and avoid conflict of interest situations while checking the company’s financial reports in order to produce an effective report”.*

Subject F

### **Theme 3: Fraud / Deliberate Misstatement**

Fraud or deliberate misstatement is the third most frequently appearing theme in regards to the importance of objectivity in evaluations of IAF effectiveness (in 2 out of 9 interviews). The issue suggests that objectivity is particularly important in situations in which fraud or deliberate financial misstatement is possible.

*“Judgement of IAs is a key aspect of revealing deliberate financial misstatement. Auditors with low objectivity are more likely to be compromised, especially in situations where companies are faced with large potential gains or losses”.*

Subject A

*“Auditor objectivity is particularly important in cases involving reporting of fraud or misleading information. An objective internal audit function serves the company by arming*

*management with factual and relevant information with which to protect the company's financial resources. A less objective audit function could provide such information but does not do so when it might cause problems for people and groups with powerful interests within the company. Auditor objectivity is often more important in large companies. Large companies often mean many powerful interests, including managers, shareholders and government officials, as well as the large sums of money involved."*

Subject I

### **Other Raised Issue 1: Interference**

Interference is an issue that appears in one interview regarding the importance of objectivity in evaluations of IAF effectiveness. In contrast to the theme of freedom from bias, which refers to the judgement of the auditor, the issue of interference refers to management interference in the work of the IA. Subject E seems to be implying that public perception of the importance of freedom from interference is a reason why EAs consider objectivity when evaluating the effectiveness of an IAF.

*"Because the profession of auditing depends on objectivity in fact and in appearance, the public sees freedom from interference as enabling the auditor to be as effective as possible".*

Subject E

### **Other Raised Issue 2: Disclosure**

Disclosure is an issue that appears in one interview regarding the importance of objectivity in evaluations of IAF effectiveness. Subject D suggests that an objective internal audit results in the disclosure of all material facts.

*"Internal audit objectivity plays a key role in determining the effectiveness of the audit. If the IA handles audit activities in an objective manner, then the results of the audit assessment and the audit opinion will be unbiased. Eventually, this will result in disclosure of all material facts and improve the quality of reporting".*

Subject D



### **Other Raised Issue 3: Difficulty of Determination**

Difficulty of determining IA objectivity is an issue that appears in one interview regarding the importance of objectivity in evaluations of IAF effectiveness. Subject B suggests that while objectivity is an important factor in IAF effectiveness, the difficulty of determining IA objectivity leads to EAs focusing on work performance instead.

*“EAs sometimes can’t accurately assess the independence, planning and supervision of IAs, but that it is relatively simple to assess the work performance of IAs”.*

Subject B

### **Other Raised Issue 4: Risk**

Risk is an issue that appears in one interview regarding the importance of objectivity in evaluations of IAF effectiveness. Subject E suggests that IAF objectivity is an important indicator of IAF effectiveness and it is particularly important in risk conditions.

*“Demonstration of objectivity throughout the internal audit department and the audit committee is a very positive indicator. It is something I always looks for, especially when conducting audits under risky conditions.”*

Subject E

### **Other Raised Issue 5: Information Corruption**

Corruption of information is an issue that appears in one interview regarding the importance of objectivity in evaluations of IAF effectiveness. Subject H seems to suggest that misleading information in internal audit reports can spread to contaminate other reports and decisions throughout an organization, making it more difficult for EAs to determine the true picture. According to subject H, IA objectivity results in uncorrupted reports.

*“The uncorrupted reports resulting from the [internal] auditing process will filter down [from top management to the rest of the company] and then be used in decision making processes. So, as EAs, this will make the job at hand that much easier and our final reports will be relevant and not misleading”.*

Subject H

### Other Raised Issue 6: Organization Size

Organization size is an issue that appears in one interview regarding the importance of objectivity in evaluations of IAF effectiveness.

*“Auditor objectivity is often even more important in large companies. Large companies often mean many powerful interests, including managers, shareholders and government officials, as well as the large sums of money involved.”*

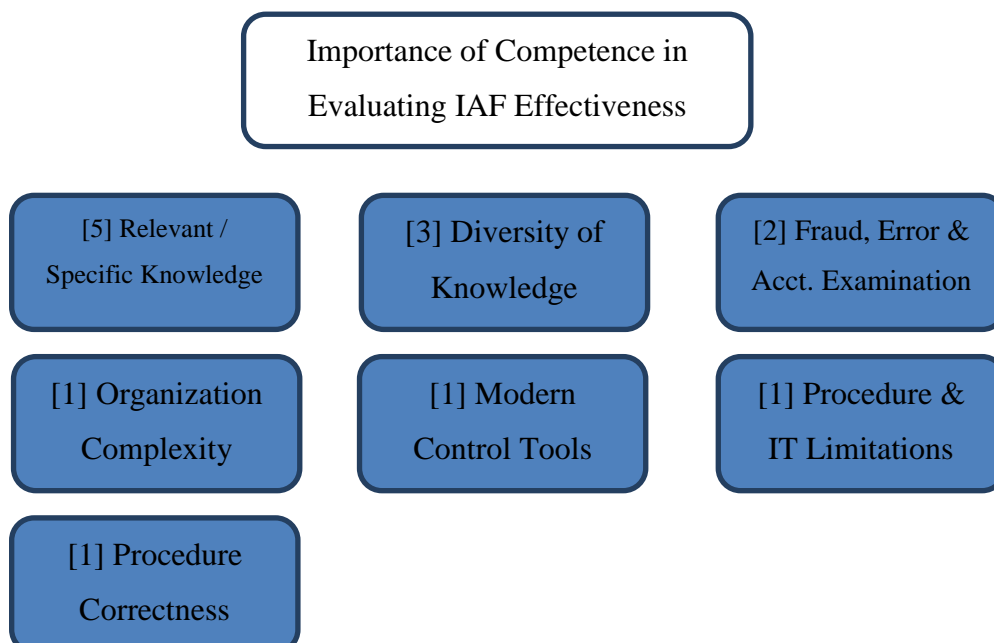
Subject I

### Competence and the Effectiveness of the IAF

The primary purpose of this section is to analyse key themes and other raised issues in the interviews with EAs in regards to the importance of competence in evaluating IAF effectiveness in JLCs.

The interview themes and raised issues regarding the importance of competence in evaluating the effectiveness of the IAF are shown in Figure 22 (below). The number in brackets beside each topic indicates the number of interviewees who mentioned that theme or issue in regards to the importance of competence in evaluating IAF effectiveness.

**Figure 21: Themes and Issues Raised Regarding Competence in Evaluating IAF Effectiveness**



The interviewees judged competence to be an important (8 out of 9 interviewees) or moderately important (1 interviewee) factor in evaluating IAF effectiveness. None of the interviewees suggested that competence was “very important” or the most important of the three dimensions.

The three themes and four issues identified in the interviews in regards to the importance of competence in evaluating IAF effectiveness are as follows:

### **Theme 1: Relevant Knowledge**

Relevant (or specific) knowledge of some kind is the most frequently mentioned (5 out of 9 interviewees) theme regarding the importance of competence in evaluating IAF effectiveness.

According to subject C, an IA needs to have knowledge about auditing work and the audit function:

*“Every profession needs at least the knowledge of that field of the work, so the IA knows about the nature of audit work and function”.*

Subject C

However, subject G goes further, saying that the IA needs to have knowledge relevant to the organization he works in:

*“The IAs must be experienced, educated, trained in the area, industry, nature of the business to better understand its risks and possible [internal] controls”.*

Subject G

Subject A suggests that in order to use modern control systems effectively, IAs need the appropriate knowledge on how to use them.

*“Knowledge is also required to effectively use modern internal control tools”.*

Subject A

Subject I refers to a specific type of knowledge: account examination in order to detect fraud and errors.

*“IAs with experience can detect more frauds and errors since they are better equipped to know where and how to examine accounts”.*

Subject I

Subject F mentions another type of knowledge that contributes to IA effectiveness: knowledge on how to examine accounts. However, subjects F does not explicitly state that they look for the account examination skill; only that experienced auditors have this skill.

*“Knowledge and practical skills are necessary requirements for IAs to fulfil their job effectively. IAs with more experience are more capable of detecting frauds and errors because they know where and how to check accounts effectively”.*

Subject F

## **Theme 2: Diversity of Knowledge**

Diversity of Knowledge is a theme mentioned in three interviews regarding the importance of competence in evaluating IAF effectiveness.

*“When auditors are faced with large variety in tasks, breadth of knowledge is necessary.*

Subject A

*“Knowledge and practical skills are necessary for auditors to fulfil their roles effectively. Knowledge and experience are what enable auditors to interpret data and produce useful information. A wider range of knowledge and experience, for example gained from working with a number of organizations, enables auditors to make sense of a greater range of situations.”*

Subject E

*“And having experience from different companies can increase the effectiveness of an IA.”*

Subject I

## **Theme 3: Account Examination for Errors and Fraud**

Account examination for identifying errors and fraud is a theme mentioned in two interviews regarding the importance of competence in evaluating IAF effectiveness. It relates to a

specific type of audit knowledge: the knowledge of how to examine accounts in order to identify errors and fraud. This theme suggests that experienced (i.e. competent) IAs are knowledgeable regarding account examination, thus increasing their effectiveness. However, it is not explicitly stated that EAs look for the account examination skill; only that experienced auditors have this skill.

*“Knowledge and practical skills are necessary requirements for IAs to fulfil their job effectively. IAs with more experience are more capable of detecting frauds and errors because they know where and how to check accounts effectively”.*

Subject F

*“IAs with experience can detect more frauds and errors since they are better equipped to know where and how to examine accounts”.*

Subject I

### **Other Raised Issue 1: Organization Complexity**

Organization complexity is an issue mentioned in one interview (i.e. subject A). Organization complexity implies that an IA is involved in a wide range of activities and complications (e.g. companies with multiple business lines). According to subject A, an IA needs breadth (i.e. variety) of knowledge when dealing with a wide variety of tasks.

*“IAs in more complicated organizations need breadth of knowledge to deal effectively with a wider range of activities and complications. When auditors are faced with large variety in tasks, breadth of knowledge is necessary.”*

Subject A

### **Other Raised Issue 2: Modern Control Tools**

Modern control tools is an issue mentioned in one interview (i.e. subject A). According to subject A, in order to effectively use modern control tools, IAs need the appropriate knowledge:

*“When auditors are faced with large variety in tasks, breadth of knowledge is necessary. Knowledge is also required to effectively use modern internal control tools”.*

Subject A

### **Other Raised Issue 3: Procedure & IT Limitations**

Procedure and IT limitations is an issue mentioned in one interview (i.e. subject B). Subject B implies that among the reasons that auditor knowledge is not translated into audit effectiveness are the limitations of the audit techniques and methods used in the organization. Subject B states that management decisions or IT system limitations sometimes prevent IAs from making changes that improve audit techniques and methods in an organization.

*“Skilled and experienced IAs should, theoretically, be more effective than less able auditors, resulting in increased audit effectiveness. However, in practice, this was not always true. You need to account for the restrictions under which IAs work. Bureaucracy and conflicts within the organization sometimes prevent IAs from implementing or changing to more effective audit and supporting procedures and policies. Sometimes the problem is in an outdated or inflexible information system.”*

Subject B

### **Other Raised Issue 4: Procedure Correctness**

Procedure correctness is an issue mentioned in one interview (i.e. subject H).

*“A competent IA can properly apply audit rules and procedures and can thus be effective. Competence contributes to the truth and relevance of internal audit reports in the sense that the audit is likely to be procedurally correct.”*

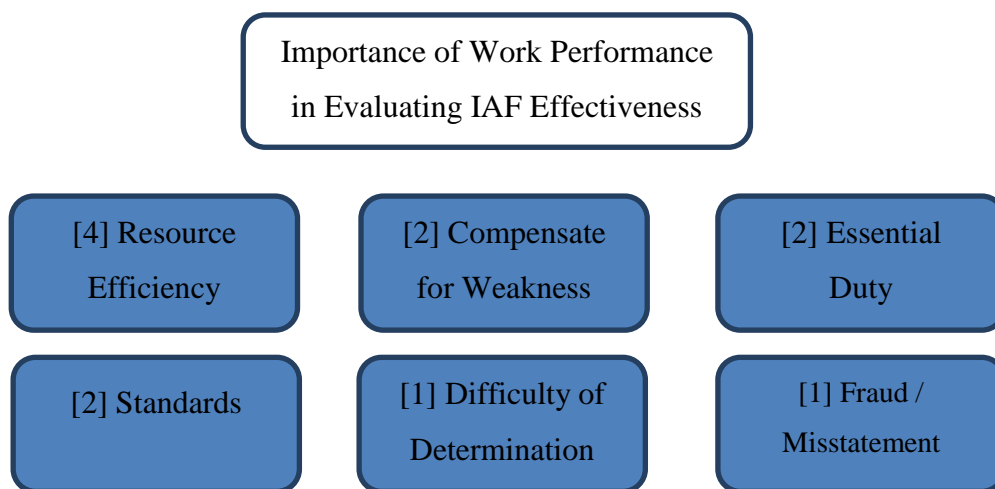
Subject H

### **Work Performance and the Effectiveness of the IAF**

The primary purpose of this section is to analyse key themes and other raised issue in the interviews with EAs in regards to the importance of work performance in evaluating IAF effectiveness in JLCs.

The interview themes and other raised issues regarding the importance of work performance in evaluating the effectiveness of the IAF are shown in Figure 23 (below). The number in brackets beside each topic indicates the number of interviewees who mentioned that theme or issue in regards to the importance of competence in evaluating IAF effectiveness.

**Figure 22: Themes and Issues Raised Regarding Work Performance in Evaluating IAF Effectiveness**



The majority of interviewees judged work performance to be a very important factor (5 out of 9 interviewees), with some judging it to be the most important factor (2 out of 9 interviewees) or simply important (2 out of 9 interviewees).

The four themes and two issues identified in the interviews in regards to the importance of competence in evaluating IAF effectiveness are as follows:

**Theme 1: Resource Efficiency**

Resource efficiency is the theme that appears with the most frequency in regards to the importance of work performance in evaluations of IAF effectiveness (in 4 out of 9 interviews). This theme suggests that good work performance implies good planning and careful executing, enabling auditors to work efficiently towards achieving their objectives, with the least waste in time and other resources. This can reduce the time needed for the audit and potentially reduces the cost of the audit.

*“Increased IA work performance translates into increased capacity or productivity per man hour, resulting in faster audits, cost savings and, potentially, increased value added from auditing activities”.*

Subject D

*“A careful and well thought-out audit from a new accounting graduate with little experience is sufficient for most routine internal audit tasks, but more knowledge is required when dealing with fraud and unusual conditions”. “Great knowledge in an IA is no substitute for carefulness. Careful planning, execution and attention to details are more important than an accounting degree or years of working as an auditor.” “In my experience, auditors who are professional in the execution of their work are more likely to accomplish audit tasks without much wasted time. Even when something goes wrong, and it often does, these auditors quickly realize that there is a problem and take steps to resolve it. An auditor who is professional in his work is someone who is more likely to deliver on time and needs less support and resources to do it.”*

Subject E

*“Solid work performance enables audit work to proceed according to schedule while exercising adequate care. However, issues arising from occasional instances of poor work performance can be overcome if the audit team is well organized”.*

Subject H

*“Solid audit planning cuts down on inefficient use of time and resources and thus can significantly boost IA effectiveness”.*

Subject I

## **Theme 2: Compensate for Weakness**

Compensating for weakness is a theme that appears in two interviews in regards to the importance of work performance in evaluations of IAF effectiveness. Subject A’s comment suggests that a weakness in work performance can’t be fully compensated for by competence or the use of a control system. On the other hand, according to subject H, occasional weaknesses in work performance can be dealt with if the audit team is well organized. Subject does not explain the role of team organization, but it may be that in a well-organized team, peers and supervisors can use appropriate cross-checking and review processes to identify and correct audit errors.

*“Adequate care and attention must be exercised during audits. No control system or depth of knowledge can fully compensate for lack of adequate care”.*



Subject A

*“Solid work performance enables audit work to proceed according to schedule while exercising adequate care. However, issues arising from occasional instances of poor work performance can be overcome if the audit team is well organized”.*

Subject H

### **Theme 3: Essential Duty**

The fundamental duty of IAs to exercise professional care and attention in audits is a theme that appears in two interviews in regards to the importance of work performance in evaluations of IAF effectiveness. This theme implies that work performance is used to evaluate IA effectiveness since it is a defining responsibility of IAs; an auditor who is careless and does not pay sufficient attention is not an effective auditor.

*“IAs are directly responsible for everything they report to the audit committee, including financial, operating and compliance audits. An auditor who does not take adequate care and attention in performing his work has failed in his duty and cannot be said to be effective”.*

Subject C

*“Internal and EAs are required to be prudent and apply due professional care when examining company financial records”.*

Subject I

### **Theme 4: Standards**

Auditing standards is a theme that appears in two interviews in regards to the importance of work performance in evaluations of IAF effectiveness. This theme implies that the importance of work performance arises, at least partly, from auditing standards; auditing standards define and require work performance.

*“Auditing standards require that auditors be prudent and apply due professional care in the execution of audits”*

Subject F

“Internal audit effectiveness requires that auditors apply the relevant performance standards; both of the audit profession and the organization they work at”

Subject G

### **Other Raised Issue 1: Difficulty of Determination**

Difficulty of determining work performance is an issue that appears in one interview in regards to the importance of work performance in evaluations of IAF effectiveness. It suggests that among the reasons work performance is a good measure of effectiveness is that it is relatively simple to assess the level of work performance.

*“The low work performance usually resulted in low effectiveness. Moreover, work performance was relatively simple to assess, which contributes to its usefulness as a factor in assessing IAF effectiveness”.*

Subject B

### **Other Raised Issue 2: Fraud / Misstatement**

Fraud or misstatement is an issue that appears in one interview in regards to the importance of work performance in evaluations of IAF effectiveness. Subject I suggested that actual detection of fraud or misstatements is the strongest evidence of the effectiveness of an auditor.

*“The biggest evidence of IA performance is a history of prior cases of fraud or significant financial misstatement identified and reported by them”.*

Subject I

## **Themes and Issues Raised about Decisions to Rely on the Work of the IAF**

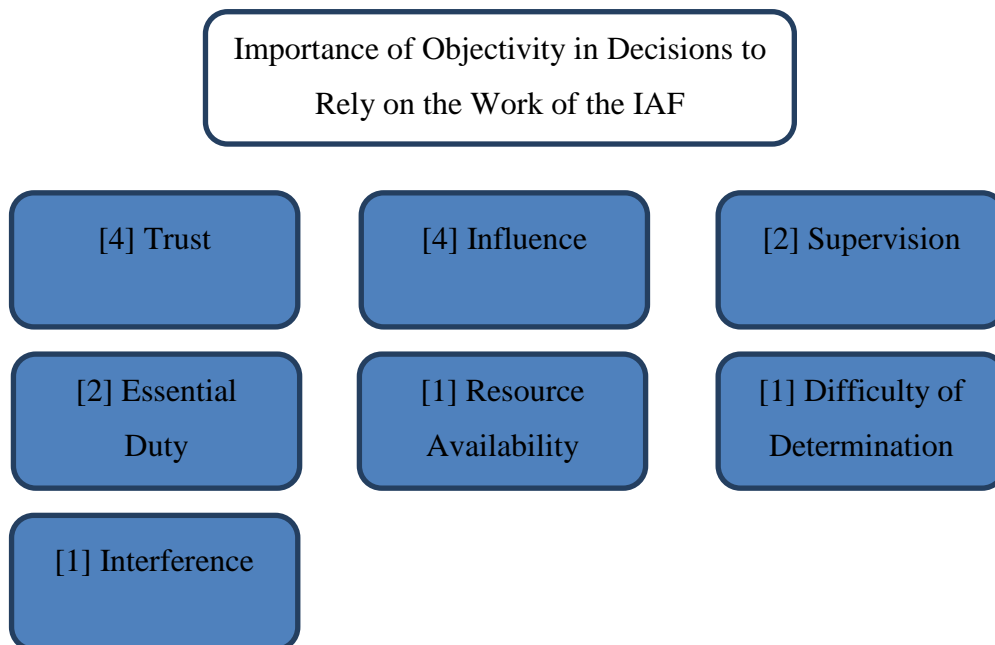
This section reports the researcher’s analysis on the qualitative interview data regarding the second dependent variable: EA reliance on the work of the IAF. Each of the three independent variables is discussed in its own subsection.

## Objectivity and Decisions to Rely on the Work of the IAF

The primary purpose of this section is to analyse key themes and other raised issues in the interviews with EAs in regards to the importance of objectivity in EA decisions to rely on the work of the IAF effectiveness in JLCs.

The interview themes and other raised issues regarding the importance of objectivity in decisions to rely on the work of the IAF are shown in Figure 24 (below). The number in brackets beside each topic indicates the number of interviewees who mentioned that theme or issue in regards to the importance of objectivity in decisions to rely on the work of the IAF.

**Figure 23: Themes and Issues Raised Regarding Objectivity in Decisions to Rely on the Work of the IAF**



The majority of interviewees judged objectivity to be either a very important factor (4 out of 9 interviewees) or even the most important factor (3 of 9 interviewees) , with only two interviewees judging it to be simply important.

The four themes and three issues identified in the interviews in regards to the importance of objectivity in decisions to rely on the work of the IAF are as follows:

### **Theme 1: Trust**

Trust is a theme that appears in four interviews in regards to the importance of objectivity in decisions to rely on the work of the IAF.

*“IA objectivity is useful if I am going to trust him as a full partner in any significant audit. In cases where objectivity is not high, I might rely on an IA if he is relatively well supervised by me or another team member”. “Objectivity is relevant to how far I can trust an IA”.*

Subject A

*“The more evidence there is that an IA is objective, the more he can be trusted and thus more reliance can be placed on his work”. “Other than in terms of the expectation of objectivity and independence from the organization being audited, EAs are no different from any other experienced accountant.”*

Subject E

*All auditors, including IAs, who are not influenced by pressure from any party, including the client company’s management, can be relied upon by shareholders and others stakeholders”.*

Subject G

*“If the work of IAs is objective and meaningful, then IAs can be trusted to be productive members of the external audit team. IAs who are not objective can’t be trusted and are a hindrance to the external audit”.*

Subject H

### **Theme 2: Influence**

Influence is a theme that appears in four interviews in regards to the importance of objectivity in decisions to rely on the work of the IAF. The theme suggests that freedom from influence and from bias in judgement is something EAs look for when deciding how much to rely on the work of the IAF. Some of the interviews have suggested that IA objectivity and independence from company management is reflected in more balanced assessments and even in greater performance.

*“The more objective the IA, the more reliance would be made on the work of the IA. The objective IA performs balanced assessments of all relevant information and is not influenced by other interests or judgements”.*

Subject D

*“Independence, particularly from company management, is the quality that distinguishes EAs from IAs. IAs who are independent in the face of pressure from company management can exhibit performance levels closer to those of EAs, increasing the likelihood of my deciding to rely on such IAs.”*

Subject F

*All auditors, including IAs, who are not influenced by pressure from any party, including the client company’s management, can be relied upon by shareholders and others stakeholders”.*

Subject G

*“Honesty and freedom from improper management influence is a key thing to look for when deciding how to integrate IAs into our audit teams or when deciding to accept prior work of the internal audit function”.*

Subject I

### **Theme 3: Supervision**

Supervision is a theme that appears in two interviews in regards to the importance of objectivity in decisions to rely on the work of the IAF. Subject A suggests that appropriate supervision can compensate for lower levels of objectivity. On the other hand, subject B suggests that EA supervision of IAs makes it easier to determine how objective they are.

*“IA objectivity is useful if I am going to trust him as a full partner in any significant audit. In cases where objectivity is not high, I might rely on an IA if he is relatively well supervised by me or another team member”. “Objectivity is relevant to how far I can trust an IA”.*

Subject A

*“The difficulty of assessing the objectivity of IAs is reduced in the case of decisions to rely on the work of IAs, as the EAs are able to directly observe and supervise IAs for the duration of their work with the EAs”.*

Subject B

#### **Theme 4: Essential Duty**

The fundamental duty of an auditor to be objective is a theme that appears in two interviews in regards to the importance of objectivity in decisions to rely on the work of the IAF. The theme implies that the fact that objectivity is an essential requirement for EAs means that IAs will be judged in terms of their objectivity before they can, in effect, be used as “assistant EAs”.

Subject E implies that the more the IA approaches the objectivity required of an EA, the more he can be relied upon.

*“The more evidence there is that an IA is objective, the more he can be trusted and thus more reliance can be placed on his work”. According to Subject E, “Other than in terms of the expectation of objectivity and independence from the organization being audited, EAs are no different from any other experienced accountant.”*

Subject E

Subject F implies that there is a difference in the performance of internal and EAs and that objective IAs exhibit performance closer to that of EAs.

*“Being independent from the company management is a crucial and vital point to ensure that IAs fulfil their duties properly. The degree of independence is the quality that distinguishes EAs from IAs. Therefore, being independent from the company management and their pressure increases their [i.e. IAs] performance and brings it much closer to the performance of the EAs”.*

Subject F

#### **Other Raised Issue 1: Resource Availability**

Resource availability, an issue that appears in one interview, is directly related to the theme of “supervision”. Availability of sufficient supervision implies that there are enough EAs

with the time and ability to supervise IAs. This suggests that when resources (i.e. EAs) are scarce, EAs will be less willing to rely on IAs with low objectivity.

*In cases where objectivity is not high, I might rely on an IA if he is relatively well supervised by me or another team member”.*

Subject A

### **Other Raised Issue 2: Difficulty of Determination**

Difficulty of determining IA objectivity is an issue that appears in one interview in regards to the importance of objectivity in decisions to rely on the work of the IAF. Subject B suggests that EAs who monitor and supervise IAs over time can better assess their level of objectivity. This implies that in decisions to rely on IAs, the EAs do not always make a final decision immediately, sometimes giving IAs opportunities to demonstrate their abilities, including their objectivity.

*“The difficulty of assessing the objectivity of IAs is reduced in the case of decisions to rely on the work of IAs, as the EAs are able to directly observe and supervise IAs for the duration of their work with the EAs”.*

Subject B

### **Other Raised Issue 3: Interference**

Interference is an issue that appears in one interview in regards to the importance of objectivity in decisions to rely on the work of the IAF. In contrast to the theme of freedom from influence, which refers to the judgement of the auditor, the issue of interference refers to management interference in the work of the IA.

*“Being independent from the company management is a crucial and vital point to ensure that IAs fulfil their duties properly. The degree of independence is the quality that distinguishes EAs from IAs. Therefore, being independent from the company management and their pressure increases their performance and brings it much closer to the performance of the EAs”.*

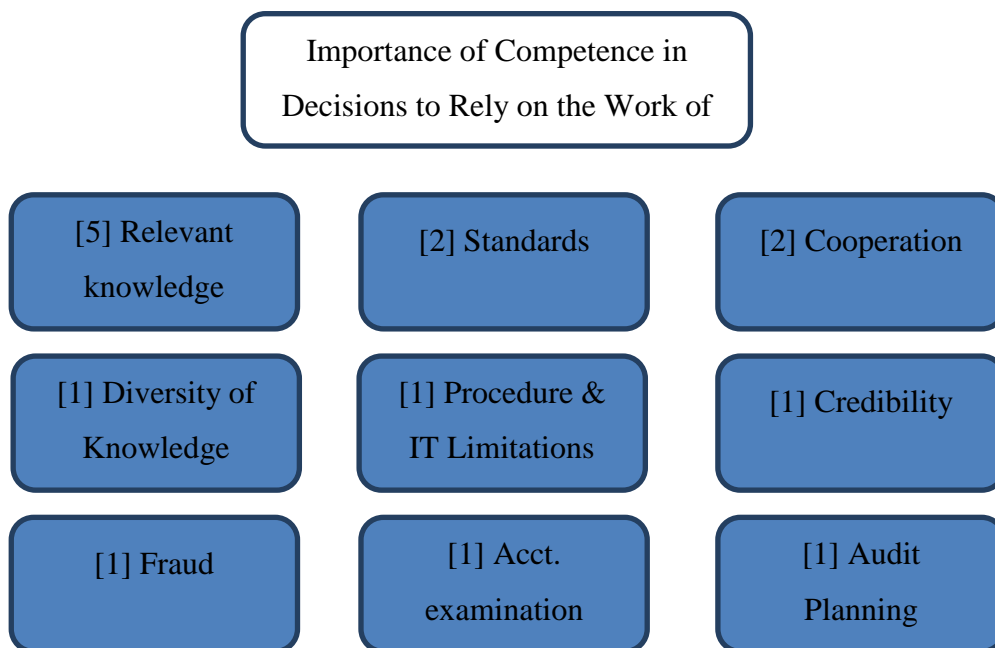
Subject F

## Competence and Decisions to Rely on the Work of the IAF

The primary purpose of this section is to analyse key themes and other issues raised in the interviews with EAs in regards to the importance of competence in EA decisions to rely on the work of the IAF effectiveness in JLCs.

The interview themes and issues regarding the importance of competence in decisions to rely on the work of the IAF are shown in Figure 25 (below). The number in brackets beside each topic indicates the number of interviewees who mentioned that theme or issue in regards to the importance of competence in decisions to rely on the work of the IAF.

**Figure 24: Themes and Issues Raised Regarding Competence in Decisions to Rely on the Work of the IAF**



The interviewees are evenly divided among those who judged competence to be a very important factor (3 out of 9 interviewees), an important factor (3 out of 9) or simply a useful or moderately important factor (3 out of 9). None of the interviewees suggested that it was the most important factor.

The three themes and six issues identified in the interviews in regards to the importance of competence in decisions to rely on the work of the IAF are as follows:



### **Theme 1: Relevant Knowledge**

Relevant knowledge is the theme that appears with the most frequency in regards to the importance of competence in decisions to rely on the work of the IAF (in 5 out of 9 interviews). All comments in this theme suggest that knowledge increases how much EAs can rely on the work of IAs. For the most part, the comments refer to knowledge that is relevant to the organization in which the IAs work. According to Subject E, auditors with more knowledge can be assigned more complex tasks. Subject H refers to making use “insiders”, implying that the EAs are interested in IAs’ knowledge about the organization in which they work.

*“The more knowledgeable the IA is about auditing and his company, the greater the credibility of his work, and the more it can be relied upon”.*

Subject C

*“IAs should perform only those services for which they have the necessary knowledge, skills, and experience. IAs should continually improve their knowledge and skills because that will result in more effectiveness and quality of work”.*

Subject D

*“I do look for knowledge when deciding on using an IA as an assistant. The extent of knowledge guides the type of tasks I assign to an IA; I am more likely to give more knowledgeable auditors more complex assignments.”*

Subject E

*“IAs who are experienced, educated or trained in identifying the risks involved in their company’s industry are more likely to be relied upon by EAs”.*

Subject G

*“An educated or experienced IA can do useful work for our audit team. At the very least he can be a useful resource for us during audit planning. He is an insider, and we can make use of that”.*

Subject H

## **Theme 2: Standards**

Auditing standards is a theme that appears in two interviews in regards to the importance of competence in decisions to rely on the work of the IAF. The theme suggests that EAs assume that educated or experienced IAs understand and can work according to auditing standards. Subject I also suggests that this makes it easier for internal and EAs to work together.

*“With knowledgeable IAs, I can be confident that they knew how to examine company accounts in accordance with all applicable standards”.*

Subject F

*“IAs with education or certification in auditing or with plenty of work experience are grounded in many of the same standards that we use. This allows IAs to fit in and work with our audit teams with few problems.*

Subject I

## **Theme 3: Cooperation**

Cooperation or coordination is a theme that appears in two interviews in regards to the importance of competence in decisions to rely on the work of the IAF. One comment suggests that diversity of knowledge increases the ability of IAs to work with EAs. Another comment suggests that greater knowledge gives IAs many of the same standards and concepts that are used by EAs, thus increasing their ability to work with EAs.

*“IAs with a wider range of knowledge were easier to brief and coordinate with”.*

Subject A

*“IAs with education or certification in auditing or with plenty of work experience are grounded in many of the same standards that we use. This allows IAs to fit in and work with our audit teams with few problems.*

Subject I

## **Other Raised Issue 1: Diversity of Knowledge**

Diversity of knowledge is an issue that appears in one interview in regards to the importance of competence in decisions to rely on the work of the IAF. The issue suggests that diversity of knowledge increases the ability of IAs to work with EAs.

*“IAs with a wider range of knowledge were easier to brief and coordinate with”.*

Subject A

### **Other Raised Issue 2: Procedure & IT Limitations**

Procedure and IT limitations is an issue that appears in one interview in regards to the importance of competence in decisions to rely on the work of the IAF. The issue suggests that one of the reasons that the work of knowledgeable IAs is not always used or relied upon is that the IAs are forced to work within certain limitations created by the procedures and IT systems used in their organization.

*“IAs in most medium and large companies are usually competent. We know this from feedback from our training service line. However, we sometimes were unable to use the previous work produced by the IAs of a client due to limitations arising from audit procedures or the information system. We may use the IAs as assistants even when we can’t use their routine reports.”*

Subject B

### **Other Raised Issue 3: Credibility**

Credibility is an issue that appears in one interview in regards to the importance of competence in decisions to rely on the work of the IAF. The issue suggests that EAs judge the credibility of the work of an IA based on his level of knowledge.

*“The more knowledgeable the IA is about auditing and his company, the greater the credibility of his work, and the more it can be relied upon”.*

Subject C

### **Other Raised Issue 4: Fraud**

Fraud is an issue that appears in one interview in regards to the importance of competence in decisions to rely on the work of the IAF. The issue suggests that in conditions in which fraud is suspected, EAs are less likely to rely directly on IAs.

*“It is difficult for individual auditors to build up expertise in fraud detection, so EAs are unlikely to rely a great deal on IAs in such tasks. Auditors need specific training programs to help them to detect fraud. Moreover, when EAs suspect fraud, consultation with the audit firm’s technical department is prescribed; fraud specialists will likely then join the team. So, in fraud related cases I believe there is less room for direct reliance on IAs.”*

Subject E

#### **Other Raised Issue 5: Account Examination**

Account examination is an issue that appears in one interview in regards to the importance of competence in decisions to rely on the work of the IAF. It suggests that EAs believe that knowledgeable IAs know how to examine company accounts as stipulated in applicable standards.

*“With knowledgeable IAs, I can be confident that they know how to examine company accounts in accordance with all applicable standards”.*

Subject F

#### **Other Raised Issue 6: Audit Planning**

Audit planning is an issue that appears in one interview in regards to the importance of competence in decisions to rely on the work of the IAF. The issue suggests that knowledgeable IAs are insiders and that their insider knowledge can be useful for audit planning.

*“An educated or experienced IA can do useful work for our audit team. At the very least he can be a useful resource for us during audit planning. He is an insider, and we can make use of that”.*

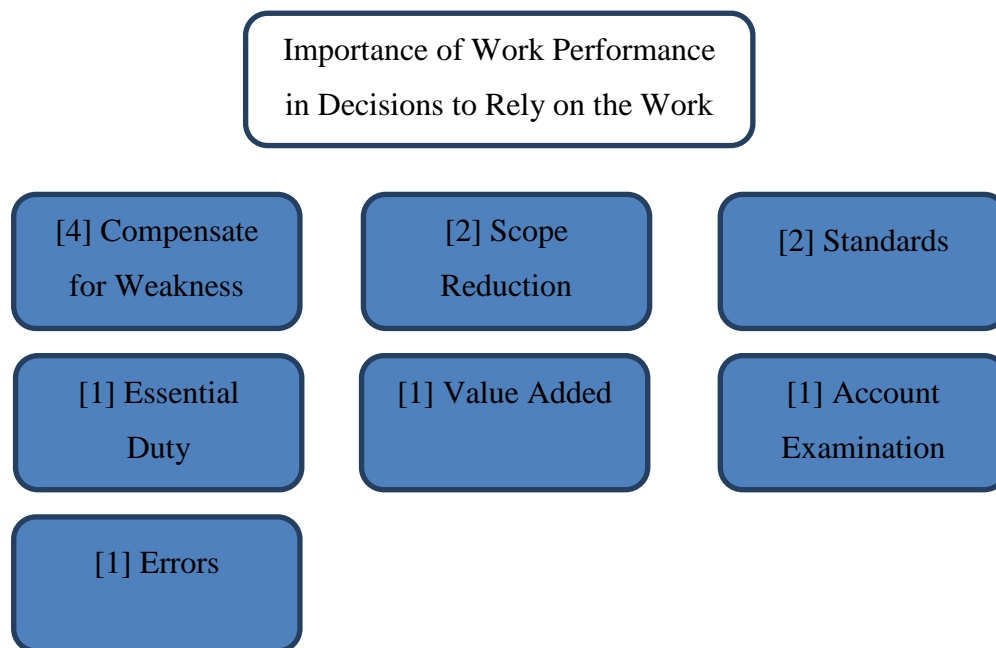
Subject H

### **Work Performance and Decisions to Rely on the Work of the IAF**

The primary purpose of this section is to analyse key themes and issue raised in the interviews with EAs in regards to the importance of work performance in EA decisions to rely on the work of the IAF effectiveness in JLCs.

The interview themes and issues raised regarding the importance of work performance in decisions to rely on the work of the IAF are shown in Figure 26 (below). The number in brackets beside each topic indicates the number of interviewees who mentioned that theme or issue in regards to the importance of work performance in decisions to rely on the work of the IAF.

**Figure 25: Themes and Issues Raised Regarding Work Performance in Decisions to Rely on the Work of the IAF**



The majority of interviewees judged work performance to be an important factor (5 out of 9 interviewees), with some judging it to be a very important factor (3 out of 9 interviewees) and only one interviewee judging it to be simply useful or moderately important.

The three themes and four issues identified in the interviews in regards to the importance of work performance in decisions to rely on the work of the IAF are as follows:

**Theme 1: Compensate for Weakness**

Compensating for a weakness is the theme that appears with the most frequency in regards to the importance of work performance in decisions to rely on the work of the IAF (in 4 out of 9 interviews). Three of the comments suggest that work performance is only considered once objectivity has been assessed, implying that low objectivity is a critical failure in decisions to rely on the work of IAs.

*“Any person could be trained to be a useful assistant, but a careless assistant would be a liability”.*

Subject A

*“Even if the internal audit department’s work performance is assessed as high, the EA should not rely on the work of internal audit unless it is relatively independent”.*

Subject B

*“Solid planning and execution is something I look for in an assistant, but only after assessing the objectivity of the IA”.*

Subject E

*“Errors arising from poor work performance can be uncovered through a fair review of [control] procedures. These are honest errors. Other errors can be more difficult to uncover”.*

Subject H

## **Theme 2: Scope Reduction**

Scope reduction is a theme that appears in two interviews in regards to the importance of work performance in decisions to rely on the work of the IAF. The theme suggests that evidence of high work performance may be enough to convince the audit team to reduce the scope of the audit. However, Subject F suggests that the extent of scope reduction depends on the audit risk.

*“Solid planning and execution is something I look for in an assistant, but only after assessing the objectivity of the IA. When it comes to relying on the work of the internal audit function as a whole, I would first need positive evidence regarding the function’s work practices. Professional work practices, including standardized procedures and good results versus benchmarks across the board, might convince the audit team leadership that some audit areas require fewer tests. The extent of such reduction in scope depends on the assessed risk of the audit.”*

Subject E

*“We take into consideration the professionalism of internal audit in our decisions about what activities will be in-scope [of the audit].Based on evidence of a high level of professionalism in the internal audit function, for example full documentation of prior work and low error rates revealed by our tests on their previous work, the team leader may decide that a reduction in audit scope is appropriate.”*

Subject F

### **Theme 3: Standards**

Auditing standards is a theme that appears in two interviews in regards to the importance of work performance in decisions to rely on the work of the IAF. The theme suggests that EAs are more likely to rely on IAs or the work of the IAF if work performance is in accordance with standards of internal auditing.

*“Professional care in examinations and follow-ups, as required in the standards of the institute of IAs, should increase the effectiveness of internal audits.”*

Subject F

*“IAs who demonstrate work performance in accordance with audit standards are more likely to be relied upon as team members. The work of the internal audit function is more likely to be relied upon if work is well documented and organized and spot checks reveal a low likelihood of errors. Again, internal auditing standards provide guidelines for what is expected of the internal audit function.”*

Subject G

### **Other Raised Issue 1: Essential Duty**

The fundamental or essential duty of auditors to exercise professional care is an issue that appears in one interview in regards to the importance of work performance in decisions to rely on the work of the IAF. This issue suggests that professional care in audits is a defining characteristic of auditors; an IA without this characteristic can't be relied upon.

*“An auditor who does not take care and pay attention while performing his work is not effective and cannot be relied upon”.*

Subject C

### **Other Raised Issue 2: Value Added**

The value added by IAs is an issue that appears in one interview in regards to the importance of work performance in decisions to rely on the work of the IAF. The issue suggests that IA work performance can be translated into value added to the audit process. Furthermore, if the potential value added is great enough, the audit plan may be altered to maximize the value to the audit.

*“I would say that an IA who takes care in the performance of his work can be very effective, particularly if given sufficient guidance. He can carry out the tasks that we assign and add value to the audit”. “If IAs can add enough value to an external audit, then we are certainly willing to modify the audit plan to make the best use of them”.*

Subject D

### **Other Raised Issue 3: Account Examination**

Account examination is an issue that appears in one interview in regards to the importance of work performance in decisions to rely on the work of the IAF. It refers to work performance in a particular audit task: account examination. It may imply that EAs focus on account examination when evaluating work performance and / or decisions to rely on the work of IAs.

*“Professional care in examinations and follow-ups, as required in the standards of the institute of IAs, should increase the effectiveness of internal audits.”*

Subject F

### **Other Raised Issue 4: Errors**

Error is an issue that appears in one interview in regards to the importance of work performance in decisions to rely on the work of the IAF. It suggests that one concern in relying on IAs or the work of the IAF is the possibility of errors.

*“An auditor who demonstrates professionalism could be trusted to correctly carry out tasks assigned him by the audit team, with some confidence of a low probability of significant errors. Similarly, the reports of a professionally operating internal audit function can be trusted to be free of significant errors, although this is no guarantee of the lack of deliberate misstatements or obscurement of information.”*

Subject I



## 4.4 Chapter Summary

This chapter illustrated the results of the analysis of the quantitative and qualitative data. Effect size analysis showed that all three of the study's independent variables had a statistically significant influence on the two dependent variables. In evaluations of IAF effectiveness, work performance was found to be the most influential factor, followed by competence and objectivity. In decisions to rely on the work of the IAF, objectivity was the most influential factor, followed by competence and work performance. The analysis of the self-reported weights for the importance of the independent variables demonstrated that the external auditors had good self-insight; the ranking of the importance of the independent variables was exactly the same as that reported in the effect size analysis. The interviews revealed many explanations for the importance of the independent variables and some reasons why their importance might be reduced. Effect size analysis also revealed significant interactions between the independent variables, suggesting that the EAs used configural decision making in order to assess the impact of the independent variables on the dependent variables. In chapter 5, the implications of these results will be discussed.

# **CHAPTER FIVE: DISCUSSION AND CONCLUSIONS**

## **5.1 Introduction and Chapter Overview**

This chapter presents discussions and conclusions on the analysis and findings of Chapter 4 relative to the extant literature and discusses this study's contributions. This chapter consists of seven main sections, not including this brief introduction. Section 5.2 presents the main and interactive effects of the independent variables, thus addressing research questions one and two. The section also discusses the significant interactions between the independent variables. Section 5.3, "Discussion of EAs' Decision making", discusses EAs' self-insight and the configularity of EA decision making, thus addressing research questions 2 and 3 as well as the study hypothesis. Section 5.4 presents a detailed discussion of the relationships between the independent and dependent variables in the framework of the relevant literature, thus addressing research question 5. The discussion involves the integration of qualitative and quantitative data from the survey and the interviews. Section 5.5 discusses other potential independent variables not investigated in this study. Section 5.6 discusses some final conclusions and implications of this study, both practical and theoretical. Section 5.7 reviews some of the limitations of this study, particularly in light of the findings of the study. Section 5.8 concludes this chapter with a presentation of a number of suggestions for further research.

## **5.2 The Relative Main and Interactive Weights of the Independent Variables**

### **5.2.1 Weights of the Independent Variables in Evaluations of the Internal Audit Function Effectiveness**

The research technique adopted in this study succeeded in measuring the relative main and interactive weights of the three hypothesized independent variables in terms of their influence on IAF effectiveness (the first research question). These weights were measured using objective and subjective techniques. For the objective technique, the 'Effect Size' was used to measure the influence of the independent variables (Coolican, 2009).

The results of the objective measure revealed that work performance had the greatest effect on IAF effectiveness. It accounted for 36.57% of effect size when interaction terms are allocated back to their parent factors. The second-most influential factor was objectivity, which accounted for 33.01% of influence on IAF effectiveness. Competence of internal auditors had the least influence on perceived IAF effectiveness, with an effect size of 30.40%. Table 22 below shows the percentage of influence for statistically significant Effect Sizes of the independent variables in relation to their influence on IAF Effectiveness.

**Table 22: Effect Sizes as a Percentage of Total Effect Sizes of Independent Variables on IAF Effectiveness**

<b><u>Main Effects</u></b>		<b>Percentage<sup>66</sup></b>
The work performance of the internal auditors		26.57%
The competence of the internal auditors		25.53%
The objectivity of the internal auditors		24.61%
<b><u>Interactions Effects</u></b>		
Significant interactions effects <sup>67</sup> at alpha 0.05	21.73%	
Sum of non-significant effects and interactions	<u>1.56%</u>	
Sum of effects of interaction		<u>23.29%</u> <sup>68</sup>
		100%

Table 22 above shows that Work Performance is notably the main effective factor on perceived IAF Effectiveness, in the perception of external auditors. This result is consistent with several studies that pointed out that ‘work performance’ is the most significant factor of IAF effectiveness (Schneider 1984, 1985a, 1985b; Margheim 1986). The majority of the interviewees in the current study agreed that Work Performance is a very important factor. Some of the explanations provided for the importance of work performance include:

<sup>66</sup> The percentage of the total variability explained by both main and interactive effects.

<sup>67</sup> According to Coolican (2009), an effect size equal to or greater than 14% is significant.

<sup>68</sup> The total interaction effect percentage= Total Interactions Effects/ Sum of Effect size

- No control system or knowledge can fully compensate for lack of care and attention (Interviewee A)
- Failure to take appropriate care and attention is a failure in the duty of the auditor; such an auditor cannot be considered effective (Interviewee C)
- Planning and execution is the lever that maximizes audit effectiveness (Interviewee E)
- Auditors are required by auditing standards to be prudent and apply professional care (Interviewee F)
- Work performance enables audit work to proceed according to schedule while exercising adequate care (Interviewee H)..

This result is consistent with several studies that pointed out that ‘work performance’ is the most significant factor of IAF effectiveness (Schneider 1984, 1985a, 1985b; Margheim 1986).

### **5.2.2 Weights of the Independent Variables in Decisions to Rely on the Work of the Internal Audit Function**

The model of this study was successful in measuring the relative main and interactive weights of the independent variables in terms of their influence on external auditors’ reliance on the work of internal auditors. These weights were measured using objective and subjective techniques.

ANOVA analysis revealed that objectivity of the internal auditors had the greatest effect, among the selected factors, on reliance on the work of the internal auditors. Objectivity of the internal auditors accounted for 35.31% of the effect size when the interaction terms are allocated back to their parent factors. The second-most influential factor was competence of the internal auditors, coming slightly behind objectivity in terms of overall influence. The least influential factor affecting reliance on the work of internal auditors was work performance, accounting for 30.70% of effect size. The Table 23 below shows the percentage of influence for statistically significant Effect Sizes of the three independent variables in relation to reliance on the work of the internal auditors.

**Table 23: Effect Sizes as a Percentage of Total Effect Sizes of Independent Variables on Reliance on Internal Auditors**

<b><u>Main Effects</u></b>		<b>Percentage<sup>69</sup></b>
The objectivity of the internal auditors		30.49%
The competence of the internal auditors		30.26%
The work performance of the internal auditors		29.25%
<b><u>Interactions Effects</u></b>		
Significant interactions at alpha 0.05	7.13%	
Sum of non-significant effects and interactions	<u>2.93%</u>	
Sum of effects of interaction		<u>10.06%</u>
		100%

The majority of interviewees consider objectivity to be at least a very important influencer on reliance decisions. Some of the explanations provided for the importance of work performance include:

- It is easier to assess objectivity when IAs are supervised by EAs (Interviewee B)
- It enables more balanced assessments and freedom from influence (Interviewee D)
- Freedom from management interference is the only real difference between IAs and EAs (Interviewees E and F)
- Objective IAs can be relied upon by all stakeholders (Interviewee G)
- Objective IAs can be trusted not to hinder or interfere in the work (Interviewee H)
- Honesty and freedom from improper management influence help determine how IAs will be integrated into EA work and if their work be relied upon (Interviewee I).

The results of the analysis suggest that objectivity of IAs is the most influential factor in regard to decisions to rely on the work of the IAs. This result from Jordan is neither supported nor argued against by available literature. There is a lack of literature ranking all

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<sup>69</sup> The percentage of the total variability explained by both main and interactive effects.

three of the dimensions simultaneously, unlike the case of studies focusing on IAF effectiveness. As Gramling et al. (2004) concluded, additional research is needed to provide insights into the relative importance of the IA function quality factors.

### 5.2.3 Significant Interactions

ANOVA analysis revealed three large and statistically significant (at the 0.01% level) interactions related to influence on the perceived effectiveness of the IAF (the first dependent variable), namely: Objectivity\*Competence, Competence\*Work performance and Objectivity\* Competence \*Work performance, the sum of these interactions accounting for approximately one quarter of the total effect size on this dependent variable. On the other hand, the objective measure revealed one large and statistically significant [in Objectivity\* Competence] (at the 0.01% level) interaction related to the degree to which EAs rely on the work of the IAs (the second dependent variable), the effect of this interaction accounting for approximately 10% of the total effect size on this dependent variable. These interactions are described in sections 4.2.3 and 4.2.4.

There are a few implications that can be drawn from the interviews regarding relationships between any of the independent variables.

In regards to evaluations of IAF effectiveness:

1- One point of interest raised in the interviews in regards to the importance of objectivity is that the difficulty of determining the level of IA objectivity might make objectivity a less desirable measure of effectiveness (appears in 1 interview). This point is related to another point about the importance of work performance in evaluating IAF effectiveness: Work performance is easier to determine than objectivity (appears in one interview).

2- One point raised in the interview regarding the importance of work performance suggests a link between work performance and competence: Weaknesses in work performance can't be compensated for by greater competence (appears in one interview).

Only the second point is directly supported by the findings regarding large, statistically significant interactions (i.e. Competence \*Work performance).

In regards to decisions to rely on the work of the IAF:

1- One point raised in the interview regarding why the importance of work performance might be reduced suggests a link between work performance and objectivity: objectivity is more critical than work performance (appears in 3 interviews).

2- One point raised in the interview regarding the importance of work performance suggests a link between work performance and competence: competence can be trained, but carelessness in an assistant is a liability (appears in one interview).

None of these themes regarding reliance decisions is directly supported by large, statistically significant interactions involving the variables.

The existence of these significant interactions support Hypothesis 1 which states that EAs assess decision making information configurally when considering the influence of internal audit objectivity, competence, and work performance. These indicated interaction terms, along with the statistically significance (at the 0.01% level) main effects for all of the three variables individually, support the model used in this study and the causal relationship posited between the three independent variables and the two dependent variables.

## **5.3 Discussion of External Auditors' Decision-Making**

This study provides evidence on the decision-making processes of Jordanian external auditors and the degree of self-insight regarding these processes. The two sections below discuss the configularity of such decision-making and the level of self-insight of Jordanian external auditors in comparison with previous research.

### **5.3.1 Configularity**

The Hypothesis (H1) of the study posits that Jordanian external auditors process information configurally when considering the impact of objectivity, competence and work performance, thus taking into consideration both the individual (i.e. direct) and interactive effects of these variables on the two dependent variables.

Several significant interactions between the study variables have been identified in relation to both the influence on IAF effectiveness and reliance on the work of IAs. These interactions accounted for approximately one-quarter of the effect on IAF effectiveness and approximately ten percent of the effect on reliance on the work of IAs. Furthermore, the existence of ‘large’ statistically significant interactions between the study variables further confirms and supports the Hypothesis H1: EAs assess decision making information configurally when considering the influence of IA objectivity, competence, and work performance.

This finding is consistent with studies of judgement decision making in Jordan (Shbeilat, 2013) and in other countries (e.g. Hopkins, 2009; Ebert & Kruse, 1978; Mear & Firth, 1987; Nguyen & Ross, 2006; Slovic, 1972; Wood, 2002; Teoh & Lim, 1996), showing configural cue processing among financial analysts and similar professional groups. This suggests that the decision-making process for evaluating IAF effectiveness or deciding to rely on IAs is relatively complicated as individual factors can influence the effects of the other factors. This also suggests that future research as well as plans to improve IAF effectiveness and increase the degree to which EAs can rely on IAs should consider how the three dimensions interact.

The existence of these significant moderate to large interactions, based on the perceptions of Jordanian EAs, sends a clear message to policy makers and Jordanian regulatory bodies, especially the JACPA which is responsible for issuing, revising and monitoring licensed audit firm compliance with rules and applicable standards. The message is that Jordanian EAs, in their judgement decisions, take into consideration the joint effects of these key factors, not just their individual effects. Therefore, the JACPA must not just focus on the most decisive factor in their enforcement program, but must realize that the complete environment, in the form of all three complementary factors, influence auditors’ decisions. The JACPA must consider how these factors interact.

### **5.3.2 Self Insight**

This study is the first to establish the degree of self-insight among Jordanian external auditors, and it revealed a high degree of self-insight into their decision-making processes



(i.e. the ranking of the self-reported weights were the same as the ranking according to effect sizes, and the weights and effect sizes were very close).

This degree of self-insight demonstrated by Jordanian EAs is consistent with other studies in other countries using external auditors, accountants (Solomon & Shields, 1995; Savich, 1977) and professional managers (Wood, 2002; Gibbins & Swieringa, 1995), all revealing relatively high degrees of self-insight among research subjects. The high degree of self-insight among EAs was attributed to the implementation of professional standards on auditing and to regular training performed by the professional associations (Libby, 1981; Pike, Sharp & Kantor 1988). In contrast, the high degree of self-insight among professional managers was attributed to their professionalism and their high level of experience. Locally, one Jordanian study revealed a high degree of self-insight among the Jordanian financial analysts (Shbeilat, 2013).

It has been evidenced that the financial analysts with more work experience demonstrate moderate degrees of self-insight in the U.S and New Zealand (Feldman & Arnold, 1978; Mear & Firth, 1987; Slovic et al, 1972). In this thesis, the experience of the survey respondents who completed the experiment ranged between 4 and 17 years, with a mean of 7.55 years. Those who were interviewed for the qualitative study had high levels of experience ranging between 10 and 17 years. The high level of subjects' experience, along with their professionalism, might be a possible explanation for the high degree of self-insight among the Jordanian EAs.

## **5.4 Discussion of the Relationship between the Independent and Dependent Variables**

The discussion of this study's findings begins with an examination of its quantitative and qualitative findings in the context of key works in the relevant literature reviewed in Chapter 2, focusing on the three posited factors influencing EAs' perceptions of IAF effectiveness and EAs' decisions to rely on the work of IAs.

Chapter Two's literature review examined EAs' evaluations of the quality of auditing and EAs' decisions to rely on the IAs, and considered several related variables identified in the profession literature (for example Abdel-Khalik et al, 1983; Brown, 1983; Schneider, 1984, 1985; Margheim, 1986; Messier & Schneider, 1988; Edge & Farley, 1991; Krishnamoorthy, 2002; Haron et al, 2004; and Al-Twajry et al, 2004).

The Jordanian literature on evaluating the IAF in Jordan has mostly explored the subject among particular groups of auditors (e.g. auditors working in government or universities) and revealed some relationships between the variables they studied (Thnaibat & Shunnaq, 2010; Al-Matarneh, 2011; Obaidat, 2007; Al-Nawaiseh, 2006; Al-Rahahleh, 2005; Al Farajat, 2003; Al-Sawalqa and Qtish, 2012). Due to the scarcity of these studies and the differences among them in terms of the study samples, variables, approaches and results, few generalizable conclusions can be drawn from them. There is even less Jordanian literature on EAs' decisions to rely on the work of the IAs (for example: Suwaidan and Qasim, 2010).

This section discusses the results of the study in respect of each of the three independent variables.

#### **5.4.1 The Objectivity of Internal Auditors**

It can be argued that auditors, whether internal or external, can never be totally independent and free of bias or other considerations (Duska et al, 2011), suggesting that objectivity, too, can never be absolute. Auditors are, however, required by international audit standards to be free enough that their ability to express an unbiased audit opinion is not significantly compromised (Mcgrath et al, 2001). Guidelines drawing the broad outlines of what is meant by not having a significantly compromised ability to express an unbiased audit opinion are included within international audit standards. The standards also suggest safeguards to protect the independence of EAs.

IA objectivity was found to be a statistically significant positive factor influencing (1) EA perceptions of the effectiveness of the IAF and (2) EA decisions regarding the degree to which they could rely on the work of IAs.

According to the subjective self-weightings<sup>70</sup> reported by the participating EAs, objectivity was the most influential decision factor (a mean of 39.51% in comparison to 30.52% and 29.97% for competence and work performance respectively, out of a total 100%) when it came to the degree that EA could rely on the work of IAs. On the other hand, subjective self-weightings suggested that objectivity was the least influential factor when it came to the evaluation of the effectiveness of the IAF (a mean 29.52% in comparison to 31.81% and 38.67% for competence and work performance respectively, out of a total 100%). The results show that the subjective rankings of objectivity and work performance are reversed when switching between evaluations of IAF effectiveness and decisions to rely on the work of the IAF. Change in the means of objectivity and work performance between IAF reliance decisions and evaluations of IAF effectiveness are -9.99 and +8.7 respectively.

According to objective data [effect size]<sup>71</sup>, again, objectivity ranked as the most influential factor (a combined effect of 35.31% in comparison to 34.05% and 30.70% for competence and work performance respectively, out of a total 100%) when it came to the degree that external auditors could rely on the work of IAs and ranked as the least influential factor (a combined effect of 30.40% in comparison to 33.01% and 36.57% for competence and work performance respectively, out of a total 100%) in evaluations of IAF effectiveness. Change in the effect size of objectivity and work performance between IAF reliance decisions and evaluations of IAF effectiveness are -4.91 and +5.87 respectively.

In summary, both the objective and subjective measures agree that objectivity is the most important of the three factors in decisions to rely on the work of the IAF, and the least important in evaluations of IAF effectiveness. The importance of objectivity is slightly higher in reliance decisions than in evaluations of IAF effectiveness.

In evaluations of IAF effectiveness, the third place ranking of objectivity, after work performance and competence, does not conflict with the majority of studies that conclude that work performance is the most significant factor of IAF effectiveness (Schneider, 1984; Schneider, 1985b; Edge & Farley, 1991; Al-Matarneh, 2011). However, this third place

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<sup>70</sup> Subjective measures are self-reported weights of the relative importance of the independent variables in evaluations of IAF effectiveness and decisions to rely on the work of IAs.

<sup>71</sup> The effect size (the objective measure) was obtained by calculating each of the independent variables' main and interactive effects on the dependent variables. The Effect size is measured by using Partial eta squared, thus determining the proportion of variance explained by each of the three dimensions.

ranking for objectivity does contradict the findings of study conducted by Abdel-khalik et al (1983) that claimed that ‘objectivity’ was the most significant factor. In the case of Abdel-khalik, the study investigated five different factors<sup>72</sup> but did not include the ‘competence’ factor.

In evaluations of decisions to rely on the work of the IAF, the first place ranking of objectivity is neither supported nor argued against by available literature. There is a lack of literature ranking all three of the dimensions simultaneously, unlike the case of studies focusing on IAF effectiveness. As Gramling et al. (2004) concluded, additional research is needed to provide insights into the relative importance of the IA function quality factors.

The interviews raised several points of interest regarding the importance of objectivity in evaluating IAF effectiveness, eight of which describe reasons why objectivity is important:

- 1- The impact of bias or influence on the audit process (appears in 6 interviews)
- 2- The essential duty of auditors to be objective (appears in 4 interviews)
- 3- The role of objectivity in reducing the likelihood that fraud would not be reported (appears in 2 interviews)
- 4- The importance of freedom from management interference (appears in 1 interview)
- 5- The role of objectivity in increasing disclosure (appears in 1 interview)
- 6- The increased need for objectivity in situations of risk (appears in 1 interview)
- 7- The impact of low objectivity in the corruption of information throughout the organization (appears in 1 interview)
- 8- The increased need for objectivity in large organizations with many powerful interests (appears in 1 interview).

The interviews offer several explanations for the importance of the independent variables, and somewhat fewer explanations for what might reduce the importance of the independent variables. These explanations shed some light on the concerns of EAs regarding evaluations of IAF effectiveness and decisions to rely on the work of the IAF, revealing areas to focus on (e.g. knowledge of account examination; diversity of knowledge; audit planning and documentation etc.).

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<sup>72</sup> The Abdel-khalik study employed five different factors :”1-Integrated Test Facility, 2-Test Data, 3-Generalized Audit Software, 4-the level to which the internal auditing department reports (represents the independence and objectivity of IAF) and 5- the internal auditor's level of responsibility in reviewing changes in application programs”

One theme describes one reason why the importance of objectivity in evaluating IAF effectiveness might be reduced: the difficulty in determining the level of IA objectivity (appears in 1 interview)

The interviews revealed several themes regarding the importance of objectivity in decisions to rely on the work of the IAF, six of which describe reasons why objectivity is important:

- 1- The impact of objectivity on trust of IAs as team members (appears in 4 interviews)
- 2- The importance of freedom from bias (appears in 4 interviews)
- 3- The lessened need for supervision when relying on objective IAs (appears in 2 interviews)
- 4- The essential duty of all auditors to be objective and independent (appears in 2 interviews)
- 5- The importance of freedom from management interference (appears in 1 interview)
- 6- The reduced difficulty of determining the level of IA objectivity when EAs work with IAs (appears in 1 interview).

A seventh theme, resource availability, is primarily the same as the theme on the reduced need for supervision. In conclusion, there are no themes offering reasons why the importance of objectivity in decisions to rely on the work of the IAF might be reduced.

It is not immediately clear from the interviews why, according to both the effect size and the self-reported weights, the importance of objectivity is greater in decisions to rely on the work of the IAF than in evaluations of the effectiveness of the IAF. It is possible that the difference is due to situational factors that modify the importance of objectivity (e.g. risk or resource availability). For example, it could be that decisions to rely on IAs are inherently more risky than evaluations of IAF effectiveness, even though risk was not explicitly mentioned as a theme in reliance decisions. Furthermore, availability of EA resources for audits (e.g. availability of supervisors for IAs) is a practical limitation that only applies to decisions to rely on the work of the IAF and might contribute the difference in the importance of objectivity. Alternatively, the difference in the relative importance of objectivity could be due to a decrease in the importance of another variable, particularly work performance. For example, in three of six interviews regarding the importance of work performance in decisions to rely on the work of the IAF, interviewees suggested that objectivity is more critical than work performance.

Among the findings of the literature review were arguments that the lack of communication between internal and external auditors, and audit committees with insufficient authority and scope of work (i.e. low objectivity), have a negative impact on the reliability of financial reports (Dahmash, 1989; Momany, 1994; Matar, 1995, 2000; Abdullatif, 2006; Al-Saudi, 2007; Al-Awaqleh, 2008; Malkawi, 2008). Also in the discussion of the culture in Jordan it was suggested that there were often reasons to suspect that internal auditors were often not as independent/objective as they could be and, as outlined in the interview theme “Difficulty of determination”, it is difficult to identify those biases or omissions purely from a review of work performance.

#### **5.4.2 The Competence of Internal Auditors**

This study focuses on the definition of IAF Competence provided by the Standards for the Professional Practice of Internal Auditing (SPPIA) and IIA standard number 1210. SPPIA defined Competence as “whether the internal auditors have adequate technical training and proficiency as internal auditors” (Para. 9 ISA 610, 2009, p. 630). According to IIA standard defined competence of internal audit functions under section no. 1210 – ‘Proficiency’, stating that “Internal auditors must possess the knowledge, skills, and other competencies needed to perform their individual responsibilities. The internal audit activity collectively must possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities” (IIA, 2011, P. 5).

The competence of the internal auditors was shown to be a statistically significant, positive factor influencing (1) external auditor perceptions of the effectiveness of the IAF and (2) external auditor decisions regarding the degree to which they could rely on the work of IAs.

According to the subjective self-weightings reported by the participating external auditors, competence was the second most influential decision factor (a mean of 30.52% in comparison to 39.51% and 29.97% for objectivity and work performance respectively, out of a total 100%) when it came to the degree that external auditors could rely on the work of internal auditors. Similarly, subjective self-weightings suggested that the competence was the second most influential factor when it came to the evaluation of the effectiveness of the IAF (a mean 31.81% in comparison to 29.52% and 38.67% for objectivity and work performance

respectively, out of a total 100%). The results show that the importance of objectivity does not differ greatly between evaluations of IAF effectiveness and decisions to rely on the work of the IAF. Change in the mean of objectivity between IAF reliance decisions and evaluations of IAF effectiveness is +1.29.

According to objective data [effect size], again, competence ranked as the second most influential factor (a combined effect of 34.05% in comparison to 35.31% and 30.70% for objectivity and work performance respectively, out of a total 100%) when it came to the degree that external auditors could rely on the work of IAs and ranked as the second most influential factor (a combined effect of 33.01% in comparison to 30.40% and 36.57% for objectivity and work performance respectively, out of a total 100%) in evaluations of IAF effectiveness. Change in the effect size of competence between IAF reliance decisions and evaluations of IAF effectiveness is -1.04.

In summary, both the objective and subjective measures agree that competence is the second most important of the three factors in both decisions to rely on the work of the IAF, and in evaluations of IAF effectiveness. The importance of competence is slightly higher in reliance decisions than in evaluations of IAF effectiveness.

The interviews revealed several themes regarding the importance of competence in evaluating IAF effectiveness, six of which describe reasons why competence is important:

- 1- The need for relevant or specific types of audit knowledge (appears in 5 interviews)
- 2- The impact of diversity of knowledge on the ability to understand a wider range of tasks and situations (appears in 3 interviewees)
- 3- The impact of knowledge and experience on the ability to examine accounts for fraud and errors (appears in 2 interviews)
- 4- The impact of organization complexity on the need for diversity of knowledge (appears in one interview)
- 5- The need for knowledge in how to use modern control tools (appears in one interview)
- 6- The impact of knowledge on the procedural correctness of IAs' work (appears in one interview).

One theme describes a reason why the importance of competence in evaluating IAF effectiveness might be reduced: procedure and IT limitations (appears in 1 interview).

The interviews revealed several themes regarding the importance of competence in decisions to rely on the work of the IAF, six of which describe reasons why competence is important:

- 1- The need for relevant or specific types of audit knowledge (appears in 5 interviews)
- 2- The impact of knowledge on auditors' ability to work in accordance with auditing standards (appears in 2 interviews)
- 3- The impact of knowledge on auditors' ability to work with and coordinate external auditors (appears in 2 interviews)
- 4- The impact of diversity of knowledge on the ability to work with external auditors (appears in one interview)
- 5- The impact of knowledge about auditing and the client company on the credibility of the work of the IA (appears in one interview)
- 6- The impact of knowledge on the ability to examine company accounts (appears in one interview)
- 7- The impact of insider knowledge on audit planning (appears in one interview).

Two themes describe reasons why the importance of competence in decisions to rely on the work of the IAF effectiveness might be reduced:

- 1- Procedure and IT limitations (appears in 1 interview)
- 2- Relying on EA fraud specialists in situations in which fraud is suspected (appears in 1 interview).

It is not immediately clear from the interviews why, according to both the effect size and the self-reported weights, the importance of competence is greater in decisions to rely on the work of the IAF than in evaluations of the effectiveness of the IAF, however the difference between the two is the smallest among the three independent variables. It could be that decisions to rely on IAs are inherently more risky than evaluations of IAF effectiveness, even though risk was not explicitly mentioned as a theme in reliance decisions.

### **5.4.3 The Work Performance of Internal Auditors**

This study adopted the definition of IAF work performance provided by the Standards for the Professional Practice of Internal Auditing (SPPIA) and IIA standard number 2240. SPPIA defined work performance as “due professional care”, stating “Internal auditors must apply



the care and skill expected of a reasonably prudent and competent internal auditor. Due professional care does not imply infallibility.” (Pickett, 2010, p. 453) According to IIA standard number 2240 (Engagement Work Program), “internal auditors must develop and document working programs that achieve the engagement objectives” (IIA, 2010, p. 13). These definitions are discussed in section 1.4.7.

The work performance of the IAF was shown to be a statistically significant positive factor influencing (1) EA perceptions of the effectiveness of the IAF and (2) EA decisions regarding the degree to which they could rely on the work of IAs.

According to the subjective self-weightings reported by the participating EAs, work performance was the least influential decision factor (a mean of 29.97% in comparison to 39.51% and 30.52% for objectivity and competence respectively, out of a total 100%) when it came to the degree that EAs could rely on the work of IAs. On the other hand, subjective self-weightings suggested that work performance was the most influential factor when it came to the evaluation of the effectiveness of the IAF (a mean 38.67% in comparison to 29.52% and 31.81% for objectivity and competence respectively, out of a total 100%). The results show that the subjective rankings of work performance and objectivity are reversed when switching between evaluations of IAF effectiveness and decisions to rely on the work of the IAF. Change in the means of work performance and objectivity between IAF reliance decisions and evaluations of IAF effectiveness are +8.7 and -9.99 respectively.

According to objective data [effect size], again, work performance ranked as the least influential factor (a combined effect of 30.70% in comparison to 35.31% and 34.05% for objectivity and competence respectively, out of a total 100%) when it came to the degree that external auditors could rely on the work of IAs and ranked as the most influential factor (a combined effect of 36.57% in comparison to 30.40% and 33.01% for objectivity and competence respectively, out of a total 100%) in evaluations of IAF effectiveness. Change in the effect size of work performance and objectivity between IAF reliance decisions and evaluations of IAF effectiveness are +5.87 and -4.91 respectively.

In summary, both the objective and subjective measures agree that work performance is the least important of the three factors in decisions to rely on the work of the IAF, and the most

important in evaluations of IAF effectiveness. The importance of work performance is slightly higher in evaluations of IAF effectiveness than in reliance decisions.

The first place ranking of work performance in evaluations of IAF effectiveness is supported by the majority of relevant studies that concluded that work performance is the most significant factor in the assessment of IAF effectiveness (e.g. Schneider, 1984, 1985a, 1985b; Margheim, 1986; Obeid, 2007). However, those studies were not definitive because of the lack of evidence of cause and effect. Furthermore, these studies did not examine the Jordanian situation.

The last place ranking of work performance in decisions to rely on the work of the IAF is neither supported nor argued against in the literature. There is a lack of literature ranking all three of the dimensions simultaneously, unlike the case of studies focusing on IAF effectiveness. As Gramling et al. (2004) concluded, additional research is needed to provide insights into the relative importance of the IA function quality factors.

The interviews revealed several themes regarding the importance of work performance in evaluating IAF effectiveness, eight of which describe reasons why objectivity is important:

- 1- The impact of professional care and attention on the ability to accomplish tasks, using the less resources and time (appears in 4 interviews)
- 2- The essential duty of auditors to practice professional care and attention (appears in two interviews)
- 3- Weaknesses in work performance can't be compensated for by greater competence (appears in one interview)
- 4- Auditing standards define and require work performance (appears in one interview)
- 5- Work performance is easier to determine than objectivity (appears in one interview)
- 6- A history of detecting fraud or significant financial misstatement is a form of work performance and is evidence of effectiveness (appears in one interview).

One theme describes one reason why the importance of work performance in evaluating IAF effectiveness might be reduced: weaknesses in work performance can be overcome if the team is well-organized (appears in 1 interview).

The interviews revealed several themes regarding the importance of work performance in decisions to rely on the work of the IAF, six of which describe reasons why objectivity is important:

- 1- The importance of planning, execution and documentation in decisions to reduce audit scope (appears in 2 interviews)
- 2- The importance of the ability to work in accordance with auditing standards (appears in 2 interviews)
- 3- Competence can be trained, but carelessness in an assistant is a liability (appears in one interview)
- 4- The essential duty of auditors to practice professional care and attention (appears in one interview)
- 5- The impact of high work performance on the effectiveness and, thus, the value added of the IA to the audit (appears in one interview)
- 6- Careful account examination increases the effectiveness of the auditor (appears in one interview)
- 7- Professional conduct reduces the likelihood of audit errors (appears in one interview).

Two themes describe reasons why the importance of work performance in decisions to rely on the work of the IAF might be reduced:

- 1- Objectivity is more critical than work performance (appears in 3 interviews)
- 2- The extent of reduction in scope is limited by the level of audit risk (appears in one interview).

It is not immediately clear from the interviews why, according to both the effect size and the self-reported weights, the importance of work performance is lower in decisions to rely on the work of the IAF than in evaluations of the effectiveness of the IAF. The most likely explanation is found in the theme that objectivity is more critical than work performance in decisions to rely on the work of the IAF. Furthermore, in regards to the theme of reduction in audit scope being limited by the degree of audit risk, it is possible that reliance decisions are inherently more risky than IAF effectiveness evaluations, thus reducing the importance of work performance (i.e. the potential benefit from work performance is reduced).

## 5.5 Other Independent Variables Not Considered

As a measure to confirm the internal validity of the experiment, survey respondents were instructed to (1) indicate how strongly they believed that IA objectivity, competence and work performance covered the full range of factors they consider when judging IAF effectiveness and decisions to rely on the work of IAs and (2) to suggest other important factors that might influence their judgements regarding the dependent variables.

As indicated in section 4.2.2, the survey respondents did believe that IA objectivity, competence and work performance covered the full range of factors they consider when judging IAF effectiveness and decisions to rely on the work of the IAF. However, the participants also suggested other variables that they felt might influence their judgement.

In summary, the suggested factors are:

- 1- Communication between IAs and EAs
- 2- Prior cases of fraud or significant financial misstatement identified
- 3- Expectation of future strategic financial transactions (e.g. merger)
- 4- Employee satisfaction
- 5- Actual IA Career paths in comparison to what is available in the job market
- 6- Job availability
- 7- Culture
- 8- Management support, and
- 9- Cooperation and the effectiveness of the relationship between IAs and EAs.

Given that the respondents did believe that the Three Dimensions did cover the full range of factors to be taken into consideration, their suggestion of other alternative factors is more difficult to interpret.

On examination, the suggested factors have been mentioned in studies of audit effectiveness as having an influence on auditor objectivity [e.g. culture (Zureiga, 2011), management support (Cohen & Sayag, 2010), career path], competence [e.g. management support (Cohen

& Sayag, 2010) and career paths that facilitate training and development] or work performance [e.g. job satisfaction]. Some of the suggested factors can be considered factors that increase the risk of the EA [e.g. prior cases of fraud, future mergers] and might, conceivably, change the way EAs make judgements (Spira & Page, 2003; Walker et al, 2003; Sarens & Beelde, 2006). Interestingly, the first suggested factor, communication between IAs and EAs, is not stipulated in the ISAs whereas it is stipulated in the Australian auditing standards. It should be noted that Jordan has adopted international auditing standards.

As discussed in section 4.2.2, the high level of confidence in the comprehensiveness of the three independent variables suggests that, for the majority of respondents, the additional factors are either significantly less important than the three independent variables or that their relevance is situational (i.e. relevant in only some special situations). Alternatively, they might be considered sub variables of the three independent variables on which some respondents focused. Overall, it would seem that the three independent variables are suitable for evaluating the dependent variables. However, the additional factors could be the focus for further studies.

In conclusion, the researcher acknowledges the importance of these alternative factors in evaluating internal audit effectiveness and also their effect on decisions to rely on the work of the IAs, but there is sufficient evidence to prove that the three variables selected for this study are suitable for the purpose of internal validity. This thesis investigates the factors affecting the IAF as stipulated in ISA 610, namely the objectivity of the IAs, the competence of the IAs and, finally, the work performance of the IAs.

## **5.6 Theoretical and Practical Implications**

This section presents various theoretical and practical implications of the findings of this study. Section 5.6.1 discusses theoretical implications and section 5.6.2 discusses practical implications.

### 5.6.1 Theoretical Implications

According to Geletkanycz and Tepper (2012), an impactful discussion of theoretical implications revisits the study's original theoretical motivation, for a number of reasons: to assess progress towards addressing the theoretical problem; address the so what? question; and to weave together the findings of the study to provide a unified, theoretically grounded narrative. Geletkanycz and Tepper (2012) also argue that a discussion of theoretical implications should throw light on the underlying theory and create a bridge with relevant literature, thus enabling the full appreciation of the study's 'value added'. This section thus begins with a revisiting of the study's theoretical motivations.

At a basic level, the primary aim of the study is to understand how audit quality factors influence EA evaluations of IAF effectiveness (dependent variable 1) and EA decisions to rely on IAs and the work of the IAF (dependent variable 2). This aim reflects two concerns regarding auditing: (1) increasing the effectiveness of the IAF in order to better protect the interests of shareholders and other stakeholders, and (2) increase EA reliance on IAs and the work of the IAF in order to achieve potential benefits such as more timely internal and external audits, lower audit costs, and improved knowledge transfer between IAs and EAs.

The current study's theoretical model (see Figure 1 in section 1.5.1) is primarily based on international auditing standards (e.g. ISA 610) that suggest that all auditors should aim for objectivity, competence and work performance in conducting audits, and that EAs should evaluate these three dimensions when deciding to use IAs or the work of the IAF in audits of financial statements (e.g. ISA 610, UK SAS 500, US SAS 65, ASA 610 sections 8-13). The model also explicitly includes both direct and interactive effects of the independent variables, thus taking into consideration a suggestion made by Gramling et al. (2004) that the relative importance of an audit quality factor is likely to be contingent on the level of the other quality factors.

In terms of the stated primary aims, the current study's findings have, in theory, quantified the direct and interactive effects of objectivity, competence, and work performance on the two posited dependent variables, at a single point in time in Jordan, and confirmed that EAs in Jordan perceive that the three dimensions influence their judgments regarding the two posited dependent variables. Furthermore, the quantitative findings (1) confirm the suggestion of Gramling et al. (2004) that the relative importance of each of the three

dimensions is contingent on the level of the other dimensions (i.e. EAs employ configural decision-making), in regards to both of the dependent variables, and (2) suggest that the study's theoretical framework is robust.

So what and what does this all mean, in combination? Identifying statistically significant positive relationships between the three dimensions and IAF effectiveness and reliance on IAs and the work of IAFs is evidence that the three dimensions simultaneously drive IAF effectiveness and EA reliance on IAs and the work of the IAFs, albeit in slightly different ways. The presence of statistically significant interactions between the three dimensions suggests that models of IAF effectiveness or EA reliance on IAs and the work of the IAF would be incomplete and less accurate if they did not include all three dimensions. Furthermore, the lack of clear explanations for the differences between the two dependent variables in terms of the rankings of the three dimensions, suggests that the theoretical framework should be refined, perhaps including situational factors revealed by the current study's interviews findings, such as: risk; organization complexity; the availability of EA resources; knowledge of account examination; diversity of knowledge; audit planning and documentation; etc.

As argued by Geletkanycz and Tepper (2012) discussion of theoretical implications should throw light on the underlying theory and create a bridge with relevant literature, thus enabling the full appreciation of the study's 'value added'. The study's contribution towards the body of relevant literature can also be framed in terms of the methodology of the study (Farnsworth et al, 2014). In the framework mentioned by Farnsworth et al (2014), the current study mainly extends the validity of extant research, using same or similar methods and different data gathered from a different context. In brief, in regards to the relationship of the three dimensions on evaluations of IAF effectiveness, the study extends the validity of previous studies by Schneider (1984, 1985a and b), Messier and Schneider (1988), Edge and Farley (1991), Maletta (1993) and Obeid (2007). The current study uses similar methods to these studies, extending them by collecting and analysing data from EAs in Jordan. A study conducted in Jordan by Al-Matarneh (2011) did study the relationship of the three dimensions with IAF effectiveness, but used a sample of IAs and was limited to the banking industry. On the other hand, in regards to studies of the relationship of the three dimensions on decisions to rely on the work of IAs, the researcher found only one study that simultaneously tackled all three dimensions, and it is a study conducted in Jordan by

Suwaidan and Qasim (2010). The study by Suwaidan and Qasim (2010) differs from the current study in the choice of methodology. The Suwaidan and Qasim (2010) study makes no attempt to measure the statistical effect of the three dimensions on reliance, instead calculating the statistical means of the importance of the three dimensions as indicated by EAs based on their replies regarding the importance of 19 different comprising factors. The primary focus of Suwaidan and Qasim's (2010) study was on measuring the relationship between reliance on IAs and audit fees. The findings of the literature review indicate that the current study is the first research to measure the statistical effect (both direct and interactive) of all three dimensions on decisions to rely on the work of IAs. On the other hand, while the design of the interviews used in the current study is well suited to generate information regarding the individual importance of each of the independent variables, it is not very suitable for generating information about the simultaneous interaction of the variables.

Not only does the current study have implications for the theoretical framework it is based on and similar studies, it also has implications for other theories in Jordan as a wide-spread public perception of corruption and crony capitalism.

**Information Asymmetry Theory and Resource Dependence Theory:** In the framework of information asymmetry theory (Balakrishnan and Koza, 1993), IAs are likely to have information (i.e. insider and/or specialist knowledge) that is not available to outsiders like EAs. Moreover, in terms of resource dependence theory, IAs are likely to possess knowledge that can be described as (1) valuable, (2) rare, (3) imperfectly imitable and (4) lacking substitutes (Barney, 1991). Given that insider knowledge possessed by IAs can provide an advantage in conducting audits, this suggests that the study findings should reveal some evidence of the importance of insider knowledge. While knowledge, as reflected in IAF competence, is an important factor influencing both IAF effectiveness and decisions to rely on the work of the IAF, there is only one mention of issues raised in the interviews specifically involving insider knowledge; the closest theme involves relevant knowledge. The study is thus inconclusive in extending or refuting the Information Asymmetry Theory or Resource Dependence Theory, at least in the context of EAs in Jordan. More in-depth studies should be conducted to help clarify how different types of IA knowledge influence IAF effectiveness and reliance decisions.



Certification Theory: This theory (Booth & Smith, 1986) suggests that organizations will seek to protect their 'reputational capital'. As in the case of the Agency Theory, the degree to which EAs apply the three dimensions can be considered an indicator of the extent to which EAs protect their reputations; EAs endanger their reputations if they do not apply audit standards as reflected by the use of the three dimensions. Furthermore, since objectivity can be considered the cornerstone of external auditing, this suggests that objectivity would be particularly important in EA decisions to use IAs or the work of the IAF. The quantitative data from the current study does support the suggestion that objectivity would be more important in reliance decisions than in evaluations of IAF effectiveness. Objectivity was found to be statistically significant in both EA evaluations of IAF effectiveness and EA decisions to rely on IAs (eta squared of 0.854 and 0.918, respectively, both greater than Coolican's suggestion that anything above 0.14 be considered a large effect). Furthermore, according to objective data [effect size], objectivity ranked as the most influential factor (an effect size of 35.31% in comparison to 34.05% and 30.70% for competence and work performance respectively, out of a total 100%) when it came to the degree that EAs could rely on the work of IAs, and ranked as the least influential factor (an effect size of 30.40% in comparison to 33.01% and 36.57% for competence and work performance respectively, out of a total 100%) in evaluations of IAF effectiveness. It should be noted that the difference between the influences of the three independent variables is not large, particularly in the case of the influence of objectivity and competence on reliance decisions. The qualitative data from the current study indirectly supports the role of reputation concerns through themes related to trust, duty and the supervision of IAs working as assistants. In conclusion, the study provides some evidence that EA decisions to rely on the work of Jordanian IAs are an example of Certification Theory in action.

The field of human information processing (see section 2.5.1) suggests that decision makers evaluating decisions under conditions of risk are more likely to consider the interactive effects of the decision cues (i.e. use configural decision-making) (Libby, Artman, & Willingham, 1985; Maletta & Kida, 1993). Furthermore, experienced decision-makers (e.g. senior EAs) are more likely to use configural decision-making (Ganzach, 1997). Given the relative experience level of the participants in the current study (high) and the high risk of corruption and fraud in Jordan, this suggests that significant interactions should exist between IAF objectivity, competence and work performance in their influence on both EA perceptions of IAF effectiveness and EA decisions to rely on the work of the IAF. According to the

quantitative data from the current study, statistically significant interactive effects do indeed exist between the three independent variables in their influence on the dependent variables. The existence of these significant interactions support Hypothesis 1 which states that EAs assess decision making information configurally when considering the influence of internal audit objectivity, competence, and work performance. The interaction terms, along with the statistically significance (at the 0.01% level) main effects for all of the three variables individually, support the model used in this study and the causal relationship posited between the three independent variables and the two dependent variables. The number and influence of significant interactive effects is greater in the case of evaluating IAF effectiveness, implying that such evaluations are more complicated than decisions to rely on the work of IAs. This seems counterintuitive to the reasoning that reliance decisions likely involve more risk and, thus, are more likely to involve the use of configural decision-making (Libby, Artman, & Willingham, 1985; Maletta & Kida, 1993).

Overall, the research model appears theoretically robust. The posited three independent variables, derived from auditing standards, were found to have a statistically significant influence on EAs' perceptions of IAF effectiveness and EA decisions regarding reliance on IAs. In addition, several statistically significant interactions were identified between the posited three independent variables in their influence on both EA perceptions of the effectiveness of the IAF and EA decisions to rely on IAs.

For a presentation of suggestions for future research, see Section 5.8.

### **5.6.2 Practical Implications**

The findings suggest that efforts to improve the effectiveness of the IAF might be best focused on work performance, although the interactions suggest that competence (the second-most influential factor) and objectivity (the third-ranked factor) should not be ignored. The interactions suggest that evaluations of IAF effectiveness are complex.

The findings also suggest that efforts to increase EA reliance IAs or the work of the IAF might best be focused on objectivity, although the other factors, particularly competence (the second-most influential factor) should not be ignored. The interactions in decisions to rely on the work of the IAF seem to be simpler than those in evaluations of IAF effectiveness.

Management now have evidence that efforts to improve EA perceptions of IAF objectivity, competence and work performance can result in improved evaluations of IAF effectiveness and greater EA reliance on the IAF. This might increase the likelihood of efforts to improve EA perceptions. Furthermore, as EAs can be considered experts on internal controls, EA interest in IAF objectivity, competence and work performance might encourage shareholders to invest in efforts to improve these three dimensions in order to better protect their assets.

Given the difference in the influence of any variable between evaluations of IAF effectiveness and decisions to rely on the work of the IAF, the choice over which dimension to prioritize is more likely to depend on company-specific factors. For example, a company which has very low IAF objectivity, in comparison to IAF competence and work performance, might consider focusing on improving IAF objectivity. It should be noted that improvements in perceived levels of IAF objectivity, competence and work performance might not require improvements in real levels of these three variables. For example, better communication and cooperation between IAs and EAs may allay concerns about a client IAF's objectivity, competence and work performance, resulting in more positive perceptions.

An approach focusing on closing deficiencies in IAF objectivity, competence and work performance should improve EA perceptions of IAF effectiveness and, consequently, should improve EA evaluations of internal controls and audit risks and, ultimately, the likelihood of a clean auditor opinion on financial statements. An improved perception of IAF effectiveness should also help reduce the cost of audits: EA perception of a lower level of audit risk can result in a smaller scope of audit.

Similarly, an approach focusing on closing deficiencies in IAF objectivity, competence and work performance should improve EA reliance on the IAF and, consequently, should reduce budgeted audit hours and cost since; EAs can depend on the prior work of the IAF (e.g. reports), thus reducing the scope of audits; IAs assist the EAs, thus reducing the number of EAs needed to accomplish tasks within a certain time frame.

On a related front, company regulators and related professional bodies also have evidence of the importance of the three dimensions, evidence that can be used to better plan future internal audit regulations and improve the requirements and training for IAs. The

configurability of EA decision-making regarding IAF effectiveness also suggest that regulators and professional bodies should take a more holistic view of improving IAF effectiveness, taking into consideration all three dimensions of audit and, perhaps other factors.

## **5.7 The limitations of the Study**

This section discusses various limitation associated with this study in terms of its scope, design and application.

### **5.7.1 Limitations of Design**

This research contains some design limitations.

This research adopted a methodology for evaluating the IAF that is uncommon in studies of Jordan. This method uses both a factorial experiment (a quantitative method) and interviews (a qualitative method).

Johnson & Christensen (2013, p. 433) argue that mixed research has some inherent weaknesses: 1) a single researcher could find it difficult to carry out both the quantitative and qualitative research; 2) mixed methods research is more expensive than using a single method; and 3) research methodologists have, as yet, not fully worked out how to resolve all the potential problems related to mixed research (e.g. how to qualitatively analyse quantitative data, and how to interpret conflicting findings).

The challenge for a single researcher using mixed methods research is that the researcher not only has to be familiar with both schools of research but he/she must also know how to combine them appropriately (Johnson & Christensen, 2010; Johnson & Onwuegbuzie, 2004). In the case of the current study, the small number of variables, the modest sample size and the relatively small questionnaire and interview limit this difficulty. The simplicity of the research design, however, also limits opportunities for developing greater insight into EAs decision making.

In regards to the experimental survey technique, one limitation is that, unless the researcher is present during the process, the researcher cannot confirm that the survey is completed by the selected participant. In addition, the researcher is not present to help answer questions about the definitions used, the proper use of the survey questionnaire etc. In an attempt to reduce participants' confusion, the researcher elected to provide the participants with high-level definitions for all the variables used in the study. In cases where the researcher was not present, the researcher could not confirm that the participants took note of the definitions as described in the questionnaires.

The study design also potentially introduces limitations of "construct validity". Construct validity is the extent to which the observations or measurement tools (i.e. the survey in the case of the current study) actually measure what the study is investigating (Polit and Beck, 2012). The definition of the three dimensions in the current study attempts to capture the essential elements of the concepts of Objectivity, Competence and Work Performance while eliminating some of the overlap between some of these concepts. The study's definitions are included in both the experimental survey instruments and in the interview protocol. There is no way to guarantee that the research subjects actually applied the study's definitions instead of another definition, although the interviews suggested that the interviewees understood the dependent and independent variables, increasing confidence in the proposition that the survey respondents probably understood the variables. The researcher sought to control this risk by first conducting pilot experiments and interviews to generate EA feedback on the design of the survey and interview.

The interviews provide the researcher with an opportunity to gather evidence (from experts) that the measurement tools (and study variables) are relevant to the questions being investigated (Shadish et al, 2002). The use of a quantitative and qualitative method also enhances construct validity through reducing mono-method bias (Shadish et al, 2002).

With an experimental design in the social science research, it is sometimes difficult to establish precisely which variable or variables account for which changes (Quinlan, 2011).

The current study includes a survey which contains a quantitative experiment. The experimental treatments in the survey included 16 hypothetical cases (8 for each of the 2

dependent variables). Conceptualizing these hypothetical cases could have hampered the respondents' ability to assess these cases and provide appropriate judgements. This difficulty contributed to the researcher's decision to rely on EAs instead of IAs, based on the assumption that senior EAs in Jordan regularly make the type of judgements being examined in this study and, consequently<sup>73</sup>, are more likely to correctly conceptualize the hypothetical cases and make informed judgements about the relationships between the factors included in this study (Teoh & Lim, 1996; O'Reilly, 2009).

A related limitation related to the experimental design was the decision to confine the values of the independent variables in the hypothetical cases to two possible values: lower or higher (in comparison to a "typical" case, in the respondent's experience). This limitation was imposed by the researcher to keep the survey to a reasonable size. Even allowing the three independent variables to take one more possible value would result in an experiment with 27 scenarios for each dependent variable (or 54 in total), dramatically increasing the time required to complete the survey and, quite likely, increasing the possibility that fewer auditors would submit fully completed surveys. Two-level factorial experiments are commonly used in research and reported to be effective (Teoh & Lim, 1996; Wood & Ross, 2006; Hopkins, 2009). If the independent variables had been modified to have three possibilities each it may have been necessary to study only one dependent variable which would have lost the insights gained by seeing the difference in decision making in the two cases.

Qualitative research through conducting semi-structured interviews was the second stage of this research. This stage aims (1) to confirm the findings of the quantitative analysis and (2) to help explain how and why the three dimensions can affect evaluations of IAF effectiveness and the degree of reliance on the work of the IAF. The focus of the qualitative analysis is a subsequent cross case synthesis of the nine interviews (Yin, 2003). The synthesis was performed using the technique of generating word tables for each of the framework elements (Yin, 2003). The interviews are conducted simultaneously with the surveys and thus the researcher has no opportunity to design the interviews specifically to address issues that are only revealed once the quantitative analysis is conducted. Given this limitation, the interview method used in the current study is not truly exploratory in purpose.

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<sup>73</sup> Evidence from Law of the Practice of the Auditing Profession (No. 32/1985) relating to the auditors licensing requirements.

The current study includes nine interviews. Interviews come with their own challenges including that they are more time consuming than quantitative experiments in terms of time needed to both conduct and interpret them. Furthermore, some people are less willing to participate in interviews, perceiving them to be more intrusive and provide less privacy. These challenges explain the low number of interviews. Although the number of interviews is low, this limitation is mitigated to some degree by the fact that this group includes a number of expert judges on issues of external audits and auditor decision making.

This study's interviews were conducted in Jordan, an Arabic speaking country, although professionals are often expected to be able to speak English. This raises issues of reliability surrounding translations. The researcher provided interviewees with descriptions of key terms in both languages (in Arabic and their corresponding English terms). The interviews were audio recorded and transcribed in Arabic. However, key terms were described in both languages (Arabic and its corresponding English term). The experimental instrument, interview protocol, information letter to participants and the consent forms were all translated to Arabic. These documents were reviewed by auditing academicians fully fluent in Arabic and English to ensure the correct translation and interpretation of the research instruments and transcription.

### **5.7.2 Limitations of Scope**

The focus of the study is on external auditor perceptions of the effectiveness of the internal audit function and on external auditor reliance on the work of the internal audit function in JLCs. Private Jordanian companies, government organizations in Jordan and non-listed companies are excluded. For the purpose of this study, the sample includes senior external auditors and partners in auditing firms in Jordan. While the researcher could not obtain participants from all audit firms in Jordan, it was possible to get participants from most of the major audit firms. This study is conducted in a period in which the ramifications of the global financial crisis and major regional financial scandals are still being felt by companies and shareholders and may not reflect auditors' beliefs and attitudes in other times.

### **5.7.3 Limitations of Applicability**

In the context of applicability limitations, Jordanian companies differ considerably from companies in developed countries, most notably in respect of the size of the companies, maturity of the auditing sector, relatively small internal audit functions, the business culture, and the legislative and taxation regimes. While many aspects of the audit environment in Jordan is likely to be similar to those in other developing countries, some differences should be expected due to each country's individual legal and social contexts and the history behind them. Even among Arab countries, differences can be found between business cultures, including public attitudes toward corporate governance and responsibilities (Abdullatif and Al-Khadash, 2010; Beard & Al-Rai, 1999). Caution must always be observed when generalizing results in one country to another.

The extent to which the study's findings can be generalized is also limited by the fact that participants (survey respondents and interviewees) include only EAs who have experience with auditing JLCs.

## **5.8 Suggestions for Future Research**

This study examined EA perceptions regarding the role of objectivity, competence and work performance in evaluations of the effectiveness of the IAF and decisions to rely on the work of IAs in JLCs. There is a need for more research in order to reach more generalizable conclusions in this field. Similar research could be conducted either on a larger scale or on other types of organizations, including private companies and government organizations. More study in the government sector is suggested given that this Jordanian sector suffers from a great deal of financial problems and scandals (e.g. government-related financial problems involving The Bank of Petra and various brokerage firms, and scandals in the JOPT, JOPH and JOTC<sup>74</sup>).

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<sup>74</sup> JOPT: Jordan Petroleum Refinery Co.; JOPH: Jordan Phosphate Mines Company; JOTC: Jordanian Transport Company.



As mentioned in sections 4.2.2 and 5.5, the EAs in this study were requested to suggest other IA related variables that might be useful in evaluating IAF effectiveness and decisions to rely on the work of IAs. Sections 4.2.2 and 5.5 discussed the importance of the variables suggested by the survey respondents<sup>75</sup>, in light of survey respondents' high confidence (see section 4.2.2) that the Three Dimensions covered all the factors that they consider when judging the two dependent variables. The variables suggested by the respondents could become the basis for further research, resulting in a more comprehensive understanding of IAF effectiveness and EA decisions to rely on the work of IAs.

This study demonstrated that objectivity, competence and work performance, independently and in combination, all have a substantial impact on EAs' evaluations of IAF effectiveness and decisions to rely on the work of IAs. After further studies to confirm the generalizability of the findings, there is a great deal more that can be accomplished. Research can be conducted to assess the current state of IAs' objectivity, competence and work performance and determine the costs and benefits of various approaches to improving these characteristics at both the organization and national levels.

The study also demonstrated differences in the rankings of the three dimensions in regards to evaluations of IAF effectiveness and decisions to rely on the work of internal auditors. This might be explained in part by a greater degree of risk involved in reliance decisions. This suggests another area for future research: determining the role the role of risk in evaluating IAF effectiveness and in EA decisions to rely on the work of IAs.

The design of the interviews in the current study is suitable for generating information for confirming and, to a degree, explaining the importance of individual variables, but is not very suitable for generating information about how all the independent variables interact with each other. In order to better explore the interaction of the independent variables, a different design is needed.

On another front, differences between Jordanian and western cultures likely influence the nature of the relationship between companies and the EAs they work with. How do EAs operate in such an environment? Is the work of the IA in Jordan changing in the aftermath of

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<sup>75</sup> Table 14 in chapter Four shows the additional factors suggested by the participants.

the international financial crisis and the string of business failures in the region, or is it still ‘business as usual’? Further research into business culture and changes in culture over time might be able to identify additional variables for inclusion in future studies of IAF effectiveness or decisions to rely on the work of the IAF.

Further research could also be conducted on how to improve the relationship between IAs and EAs, particularly in terms of trust, cooperation and reliance, while simultaneously protecting the best interests of shareholders and other stakeholders.

Another area in which further research is suggested is related to EAs’ self-insight. EAs are expected to possess high degrees of self-insight, as this is considered to reflect their ability to be accurate and consistent in their judgements (Libby, 1981; Hooper & Trotman, 1996). The current study has provided evidence that there are high levels of self-insight among Jordanian EAs in judgements regarding evaluations of IAF effectiveness and decisions to rely on the work of IAs. Given that understanding the factors influencing self-insight is a key aspect of learning (Hooper & Trotman, 1996), Jordanian education and training efforts for auditors could benefit from further research into why EAs display high self-insight, seeking to maintain and enhance such insight and extend it into other areas.

## **5.9 Chapter Summary:**

This chapter presented discussions and conclusions on the analysis and findings of Chapter 4 relative to the extant literature and discussed this study’s contributions. This chapter presented the main and interactive effects of the independent variables, thus addressing research questions one and two. The chapter also discussed the significant interactions between the independent variables. The chapter then discussed findings regarding EAs’ self-insight and the configularity of EA decision making, thus addressing research questions 2 and 3 as well as the study hypothesis. Next, this chapter presented a detailed discussion of the relationships between the independent and dependent variables in the framework of the relevant literature, thus addressing research question 5. The discussion involved the integration of qualitative and quantitative data from the survey and the interviews. Next, the chapter presented a discussion of other potential independent variables not investigated in this

study. Next, the chapter presented a discussion of some final conclusions and practical implications of this study. The chapter then reviewed some of the limitations of this study, particularly in light of the findings of the study. Finally, the chapter concluded with a presentation of a number of suggestions for further research.

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## Appendices

### Appendix 1: Ethics Approval



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Human Research Ethics Committee  
Committee Approval Form

**Principal Investigator/Supervisor:** Prof Donald Ross  
**Student Researcher:** Ashraf Saleh Mousa Al-Sukker

**Ethics approval has been granted for the following project:** Evaluating the effectiveness of the Internal Audit Function in the Jordanian Listed Companies

**for the period:** 07/01/2013 – 30/06/2013

**Human Research Ethics Committee (HREC) Register Number:** 2012 115N

#### Special Condition/s of Approval

***Prior to commencement of your research,*** the following permissions are required to be submitted to the ACU HREC:

The following standard conditions as stipulated in the *National Statement on Ethical Conduct in Research Involving Humans (2007)* apply:

- (i) that Principal Investigators / Supervisors provide, on the form supplied by the Human Research Ethics Committee, annual reports on matters such as:
- security of records
  - compliance with approved consent procedures and documentation
  - compliance with special conditions, and

- (ii) that researchers report to the HREC immediately any matter that might affect the ethical acceptability of the protocol, such as:
- proposed changes to the protocol
  - unforeseen circumstances or events
  - adverse effects on participants

The HREC will conduct an audit each year of all projects deemed to be of more than low risk. There will also be random audits of a sample of projects considered to be of negligible risk and low risk on all campuses each year.

Within one month of the conclusion of the project, researchers are required to complete a *Final Report Form* and submit it to the local Research Services Officer.

If the project continues for more than one year, researchers are required to complete an *Annual Progress Report Form* and submit it to the local Research Services Officer within one month of the anniversary date of the ethics approval.

Signed:



Date: 23/05/2013

(Research Services Officer, Melbourne Campus)



## Appendix 2: Information Letter to Participants



(Mackillop)

Level 10, 8-20 Napier street Tenison House  
North Sydney NSW 2060 Australia  
PO Box 968 North Sydney NSW 2059  
Telephone 612 9739 2361  
Facsimile 612 9739 2088  
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<b>TITLE OF PROJECT:</b>	Evaluating the Effectiveness of the Internal Audit Function in Jordanian Listed Companies
<b>PRINCIPAL SUPERVISOR:</b>	Professor Donald Ross
<b>STUDENT RESEARCHER:</b>	Ashraf Al-sukker.
<b>PROGRAMME IN WHICH ENROLLED:</b>	Doctor of Philosophy

### Dear Participant,

You are invited to participate in a study about evaluating the effectiveness of the Internal Audit Function (i.e. Internal audit department or individual auditor performing the same task) in Jordanian listed companies. This survey is part of a PhD study being undertaken by Ashraf Al-sukker of the Faculty of Business at Australian Catholic University. You are invited due to your experience as an external auditor. The study seeks to investigate (1) how external auditors evaluate the effectiveness of the internal audit function in Jordanian listed companies and (2) the reliance on the work of the internal audit function by external auditors. If you agree to participate in this study, you will be invited to take part in a one-on-one interview with the researcher, followed by the completion of a questionnaire.

We do not foresee any significant risk in participating in this study. The interviewer will not ask after details of your personal life, or other private matters. The interview will

take on the form of a conversation about your experience of evaluating the internal audit function.

The duration of the interview will be between 50-60 minutes, and the time needed to fill in the questionnaire is approximately 20 minutes. No preparation on your part is necessary. The interviews will be held at your office. Alternatively, you can request for the interview to be held in a different location and whether it should be conducted during or outside work hours. Interviews outside of your offices can be conducted at a mutually agreed location, with reasonable costs covered by the researcher. The interviews will be recorded using a mobile audio recording device and no names will be mentioned. You will be asked about your general opinion about the effectiveness of the Internal Audit Function in all Jordanian Listed Companies in general. No specific information will be asked about individual companies.

The purpose of this study is to fill the gap in knowledge relating to the evaluation of the effectiveness of the internal audit function in Jordan and the degree of the external auditor's reliance on the work of internal auditors. It is expected that the results and the potential recommendations will also be of the benefit of the members of the Jordanian Association of Certified Public Accountants.

Participation is voluntary and you are free to refuse consent or withdraw from the project at any time without any penalty and without giving a reason.

This study will ensure the confidentiality of your participation. No identifying factors such as name or contact details will be disclosed to anyone but the researcher. When the study is published, your name and the name of your workplace will not be mentioned in any form whatsoever.

Interview transcripts and recordings will be stored in the researcher's laptop which is password-protected while conducting the study in Jordan, and then safely transferred to secure facilities at Australian Catholic University, with no identifying information attached. If you would like further information about this study, please contact the student researcher or the Principal Supervisor at any time.

**Principal Supervisor**

Professor Donald Ross

Email: Donald.Ross@acu.edu.au

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**Student Researcher**

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Please be advised that this study has been approved by the Human Research Ethics Committee at Australian Catholic University. In the event you have any complaint or concern or if you have any query that the supervisor and Student Researcher have not been able to satisfy, you may write to the Chair of the Human Research Ethics Committee on the following address:

NSW and ACT: Chair, HREC

C/- Research Services

Australian Catholic University

North Sydney Campus

PO Box 968

NORTH SYDNEY NSW 2059

Tel: 02 9739 2105

Fax: 02 9739 2870

[res.ethics@acu.edu.au](mailto:res.ethics@acu.edu.au)

Any complaint or concern will be treated in confidence and fully investigated the participant will be informed of the outcome.

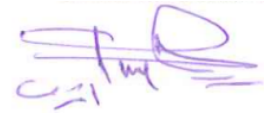
If you agree to participate in this project, you should sign both copies of the Consent Form; retain one copy for your records and return the other copy to the Principal Supervisor or Student Researcher.

Professor Donald Ross



Principal Investigator  
Researcher

Ashraf Al-sukker



Student

## Appendix 3: Letter to the Professional Association of Certified Public Accountants in Jordan



(Mackillop)

Level 10, 8-20 Napier Street, Tenison House  
North Sydney NSW 2060 Australia  
PO Box 968 North Sydney NSW 2059  
Telephone 612 9739 2361  
Facsimile 612 9739 2088  
[www.acu.edu.au](http://www.acu.edu.au)

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### **Letter to the Professional Association of Certified Public Accountants in Jordan**

Subject: Request for permission to invite members to participate in research

TITLE OF PROJECT: **Evaluating the Effectiveness of the Internal Audit Function**  
PRINCIPAL SUPERVISOR: Professor Donald Ross  
STUDENT RESEARCHER: Ashraf Alsukker  
PROGRAMME ENROLLED: Doctor of Philosophy

Dear Professional Association of Certified Public Accountants in Jordan;

Ashraf Alsukker is a Ph.D. candidate and researcher at the faculty of business at the Australian Catholic University, and is conducting a study titled "Evaluating the Effectiveness of the Internal Audit Function in Jordanian listed companies". Mr. Ashraf is seeking written permission to circulate the attached file (Information Letter to Participants) amongst the members of the Professional Association of Certified Public Accountants in Jordan, inviting external auditors to participate in this study. The participants will be asked about the factors that external auditors use to evaluate the internal audit function. The participants will be interviewed and answer a questionnaire. The identity of the participants will not appear in the study. Please refer to the attached "Information Letter to Participants" for more details about the study aims, location, and duration.

Please send any related inquiries to the following email address:

#### **Student Researcher**

Ashraf Al-sukker

Email: [Ashraf.Al-Sukker@acu.edu.au](mailto:Ashraf.Al-Sukker@acu.edu.au)

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**Principal Supervisor**

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Please be advised that this study has been approved by the Human Research Ethics Committee at Australian Catholic University. In the event you have any complaint or concern or if you have any query that the supervisor and Student Researcher have not been able to satisfy, you may write to the Chair of the Human Research Ethics Committee on the following address:

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C/- Research Services

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PO Box 968

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Tel: 02 9739 2105

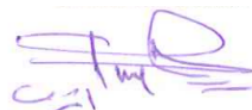
Fax: 02 9739 2870

[res.ethics@acu.edu.au](mailto:res.ethics@acu.edu.au)



Professor Donald Ross

Principal Investigator



Ashraf Alsukker

Student Researcher

Appendix 4: Consent Form



(Mackillop)

Level 10, 8-20 Napier Street Tenison House
North Sydney NSW 2060 Australia
PO Box 968 North Sydney NSW 2059

CONSENT FORM

TITLE OF PROJECT: Evaluating the Effectiveness of the Internal Audit Function in
Jordanian listed companies

PRINCIPAL SUPERVISOR: Professor Donald Ross

STUDENT RESEARCHER: Ashraf Alsukker

I ..... have read and understood the information provided in the
Letter to Participants. Any questions I have asked have been answered to my satisfaction. I
agree to participate in the following (tick as appropriate):

- An interview (approximately One hour duration, with audio recording)
A questionnaire (approximately takes 20 minutes to complete)

I realise that I can withdraw my consent at any time without adverse consequences. I agree
that research data collected for the study may be published or may be provided to other
researchers in a form that does not identify me in any way.

NAME OF PARTICIPANT: .....

SIGNATURE OF PARTICIPANT.....

DATE: .....

SIGNATURE OF PRINCIPAL SUPERVISOR: Professor Donald Ross

DATE: .....

SIGNATURE OF STUDENT RESEARCHER: Ashraf Alsukker

DATE: .....

## Appendix 5: Data Collection - Experimental Survey

### Evaluating the Efficiency and Effectiveness of the Internal Audit Function in Jordanian listed Companies



This questionnaire is part of a PhD study, being undertaken by Ashraf Alsukker of the Faculty of Business of the Australian Catholic University, evaluating the effectiveness of the Internal Audit Function in Jordanian listed companies, as judged by professional external auditors.

Your views will contribute greatly to the level and quality of information being gathered. Please complete all three parts of the questionnaire yourself and without discussion with colleagues.

Your responses and comments are strictly confidential. This questionnaire is anonymous unless you opt to provide contact details to receive a copy of the research report. No responses or comments will be individually attributed in any published report and any comments used will be de-identified. Participation in the study is entirely voluntary. The questionnaire should take less than 20 minutes to complete.

Please return the completed questionnaire in the envelope provided to: Professor Donald Ross  
Australian Catholic University (ACU), Level 10, 8-20 Napier St North Sydney NSW 2060

OR by sending it back to Ashraf Alsukker at ONE of the following emails:

Ashraf.Al-sukker@acu.edu.au or donald.ross@acu.edu.au

#### COMPLETION INSTRUCTIONS – PART A

##### Your Typical Internal Audit Function

Please read the following definitions in order to best visualise the scenarios presented.

**The objectivity of the internal audit functions (IAF):** The internal auditor should have an impartial, unbiased mental attitude and avoid conflict of interest situations, as that would prejudice his/her ability to perform the duties objectively. Objectivity could be indicated by level of planning and supervision and the level of auditor independence.

**The competence of the IAF:** The internal audit team collectively must possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities. Competence could be indicated by experience (local or overseas), education (local or overseas), and training (local or overseas).

**The work performance of the IAF:** Internal auditors must apply the care and skill expected of a reasonably prudent and competent internal auditor. Due professional care does not imply never making mistakes. There also needs to be sufficient resources to adequately carry out the tasks required.

**The effectiveness of the internal audit (IA):** Refers to the extent to which the designated objectives and functions of the internal audit are achieved properly, are unbiased, and are free from management pressure that may compromise the internal auditor's performance. Examples of those designated internal audit functions are safeguarding assets against loss and theft, providing reasonable assurances that the financial and operating information are accurate and reliable, and ensuring the organization's compliance with laws and regulations.

**The reliance on the work of internal auditors (IAs) by external auditors (EAs):** Reliance is a state of being dependent upon, confident in or having trust in something or someone. The reliance on the work of internal auditors (IAs) by External auditors (EAs) in the standards is defined as "Using the work of internal audit".

**PART A** will present you with various scenarios, each describing an internal audit with Better or Worse levels of **Objectivity, Competence and Work Performance** as compared to your typical audit. Visualise Better levels as having scores greater than Seven- out of- Ten whereas Worse levels have scores of less than Three- out of- Ten, assuming that a typical IAF would have a score of Five- out of- Ten. In each case, you are instructed to evaluate, in comparison to your typical IAF, 1) the effectiveness of the IAF and 2) your reliance in / use of the work of the IAF, given the levels of **Objectivity, Competence and Work Performance** described in that case.



**PART A - The Exercise (8 cases).**

You are presented with Eight hypothetical IAF (Internal Audit Function) scenarios, each having different levels of Objectivity, Competence and Work Performance. Please consider each scenario in isolation from other scenarios and score each scenario relative to how you would score the typical IAF. Each scenario requires Two responses. Please indicate your responses by circling one of the figures on each scale. Please take the time to complete all questions because, despite visual similarities, each is different and our analysis depends on having a complete set of responses.

Example – The case below describes a situation in which the IAF has the Objectivity, Competence and Work Performance that you would expect to see in your typical IAF. Your reply in such a case should be circled, as shown below.

**Typical** objectivity of the IAF  
**Typical** competence of the IAF  
**Typical** work performance of the IAF

**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>				<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3
Reliance on the work of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3

**Case 1**      **Better** objectivity of the IAF  
**Better** competence of the IAF  
**Better** work performance of the IAF

**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>				<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3
Reliance on the work of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3

**Case 2**      **Worse** objectivity of the IAF  
**Better** competence of the IAF  
**Worse** work performance of the IAF

**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>				<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3
Reliance on the work of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3

**Case 3**      **Better** objectivity of the IAF  
**Better** competence of the IAF  
**Worse** work performance of the IAF

**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>				<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3
Reliance on the work of the IAF	- 3	- 2	- 1	same	+ 1	+ 2	+ 3

**Case 4****Worse** objectivity of the IAF**Worse** competence of the IAF**Worse** work performance of the IAF**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>					<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+1	+2	+3	
Reliance on the work of the IAF	- 3	- 2	- 1	same	+1	+2	+3	

**Case 5****Worse** objectivity of the IAF**Better** competence of the IAF**Better** work performance of the IAF**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>					<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+1	+2	+3	
Reliance on the work of the IAF	- 3	- 2	- 1	same	+1	+2	+3	

**Case 6****Worse** objectivity of the IAF**Worse** competence of the IAF**Better** work performance of the IAF**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>					<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+1	+2	+3	
Reliance on the work of the IAF	- 3	- 2	- 1	same	+1	+2	+3	

**Case 7****Better** objectivity of the IAF**Worse** competence of the IAF**Better** work performance of the IAF**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>					<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+1	+2	+3	
Reliance on the work of the IAF	- 3	- 2	- 1	same	+1	+2	+3	

**Case 8****Better** objectivity of the IAF**Worse** competence of the IAF**Worse** work performance of the IAF**Your assessment of the following relative to your typical IAF (circle your answer)**

	<u>Substantially Worse</u>					<u>Substantially Better</u>		
Effectiveness of the IAF	- 3	- 2	- 1	same	+1	+2	+3	
Reliance on the work of the IAF	- 3	- 2	- 1	same	+1	+2	+3	

**PART B** (4 questions)

1. Please indicate the relative importance each of the three variables (Objectivity, Competence, Work Performance) had on your judgments by allocating 100 points between them for each of the outcome measures (i.e. each variable must have a value from 0 to 100 with the total sum of values equaling 100):

	<u><b>The effectiveness of internal audit (IA)</b></u>	<u><b>The Reliance on the</b></u>
<u><b>work of IAs</b></u>		
<i>The objectivity of the IAF</i>	_____	_____
<i>The competence of the IAF</i>	_____	_____
<i>The work performance of the IAF</i>	_____	_____
<b>TOTAL</b>	<b>100</b>	<b>100</b>

2. Please indicate, by circling a number on the scale below, how confident you feel that the three variables (Objectivity, Competence, Work Performance) cover the full range of variables you would consider in evaluating the efficiency and effectiveness of the Internal Audit Function in Jordanian listed companies (where 1 = Low Confidence, 7 = High Confidence):

<i>The Effectiveness of the internal audit (IA)</i>	1	2	3	4	5	6	7
<i>The reliance on the work of IAs</i>	1	2	3	4	5	6	7

3. Please list other dimensions or factors related factors that you think would be relevant to your assessment on the evaluating the efficiency and effectiveness of the Internal Audit Function in Jordanian listed companies (if any):

Factor Name or Description	Is it relevant to Effectiveness of IA? (Y/N)	Is it relevant to Reliance on IAF work? (Y/N)

4. Please indicate any additional information you would like to add:

**PART C** (5 Questions)

1. Please indicate your Position (tick):

1- Junior External Auditor \_\_\_\_

2- Senior External Auditor \_\_\_\_

3- External Audit Manager \_\_\_\_

4- Audit Partner \_\_\_\_

2. Please indicate the kind of Qualification(s) that you have and please indicate if it is local or overseas (if applicable):

1- Accounting Bachelor degree \_\_\_\_\_

2- Accounting Master degree \_\_\_\_\_

3- Foreign accounting professional qualification \_\_\_\_\_

4- Jordanian CPA \_\_\_\_\_

5- Foreign Auditing professional qualification \_\_\_\_\_

6- PhD \_\_\_\_\_

7- Other \_\_\_\_\_

3. How many years have you worked as an external auditor? \_\_\_\_\_ Years

4. How would you describe the audit firms for which you have conduct audits? (tick all that apply)

1- One of the "Big Four" international auditing firms \_\_\_\_

2- Another multinational auditing firm \_\_\_\_

3- A large auditing firm (100+ auditors) \_\_\_\_  
auditors)\_\_\_\_

4- A medium size auditing firm (20-99

5- A small auditing firm (less than 20 auditors).

5. How would you describe the typical Internal Audit Function that you deal with when carrying out audits in client organizations? (tick all that apply)

1- Listed Jordanian Companies \_\_\_\_

2- Long established firms (more than 10 years) \_\_\_\_

3- Small to Medium firms (less than 200 employees) \_\_\_\_

4- Large firms (200+ employees) \_\_\_\_

5- Have Internal Audit Departments \_\_\_\_

6- Multinational firms \_\_\_\_

If you would like to receive a copy of the research report when it is published, please provide your email address. If you feel comfortable providing your name, then please do so. This is entirely **optional**.

Name: \_\_\_\_\_

Email address: \_\_\_\_\_

If you have any questions regarding this questionnaire please contact:

Ashraf Alsukker

OR

Professor Donald Ross

Tel: +962799861744

Tel: +61 (02) 9739 2356

email: [Ashraf.Al-sukker@acu.edu.au](mailto:Ashraf.Al-sukker@acu.edu.au)

[donald.ross@acu.edu.au](mailto:donald.ross@acu.edu.au)

**Thank you, your input is greatly appreciated**

## Appendix 6: Data Collection – Interview & variables definitions

### Interview Protocol

- Thank them for meeting and provide them with a consent form for completion before interviewing begins.
- Explain the terms used in the study and deliver a brief introduction to the anticipated contribution of the study without discussing any of the questions to be explored.
- Give the participant the list of definitions

1- How does your assessment of the Internal Auditor's objectivity affect your evaluation of the Internal Auditor's Effectiveness?

Can you please tell me why the objectivity of the Internal Auditor matters to your assessment?

2- How does your assessment of the objectivity of the internal auditor affect your reliance on the work of internal auditors?

Can you please tell me why objectivity of the Internal Auditor matters to your assessment?

3- How does your assessment of the competence of the Internal Auditor affect your evaluation of the Internal Auditor's Effectiveness?

Can you please tell me why competence of the Internal Auditor matters to your assessment?

4- How does your assessment of the competence of the Internal Auditor affect your reliance on the work of internal auditors?

Can you please tell me why competence of the Internal Auditor matters to your assessment?

5- How does your assessment of the work performance of the Internal Auditor affect your evaluation of the Internal Auditor's Effectiveness?

Can you please tell me why work performance of the Internal Auditor matters to your assessment?

6- How does your assessment of the work performance of the Internal Auditor affect your reliance on the work of internal auditors?

Can you please tell me why work performance of the Internal Auditor matters to your assessment?

Thank interviewee.

Please read the following definitions in order to best visualise the scenarios presented.

**The objectivity of the internal audit functions (IAF):**

The internal auditor should have an impartial, unbiased mental attitude and avoid conflict of interest situations, as that would prejudice his/her ability to perform the duties objectively. Objectivity could be indicated by level of planning and supervision and the level of auditor independence.

**The competence of the IAF:**

The internal audit team collectively must possess or obtain the knowledge, skills, and other competencies needed to perform its responsibilities. Competence could be indicated by experience (local or overseas), education (local or overseas), and training (local or overseas).

**The work performance of the IAF:**

Internal auditors must apply the care and skill expected of a reasonably prudent and competent internal auditor. Due professional care does not imply never making mistakes. There also needs to be sufficient resources to adequately carry out the tasks required.

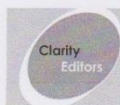
**The effectiveness of the internal audit (IA):**

Refers to the extent to which the designated objectives and functions of the internal audit are achieved properly, are unbiased, and are free from management pressure that may compromise the internal auditor's performance. Examples of those designated internal audit functions are safeguarding assets against loss and theft, providing reasonable assurances that the financial and operating information are accurate and reliable, and ensuring the organization's compliance with laws and regulations.

**The reliance on the work of internal auditors (IAs) by external auditors (EAs):**

Reliance is a state of being dependent upon, confident in or having trust in something or someone. The reliance on the work of internal auditors (IAs) by External auditors (EAs) in the standards is defined as "Using the work of internal audit".

## Appendix 7: Proofreading certificate



**To Whom It May Concern:**


Thesis Title: The Influence of Objectivity, Competence, and Work Performance on External Auditors' Judgements relating to the Internal Audit Function in Jordan

University: Australian Catholic University

Student Name: Ashraf Saleh Mousa Alsukker

This is to certify that Clarity Editors have edited the above titled Ph.D. thesis by Ashraf Saleh Mousa Alsukker, providing feedback on the language, completeness and consistency of the document. The services rendered were limited to copyediting and proofreading, as covered in standards D and E of the Australian Standards for Editing Practice. Clarity Editors did not modify or provide feedback on the substance and structure of the thesis beyond drawing the author's attention to potential problems.

Sincerely,

 12 July 2014

Hisham Alhubaishi

Chief Editor

Clarity Editors

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Website: [www.clarityeditors.com](http://www.clarityeditors.com) email: [info@clarityeditors.com](mailto:info@clarityeditors.com)