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Forensic Accounting Education, Practice, and Career Path in Saudi Arabia

by

Mohammed Alzahrane

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy in Curriculum and Instruction  
with a concentration in Interdisciplinary Education  
Department of Interdisciplinary Education  
College of Education  
University of South Florida

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Date of Approval:  
October 30, 2020

Keywords: Corruption, Accountants, Accounting Education, Necessary Skills, Training  
Requirements

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## **DEDICATION**

This thesis is dedicated to my mother, who spent her life on my upbringing. Her kindness, generosity, and sacrifice have always been sources of inspiration and support in my life.

This study is also devoted to my dad, who taught me how a man should be. Last, but not least, my deepest immense gratitude goes to my beloved wife Norah for her great care, love, prayers, and encouragement, in addition to my children.

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I am deeply grateful for their patience, guidance, and support from the first day of my research journey for the Ph.D. in Curriculum and Instruction dissertation until the day I submitted my dissertation. Their informative and insightful comments and suggestions, along with their tremendous encouragement and support at all stages of my research, were invaluable and much appreciated. I couldn't have wished for better supervisors.

I would also like to extend my appreciation to all the participants in this study for their valuable time and insightful contributions to this research.

## **DECLARATION**

I, Mohammed Alzahrane, declare that this dissertation entitled, 'Forensic Accounting Education, Practice, and Career Path in Saudi Arabia,' submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Curriculum and Instruction with an emphasis in Interdisciplinary Education does not contain any content that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma, and that this dissertation is my own work.

## TABLE OF CONTENTS

List of Tables .....	v
List of Figures.....	vi
Abstract.....	vii
Chapter One: Introduction .....	1
1.1 Background to Study .....	2
1.1.1 Forensic Accounting in Expert Witnesses .....	3
1.1.2 Forensic Accounting in Litigation Support.....	3
1.1.3 Forensic Accounting in Fraud Examination .....	4
1.2 Problem Statement .....	5
1.3 Study Motivation.....	6
1.4 Objectives and Research Questions .....	7
1.4.1 Primary Research Question.....	8
1.4.2 Secondary Research Questions.....	8
1.5 Definition of Terms .....	8
1.6 Research Design.....	10
1.7 Structure of the Dissertation.....	10
Chapter Two: Review of the Literature .....	12
2.1 Conceptual Framework: Review of the Literature .....	12
2.1.1 Forensic Accounting.....	12
2.1.2 Theories of Forensic Accounting.....	15
2.1.3 Differential Forensic Accountings.....	15
2.1.4 Cressey Fraud Triangle .....	16
2.1.4.1 Pressure. ....	16
2.1.4.2 Opportunity. ....	17
2.1.4.3 Rationalization. ....	17
2.2 Theoretical Foundations in Social Science .....	18
2.3 International Experiences in Adopting and Practicing Forensic Accounting: U.K./U.S./Canada/Australia.....	19
2.4 Forensic Accounting in Islamic Country / Malaysia.....	26
2.5 Forensic Accounting in the Middle East and Gulf Countries .....	27
2.6 Accounting Education and Forensic Accounting in Saudi Arabia.....	28
2.6.1 The Major Channels Providing Higher Education in Saudi Arabia .....	29
2.7 Accounting Profession and Forensic Accounting Practice in Saudi Arabia .....	33

2.8	The Judicial System in Saudi Arabia .....	35
2.9	Forensic Accounting from an Islamic Perspective.....	36
2.9.1	The Role of the Forensic Accountant in Legal Disputes in Saudi Courts.....	37
2.9.2	Qualifications and the Demand for Forensic Accountants .....	40
2.10	Knowledge Gaps.....	41
2.11	Conclusion .....	42
Chapter Three: Methodology.....		44
3.1	Introduction .....	44
3.1.1	Qualitative Stage.....	45
3.1.2	Quantitative Stage.....	46
3.1.3	Qualitative Phase / Semi-Structured Interviews .....	46
3.2	Participants and Sampling Strategy.....	47
3.3	Saturation Points.....	48
3.4	The Interview Protocols .....	49
3.5	Interviews and Focus group discussions (Judges and Court AD) .....	49
3.5.1	Work Undertaken on Forensic Accounting Services.....	49
3.5.2	Support Services to Court and Judges .....	49
3.5.3	Skills Needed for Forensic Accounting Services Work .....	50
3.5.4	The Demand for Forensic Accounting:.....	50
3.5.5	Certification of Forensic Accountants .....	51
3.6	Data Collection Procedures .....	51
3.6.1	Transcription Interview Recording.....	51
3.6.2	Translation .....	53
3.6.3	Validity and Reliability.....	54
3.7	Analysis .....	54
3.7.1	Thematic Analysis .....	55
3.8	Quantitative Methods .....	57
3.9	Survey Questionnaire .....	57
3.10	Quantitative Data Gathering Techniques.....	58
Chapter Four: Findings .....		62
4.1	Introduction .....	62
4.2	Support Services to Court and Judge .....	64
4.3	Role of Forensic Accounting Services in Saudi Arabia Courts .....	66
4.4	Giving Opinion in Cases .....	68
4.5	Types of Courts Cases, Percentage of Work-Related to Forensic Accounting.....	69
4.6	Report Writing Challenge .....	71
4.7	Skills Needed to Practice Forensic Accounting.....	74
4.7.1	Personal Skills and Educational Qualifications .....	74
4.7.2	Personal Characteristics / Soft Skills .....	77
4.7.3	Written and Verbal Communication, Analytical Skills .....	77
4.7.4	Cooperation: Teamwork, Flexibility, and Adaptability .....	78

4.7.5	Dealing with Case Parties: Leadership .....	79
4.8	Demand of Forensic Accounting in Saudi Arabia and the Certification Required (RQ3).....	80
4.8.1	Forensic Accountants' Shortage .....	80
4.8.2	Research Sample Demonstrating the Development of Education Available in Forensic Accounting .....	81
4.9	Certification.....	82
4.10	Conclusion .....	83
Chapter Five: Findings of Quantitative Analysis.....		85
5.1	Introduction .....	85
5.2	Process of Developing the Questionnaire .....	86
5.3	Questionnaire Validation (Content and Reliability Analysis).....	87
5.4	The Individual Characteristics of Participants/ Respondents' Demographics .....	87
5.5	Knowledge and Familiarity with Forensic Accounting – Practitioners .....	90
5.6	State of Forensic Accounting Education in Saudi Arabia.....	91
5.7	Perceived Benefits of Forensic Accounting .....	93
5.8	Covering Topics in a Forensic Accounting Course: Legislation, Regulation, and Governance .....	97
5.9	The Role of Forensic Accounting Education in Saudi Arabia .....	99
5.10	Future Career Path and Demand of Forensic Accountants in Saudi Arabia Academicians .....	101
5.11	Conclusion .....	103
Chapter Six: Discussion and Conclusion.....		132
6.1	Introduction .....	132
6.2	Research Aim, Objective, and Research Questions .....	133
6.3	Discussion .....	134
6.3.1	The Role of Forensic Accounting Education in Saudi Arabia.....	134
6.3.2	Perceived Benefits of Forensic Accounting.....	135
6.3.3	Covering Topics in a Forensic Accounting Course .....	138
6.3.4	Future Career Path and Demand of Forensic Accountants in Saudi Arabia.....	141
6.4	Contribution.....	143
6.4.1	Contribution to Knowledge.....	143
6.4.2	Contribution to Theory .....	143
6.5	Policy and Practical Implication.....	144
6.6	Limitations of this Research.....	144
6.6.1	Recommendations to Accounting Educators .....	146
6.6.2	Recommendations to Professional Accounting Bodies .....	147
6.7	Areas for Further Study .....	148
6.8	Conclusion.....	149
References.....		151

Appendices.....	162
9.1 Appendix A: Academicians Questionnaire .....	163
9.2 Appendix B: Practitioner Questionnaire .....	175
9.3 Appendix C: IRB Approval.....	184

## LIST OF TABLES

<b>Table 1.</b> Summary of Interviewees and Associated Interviews Plan .....	52
<b>Table 2.</b> Online Survey Advantages and Drawbacks .....	59
<b>Table 3.</b> Internal Consistency Reliability and Cronbach’s Alpha .....	87
<b>Table 4.</b> Common Questions from Both Surveys Descriptive Statistics – Demographics .....	88
<b>Table 5.</b> Knowledge and Familiarity with Forensic Accounting – Practitioners .....	90
<b>Table 6.</b> Additional Questions Asked Only of Academics .....	91
<b>Table 7.</b> Perceived Importance of Forensic Accounting Education .....	94
<b>Table 8.</b> Importance in forensic accounting of coverage issues .....	97
<b>Table 9.</b> The Role of Forensic Accounting in Saudi Arabia .....	100
<b>Table 10.</b> Future Career Path for Forensic Accountants in Saudi Arabia .....	102

## LIST OF FIGURES

<b>Figure 1.</b> Differential & Theories of Forensic Accounting: Cressey Fraud Triangle .....	13
<b>Figure 2.</b> The Fraud Triangle .....	16
<b>Figure 3.</b> The Key Themes.....	63
<b>Figure 4.</b> Year of Published Research Results.....	81

## **ABSTRACT**

The various high-profile cases of financial fraud that threatened to or led to the downfall of high ranking companies have reinforced the need to equip accounting professionals with the skills necessary to detect and investigate fraud. This study aims to evaluate forensic accountants' effectiveness in Saudi Arabia in meeting the needs of the judicial system and their clients. The study also seeks to explore forensic accounting in depth through the opinions, thoughts, concerns, conceptualizations, and experiences of Saudi judges who are routinely involved in forensic accounting cases. These cases often require expert testimony (i.e., cases involving, but not limited to, fraud, insurance claims, contract disputes, business loss estimation, and intellectual property claims). The study also seeks to obtain the insights of accounting educators and practicing forensic accountants in Saudi Arabia to better understand the skills required to practice forensic accounting successfully.

For this research, a mixed-methods research approach was adopted, as it combines surveys and interviews to ensure a wide range of the research questions are covered (Johnson & Onwuegbuzie, 2004). The qualitative stage involved seven semi-structured interviews, and the seven judges that participated came from the commercial court of appeals and commercial courts. The quantitative phase was based on an online questionnaire distributed to 600 CPA accounting professionals with fraud and forensic accounting focus areas and 400 accounting faculties and educators' members in three major Saudi Arabia regions.

The findings provided insights into forensic accounting education. Also, it highlighted the current state of forensic accounting education in Saudi Arabia. There is an urgent need for accounting professionals with the requisite skills in fraud detection and forensic accounting. Due to the increasing number of corporate scandals in Saudi Arabia and even worldwide, forensic accounting training has become the order of the day. Therefore, every accounting student has to be trained in forensic accounting, and accounting programs throughout the Kingdom of Saudi Arabia must incorporate forensic accounting as part of their curriculum.

The results of this research work highlight several important subjects and themes related to the role of a forensic accounting services professional, the types of services they provide, the work-based and personal skills required, and the future demand for forensic accountants in Saudi Arabia.

As previously stated, Forensic accounting is a multidisciplinary area, and the findings of this study conform to forensic accounting's multidisciplinary nature. This study also indicates that educational offerings can have an influence. Furthermore, the findings suggest that the educators' and practitioners' perceptions of forensic accounting materials and their preferred teaching methods are substantially different.

The participants were sought to share their views on the importance of 25 different subjects in forensic accounting. The two groups agreed that all 25 subjects were relevant, even though the rankings differed to some degree.

The respondents indicated their belief that there will continue to be a strong demand for forensic accountants. This testimony should be considered by universities when planning curricula. It is also critical for students to take note of these findings when deciding on a major

career path. There is also a need to assist academics in Saudi Universities to ensure they satisfactorily integrate forensic accounting into the accounting curriculum.

The results indicate an overall lack of social awareness on the need for forensic accounting within Saudi society and the education sector in Saudi Arabia. It points out the lack of experienced forensic accountants due to limited forensic education for Saudi universities' accounting students. Finally, the study also finds a lack of forensic accounting standards that accountants can use or refer to when acting as an expert witness for litigation consultants.

## **CHAPTER ONE:**

### **INTRODUCTION**

In the recent past, several recorded cases of high-profile fraud in financial reporting have been revealed. The growing trend of these cases accelerated in the 1980s with the surge of mergers and acquisitions (Kramer, Seda, & Bobashev, 2017). IPO manipulations and boiler room practices accompanied this in the 1990s and major financial reporting frauds at companies like WorldCom and Enron in the early 2000s (Shahid, Alexander, & Abdalla, 2018). Increased instances of cases of fraud are known to cause financial catastrophes with far-reaching economic effects such as the implosions of large corporations. The forensic accounting education system in Saudi Arabia should be overhauled because of the many current limitations. In particular, a rewrite of the curriculum for an accounting degree for both the undergraduate and postgraduate work levels is necessary (Albader, 2015).

The demand for forensic accounting and related skills in Saudi Arabia has increased enormously (Alabdullah, Alfadhl, Yahya, & Rabi, 2014; Carpenter, Durtschi, & Gaynor, 2011). In 2011, a PricewaterhouseCoopers (PwC) study predicted that cases of fraud and economic crime are likely to be elevated in Middle Eastern countries (Hidayat & Al-Sadiq, 2014). Understandably, there is a need for higher learning institutions to offer accounting, auditing, and forensic accounting programs in Saudi Arabia, so as to provide the necessary skills future accounting professionals will need to be capable of detecting and preventing financial fraud in businesses across the nation. Several institutions offer forensic accounting courses, but most

colleges and universities do not offer a “model” program. Consequently, this may result in considerable misalignment between these institutions' forensic accounting training and the real needs of practicing forensic accountants in Saudi Arabia. This study seeks to analyze forensic accounting education, practice, and the future career paths for forensic accountants in Saudi Arabia. This study seeks to understand the education and skills provided by forensic accounting education programs, the skills professional accountants need on the job, and the skills employers of professional accountants require in Saudi Arabia.

## **1.1 Background to Study**

Forensic accounting has been for more than half a century. However, over the last few decades, it has gathered a great deal of interest from private, public, and even professional bodies (Alabdullah et al., 2014; Carpenter et al., 2011). This resulted from the increased number of large-scale frauds in the latter part of the 21st century. Forensic accounting can be defined as using or applying techniques in accounting in litigation to resolve allegations of fraud. The American Institute of Certified Public Accountants (AICPA) defined forensic accounting as “the application of specialized knowledge and investigative skills possessed by CPAs to collect, analyze, and evaluate evidential matter and to understand and communicate findings in the courtroom, boardroom, or other legal or administrative venue” (Huber, 2012, p. 1). Different authors have suggested many other definitions of forensic accounting; however, all the definitions contain similar core ideas and can be summed up as accounting techniques intended for use in a court (Hamid, 2016).

Forensic accounting serves different purposes, and these purposes can be classified into three categories: expert witnesses, fraud investigation, and consulting on litigation support. Though these three forensic accounting areas are interrelated, they differ in practice in the Kingdom of Saudi Arabia (Imoniana, Antunes, & Formigoni, 2013; Renzhou, 2011).

### **1.1.1 Forensic Accounting in Expert Witnesses**

An accountant can be employed to analyze and interpret financial information in a court case. However, this approach is usually not enough to prove a case, especially when it is complicated (Al-Twajjry, Brierley, & Gwilliam, 2003). Nevertheless, in such a case, the accountant is required to analyze and explain financial data during the event proceedings. In this example, as an expert witness, the accountant enjoys the exclusive right to testify and clarify the complex financial information based on professional opinion as opposed to any other regular witness (Alsahli, 2012).

To become an expert witness, one needs additional different skills beyond those required for normal accounting work (McMullen & Sanchez, 2010). These skills are required for the nature of the evidence presented in court. For accountants who are used to directing the flow of information within a typical business environment, courtroom procedure and standards for serving as an expert witness are more challenging (Daniels, Ellis, & Gupta, 2013; Mitrić, Stanković, & Lakićević, 2012). A typical ordinary business presentation of well-prepared material may fail in a courtroom. Expert witnesses need to simplify complex financial terms for people lacking any form of financial background (Kranacher & Riley, 2019). Accounting education is just not enough to train accountants for courtroom procedures and processes.

### **1.1.2 Forensic Accounting in Litigation Support**

Forensic accounting in litigation support can be defined as situations where critical analysis of financial data is required for the legal activity for possible wrongdoings (Kranacher & Riley, 2019). This support includes investigating and measuring financial information needed to be applied in a courtroom case. It is used in damage estimates, divorce settlements as well as in other accounting setting requiring interpretations. A comptroller is a management-level position

responsible for supervising the quality of an organization's accounting and financial reporting.<sup>1</sup> For litigation support, the comptroller does not necessarily appear in the courtroom. Still, if the forensic accountant is asked to serve in a court's financial matters, they attend as expert witnesses, just as described earlier (Ramadhan, 2015).

### **1.1.3 Forensic Accounting in Fraud Examination**

This aspect of forensic accounting has grown rapidly, especially since the 1990s. The study of forensic accounting in fraud examination is believed to be the most revered in forensic accounting (Modugu & Anyaduba, 2013). Forensic accounting in the Kingdom of Saudi Arabia aims to supply courts with qualified accountants capable of offering specialized services in financial events. These accountants are primarily meant to represent clients in the courts and specialized judicial committees, especially those connected to customs, insurance, zakat, taxation, and other proceedings and financial cases (Dada, Owolabi, & Okwu, 2013).

Traditionally, accounting education does not qualify one as a forensic accountant. In fact, most of the accountants classified as “known” in this study either learned through the process or were collected by accident or (Mitrić et al., 2012). An accountant does not qualify as a forensic accountant or fraud investigator because they have had mere experiences with fraud (Modugu & Anyaduba, 2013). Presently, in most states, forensic accountants' requirement with the right experience in examining fraud outweighs the available supply (Okoye & Jugu, 2010). This is because additional skill sets and training are required for an accountant to become properly qualified to investigate fraud cases. Forensic accounting education is insufficient both for commercial enterprise and accounting scholars. In fact, most graduate accountants would not recognize fraud if they were directly hit with it. This is because the comptroller does not yet see

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<sup>1</sup> <https://en.wikipedia.org/wiki/Comptroller>

the elements of fraud, opportunities, or even financial dishonest behavior (Dada et al., 2013). Just recently, educational foundations have started to produce and implement a forensic accounting course of studies. Thus, current expansions in forensic accounting training are crucial for the growth of this subject; however, further expansion is needed to satisfy the demand globally (Singleton & Singleton, 2010).

## **1.2 Problem Statement**

From an employment perspective, fraud and financial corruption are the number one enemy as they negate credibility and reputation at work (Ismael & Babiker, 2016). The impact of fraud and corruption in businesses includes non-compliance and infringement of regulations, major financial losses, and financial criminal proceedings (Özkul & Pamukçu, 2012). This is no different in Saudi Arabia; in a corruption and fraud report, businesses operating in Saudi Arabia face moderate to high risk of fraud and subversion. Various instances of corruption and defalcation of funds have been reported in both the private and public sectors, increasing in the upcoming years if nothing is done (Daniels et al., 2013). Existing laws criminalizing corruption and fraud, passive and active bribery, and misuse of functions, include Combating Bribery Law and the Civil Service Law. Unfortunately, the Saudi government enforces these laws selectively. There are no laws that govern conflicts of interest and the facilitation of illegal payments. These have, therefore, increased corruption and fraud in Saudi Arabia.

There is increasing pressure on the regime and corporate systems in Saudi Arabia to build up effective systems to control corruption and fraud. In 2017, the government of Saudi Arabia started a widely reported fraud and corruption crackdown, which ensnared the majority of high-profile people in the state. Though the technique of forensic accounting is useful and has been applied to detect fraud in many developed countries (Al-Jalili & Dhanoon, 2010), it should still be handled and tackled by financial experts factually and concisely. As the regime of Saudi

Arabia continues to fight fraud seriously, the demand for professional help in forensic accounting practices is increasing (Waked & Yusof, 2017). Forensic accounting professionals provide solutions required to satisfy the legal criteria for financial criminal prosecutions, disciplinary sanctions, or even civil recovery.

One way to deal with this problem is to incorporate forensic accounting and fraud investigation in the education systems in Saudi Arabia (Hidayat & Al-Sadiq, 2014). These classes can be offered at the master's level by students who develop sufficient interests after being introduced to the field of forensic accounting.

### **1.3 Study Motivation**

The core focus of motivation for this study is ensuring the economy, accommodating accuracy, and to inspire qualified competitive accountants in the marketplace. For a student to earn a professional forensic accountant certification, they would have to undergo the requisite curriculum training, which develops their competence and equips them with skills essential for all accountants in a modernized world (Singleton & Singleton, 2010). The changing technology and needs of the labor market in a globalized world are not incorporated in undergraduate curricula on accounting in tertiary institutions in Saudi Arabia (Alsahli, 2012). Although the curriculum in other countries is updated regularly to provide for changes brought about by the International Financial Reporting Standards Foundation (IFRS), due to the changes imposed on the profession by external elements such as technology, Saudi Arabia has kept a traditional course of study, which is currently outdated (Shahid et al., 2018). Therefore, research shows that forensic accounting graduates from universities in Saudi Arabia and accounting practitioners in the country require further training to be integrated into the international body of accountants (Alhassan, 2017). The graduate output in forensic accounting is further limited as they try to adjust to the accounting curriculum's global growth. The inclusion of the Saudi Organization for

Certified Public Accountants (SOCPA) and the IFRS in the evolution of a curriculum for training forensic accounting students at universities is to ensure that international measures are adhered to and regularly altered to reflect the different social and technical evolutions.

Different concepts incorporated into the revision of curricula in other educational departments show the need to make a consistent course of study, which is adhered to throughout the country; in terms of its range and chronological succession of learning (Ismael & Babiker, 2016). The specific genes inspiring the necessity to redesign the accounting curriculum in bachelor's degrees in Saudi Arabia are the accounting skills required in the changing business environment globally. As adopted by the IFRS, the ethical criteria of accountability should also be integrated into the preparation of accountants, which should engage in the training of students for the labor market, as opposed to merely imparting knowledge. The curriculum also requires the inclusion of information and communication technology skills for educators, accounting practitioners, and students (Davies & Tikoo, 2019). The accountable body in Saudi Arabia, SOCPA, therefore, is responsible for organizing training seminars to teach these skills and knowledge to accounting students, educators, and practitioners. Furthermore, such training seminars should be a part of the course work of undergraduate scholars. As noted, globalization presents a new problem for the accounting profession; it changes accounting graduates' work in the labor market, and forces a change in their vocational training.

#### **1.4 Objectives and Research Questions**

The broad objective of this research is to gain insight into the presentation of forensic accounting, fraud investigation in the education systems and identify the latest courses in accounting forensic work in Saudi Arabia. In order to fulfill this aim, four objectives were formulated:

- (1) To obtain a deeper understanding of forensic accounting Education and practices in Saudi Arabia.
- (2) To identify the forensic accounting service professionals and the types of services Saudi Arabian forensic accounting firms provide.
- (3) To explore the future demand for forensic accountants and their typical career path.
- (4) To explore skills required by practicing forensic professionals to provide forensic accounting services in the Saudi Arabian courts.

In order to meet these objectives, this research seeks to answer the following research questions.

#### **1.4.1 Primary Research Question**

**RQ1.**What forensic accounting education and training content for practicing CPAs in Saudi Arabia do industry and academic experts perceive as the highest priority?

#### **1.4.2 Secondary Research Questions**

**RQ2.** What skills are critical in forensic accounting education, which is presently absent or given little emphasis by universities in the Kingdom of Saudi Arabia?

**RQ 3.** What do industry experts project to be the future demand for forensic accountants in Saudi Arabia? Upon what basis do they make this projection?

**RQ 4.** What is a forensic accounting services professional's role, and what types of services do Saudi Arabian forensic accounting firms provide?

**RQ 5.** What are the skills and expertise required by practicing forensic professionals to provide forensic accounting services in the Saudi Court?

#### **1.5 Definition of Terms**

- SOCPA: Saudi Organization for Certified Public Accountants
- **International Financial Reporting Standards (IFRS)** Responsibly draft rules to ensure compatibility, transparency, and worldwide comparability of the financial

statements. The International Accounting Standards Board shall issue IFRS (IASB). They specify how companies should maintain and report their accounts, define types of transactions and other financially significant events. The IFRS has been set up to create a common accounting language to make sure the financial statements of the companies are consistent and reliable between businesses and countries.

(Investopedia, 2020c)

- CBL: Combating Bribery Law
- CSL: Civil Service Law
- **Initial Public Offering (IPO):** The initial public offering is the offering of publicly owned shares in a new stock issuance by a private company. The issue of public shares allows a company to raise public investor capital. The period of transition between a private and a public enterprise can be an important time for private investors to make a full profit on their investments since it usually includes share prices for current private investors. In the meantime, it also enables public investors to be involved in the offer. (Investopedia, 2020b)
- PwC: PricewaterhouseCoopers
- **American Institute of Certified Public Accountants (AICPA):** The American Institute of Certified Public Accountants (AICPA) is a non-profit professional organization of certified public accountants (CPA) in the United States.  
(Investopedia, 2020a)
- **Certified Public Accountant (CPA):** Certified public accountants are designated as individuals meeting the requirements for education experience and successful completion of the Uniform CPA Examination by the American Institute of Certified

Public Accountants (AICPA). The CPA designation assists in the implementation of professional standards in the accounting sector. The CPA designation is also granted to other countries, particularly the designation of Chartered Accountant (CA).

(Investopedia, 2019)

## **1.6 Research Design**

The study adopts a mixed-methods research methodology that incorporates surveys and interviews to enable a broad coverage of research issues (Johnson & Onwuegbuzie, 2004). The advantage of using a mixed-methods approach is that it increases the study results' completeness (Olsen, 2004). Online questionnaires have been employed to improve response rates. Also, to gain in-depth insight from a range of participants, semi-structured interviews were used. The study employed a mixed exploratory research design to answer the research questions and achieve the aim and objectives (Creswell & Plano Clark, 2007; Saunders, Lewis, & Thornhill, 2009; Tashakkori & Teddlie, 2003).

## **1.7 Structure of the Dissertation**

A dissertation often takes the form of five chapters. This first chapter presents the dissertation and gives a complete overview of the entire project. Objectives and goals of the project are defined, and the process of execution is given a good form of action. Chapter Two critically reviews the literature to show the reader what existing research has been conducted in forensic accounting education and practice globally, in developing and Arabic countries and, particularly with a few studies in Saudi Arabia. Chapter Three shows the underlying dissertation paradigm, methodology and design, population and sampling, data collection processes, and information analysis tools. Chapter Four displays the solutions obtained from the semi-structured interviews conducted with five federal- and state-level judges from the Kingdom of Saudi Arabia

who are routinely involved in forensic cases. Also, it shows the resolutions of quantitative research from the online questionnaire. Last, Chapter Six, the discussion and conclusions, show the study's limitations and areas for further research.

## **CHAPTER TWO:**

### **REVIEW OF THE LITERATURE**

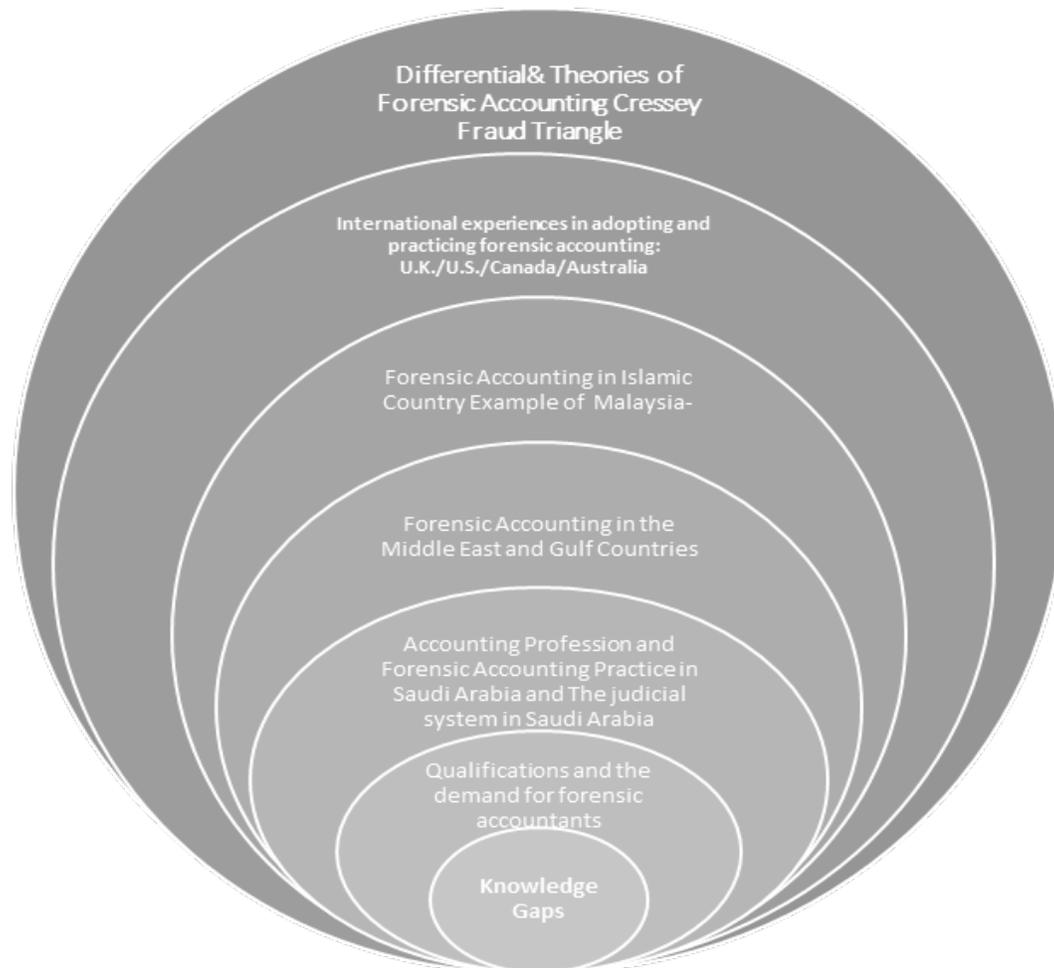
According to a study by Hidayat and Al-Sadiq (2014), the cases of fraud and economic crime are likely to be high in Middle Eastern countries soon. Institutions of higher learning in Saudi Arabia need to incorporate accounting, auditing, and forensic accounting programs in their syllables so future accounting professionals being equipped with the necessary skills will detect and prevent fraudulent activities in businesses across the country. Various institutions offer forensic accounting courses, but these colleges or universities seem to follow its curriculum without referencing any “model” program. As a result, there are likely to be discrepancies between these institutions' forensic accounting skills and the actual needs of practicing forensic accountants. **Conceptual Framework: Review of the Literature**

#### **2.1.1 Forensic Accounting**

I searched with particular emphasis on articles concerning forensic accounting in Saudi Arabia. However, very few articles in this area were found. For this reason, I decided to broaden the literature review to accommodate articles from other countries. The article search was limited to full-text and peer-reviewed articles. To access essential articles, even those published many years ago, the search was not restricted to a given range of years.

According to DiGabriele (2008), analytical experts and practitioners believe that some of the competencies needed in forensic accounting involve data configuring abilities, critical thinking, investigation versatility, analysis experience, and legal information comprehension. All of the groups surveyed accepted that in forensic accounting, communication skills are significant

in practice. The study's general findings highlighted that some people believe these certifications are essential for aspiring or practicing forensic accountants. In contrast, other people believe that forensic accounting is a career built on integrity and passion for the occupation.



**Figure 1.** Differential & Theories of Forensic Accounting: Cressey Fraud Triangle

Okoye and Jugu (2010) found in their study that specific forensic accounting abilities were considered important in the forensic accountants' function. As a result, scholarly experts in the field need to build a program that prioritizes forensic accounting in their learning institutions. From the results of their findings, they also stated that forensic accounting needs to be more open-minded. Their findings also showed that forensic accounting is a significant skill that can be used to solve a financial mystery fraud with imperfect information.

Palmer, Ziegenfuss, and Pinsker (2004) argued that all Chinese and international students in China were to be assessed. The assessment ranks included technical aspects of fraud, financial statement manipulation, and antifraud knowledge and practice in forensic accounting education. Palmer et al. (2004) discovered that a certain kind of central subject of forensic accounts covers professional standards on forensic accounting, in accordance with relevant legislation, types of theft, and book-related accounting fraud. The last group of topical forensic auditors found by these researchers covers expert testimonial subjects, expert witnesses, earnings control, bribery and intellectual property theft, red flags on environment and company, and the settlement of misconduct allegations.

The overall risk assessment of qualified students following preparation is much higher than before. In comparison, after the likelihood of fraud-risk factors is raised, eligible students made further updated post-training risk assessments nearly close to that of the expert community. This means that the curriculum increased the level of cynicism harbored by students, which implies that students need to pursue a forensic accounting course to develop skills for a thorough analysis of fraud-risks (Carpenter et al., 2011).

Forensic accounting practitioners need to be competent in the following areas: evidence processing and analysis of results, records, and testimony both electronically and non-electronically, ethical and dispute resolution techniques (Nicolae & Diana, 2017). The accountants and technical experts surveyed indicated that technical capabilities, accompanied by fundamental transparency, and eventually, data analysis skills, are ranked best. According to successful forensic accountants interviewed, a forensic accountant must possess the following qualities: reliability, patience, problem management abilities, and communication knowledge. The findings also show that forensic accountants tend to have more experience in information

system than the normal accounting expertise and are active in the field as industry experts and academics (McMullen & Sanchez, 2010).

### **2.1.2 Theories of Forensic Accounting**

As established previously, forensic accounting has an origin, just like any other research subject. It was purely researched by an economic researcher to build up a theory that explains why and how a choice of techniques can detect creative accounting manipulation in institutions. Several theories have been put forward to explain the outcomes of using techniques, dependent on the accountant's user needs and decisions. Those theories are as follows.

### **2.1.3 Differential Forensic Accountings**

Forensic accounting can be defined as “the application of accounting philosophies, theories, and disciplines to facts or hypotheses at issue in a legal dispute and encompasses every branch of accounting knowledge” (Ismael & Babiker, 2016). Forensic accountants are sought after to scrutinize, examine, and query various issues relating to financial crimes. According to Stanbury and Paley-Menzies (2010), forensic accounting is an act of gathering, interpreting, summarizing, and presenting complex financial issues clearly, succinctly, and factually, often in a court of law. Forensic accounting dates back to 3500 BC. Evidence from Egypt and Mesopotamia suggests that financial information was inscribed in damp clay vessels and stored in clay envelopes to prevent alteration of the original data. Whenever foul play was discovered or misinformation, the perpetrators suffered severe punishments and sometimes even death.

In terms of the legal system, forensic accounting can also be defined as applying both monetary and analytical skills to an unresolved matter in the legal context. The profession requires one to have business knowledge, fraud investigation knowledge, and vast knowledge and familiarity with the courts' workings. The need to have investigative skills is essential because one is required to inspect financial crimes such as theft, embezzlement, and fraud. The

need to have a vast knowledge of court proceedings and financial know-how is also essential (Bologna & Lindquist, 1995). The world has quickly embraced forensic accounting as a profession, and its need has grown significantly. Some of the areas forensic accounting is useful to include criminal financial investigations, dispute settlement such as breach of a contract, and insurance claims. (Sulphey & Naushad, 2019). Forensic accounting has covered a niche of its own, especially in the western world. Nevertheless, in Saudi Arabia, it is taking shape but at a slow pace.

#### 2.1.4 Cressey Fraud Triangle



**Figure 2.** The Fraud Triangle

Since Cressey first published his theory in 1953, the Cressey Fraud Triangle's importance has been known across the literature. Over the past six decades, extensive work has been conducted.

##### 2.1.4.1 Pressure.

- Confidential economic pressure
- An otherwise honest person may be motivated to commit a crime in the face of high financial difficulty.

#### **2.1.4.2 Opportunity.**

- An employee experiencing such unshakeable financial difficulty can find a weakness that can be exploited in the firm's internal financial controls
- When an employee understands such a vulnerability, he or she can give in to the temptation to exploit that weakness
- People who feel they are rarely observed commit fraud because they believe they will never be found out.

#### **2.1.4.3 Rationalization.**

- To ensure that such acts of fraud are consistent with their code of conduct, a perpetrator must be able to justify his actions (committing embezzlement).

Recommended courses included fraud definitions, forensic accounts, auditors' primary responsibilities, counselors and professionals of fraud or fraud triangle, and fraud components. The course also included the foundations of avoidance, identification, prosecution of fraud, a broad overview, and misleading financial statements of the common frameworks of wealth misappropriation. Debate on fraud reduction, including civil and criminal prosecutions, and discuss forensic obligations such as company reviews and employment issues. This kind of accounting curriculum model for entry-level forensic accountants should include skills and knowledge of criminology, ethics, the legal environment, and fraud in financial statements. It should also include misappropriation of assets, misrepresentations, bribery, fraud and digital forensics, and forensic and litigation advisory services (Seda & Kramer, 2015).

According to a comprehensive analysis carried out by Crumbley, Heitger, and Smith (2011), different forensic accounting aspects are relevant to accounting training programs. They further concluded that a forensic accounting curriculum would provide learners with skills that'd

direct their actions in delivering litigation-related services. The compliance with the academic code of conduct covers specific areas such as theoretical conflict of interest deliberation, letters of a written commitment, evidence screening and differentiation between actual testimony and beliefs, and incorporate a curriculum that helps students comprehend privacy and evidence laws, a legal substance, and company right of the discovery process (Crumbley, Heitger, et al., 2011).

## **2.2 Theoretical Foundations in Social Science**

According to Wells (2017), forensic accounting syllabus content will allow students to develop high-level skills and gain an overall knowledge of different fraud activities. Content that allows the students to understand the basic concept of red flags or risk factors that could lead to fraud should be included in forensic accounting training. Definitions of red flags include forensic financial irregularities, methodological deviations, behavioral effects, internal control deficiencies, attitude issues, and concerns among employees. After these trainings, students would be so efficient in identifying red flags. They will be so proficient that they can detect fraud and provide convincing evidence about a trend or red flag. Such skills are essential for the effective identification and avoidance of a possible fraud case (Albrecht, Albrecht, Albrecht, & Zimbelman, 2011).

Content that enables students to understand how detection, warning, investigation, and correction can prevent fraud should be included. The students should also be taught how to see the connection between crime and internal controls. They should learn the different forms of competencies used in prosecutions and circumvent risk management awareness (Albrecht et al., 2011).

### **2.3 International Experiences in Adopting and Practicing Forensic Accounting: U.K./U.S./Canada/Australia**

Following the increase in social and economic activities over the past century, forensic accounting has been popularized. In countries such as the U.S., U.K., and Canada, forensic accounting only began gaining notoriety after the significant scandals in the late 20th century. In countries such as Great Britain, auditing was performed to ensure the accountability of resources assigned to public officials (Shahid et al., 2018). Following the growth of new businesses, there grew new accounting concerns as fraud cases began to increase. The auditors were not necessarily trained to detect fraud; therefore, the accounting world began to look into new professions.

Auditors in Great Britain were initially expected to detect fraud risks in cases. Upon the increase in workload, it became apparent that they could not audit and detect fraud simultaneously. The term *forensic accounting* was coined in the 1950s as a result. The most notable forensic accounting case was the Al Capone case in 1931 (Stanbury & Paley-Menzies, 2010). The expansion of forensic accounting in Great Britain and the U.S. only took shape after massive fraud cases such as the Enron case were unmasked. This led to the reinforcement of auditing and accounting systems as separate entities. The Sarbanes-Oxley of 2002 created such a massive shift in the accounting world as it brought about new accountants' and auditors' new requirements. It also led to the advancement of forensic accounting (Stanbury & Paley-Menzies, 2010).

In countries that use the Anglo-Saxon law, such as the U.S., U.K., and Canada, examinations are carried out by certified accountants as a service. However, forensic accounting is regarded as a profession (Özkul & Pamukçu, 2012). In most states, the requirements for becoming a forensic accountant are the same: the minimum education level is a degree, specified

training, certificate of ethical conduct, and a successful professional examination. The difference is with the bodies that give certification. In the U.S., for one to become a forensic accountant, no minimum education level is required. The catch is, as much as not much is needed, different organizations have different requirements for one to qualify to become a forensic accountant. Most cooperation does not disclose the criteria and qualifications of their officers (Hamid, 2016). The fact that this industry is unregulated means anyone can claim to be a forensic accountant. However, most people have chosen to get the right certifications to have authentic value and stand out in this profession (Walton et al., 2010). A majority of forensic accounting services in the U.S. are required by lawyers (Davis, Farrell, & Ogilby, 2010).

Most of the corporations that offer these certifications in the U.S. are not regulated by federal laws. All that is required is the filing of articles of incorporation and nominal fee payment. The U.S. has at least six corporations, namely: American College of Forensic Examiners International, Inc., and American College of Forensic Examiners Institute of Forensic Science, Inc., founded in Missouri in 1992; Association of Certified Fraud Examiners (ACFE), founded in Texas in 1996, responsible for issuing the Certified Fraud Examiner; Forensic CPA Society, founded in Washington in 2005, responsible for FCPA grants; Association of Certified Financial Crime Specialists founded in Florida in 2011, responsible for issuing CFCS (Hamid, 2016). Each of the four big firms, KPMG, Deloitte, Ernst & Young, and Grant Thornton, have dedicated divisions that focus solely on forensic accounting. As of 2017, the annual revenue from forensic accounting was expected to grow up to US\$6 billion (Stanbury & Paley-Menzies, 2010). This result confirms that there is actual growth in forensic accounting; the general acceptance of forensic accounting is necessary for the U.S.

Born out of a desire to create good corporate governance and a need to discover stolen monies, Canada has seen the number of forensic accountants grow significantly. Nicholas Hordon, the head of the investigating unit at Ernst & Young, says that the firm's business has grown considerably (Dillman, 2011). KPMG and PricewaterhouseCoopers also have echoed the same sentiments about business growth. The supply, however, does not meet the demand. The Canadian Institute of Chartered Accountants instituted the Investigative and Forensics department. Two accountants first established this specialty in 1975 who, for a long time, provided services to police officers investigating fraud cases. Around the 1980s, they began to be sought after for litigation services (Davies & Tikoo, 2019). They mainly dealt with quantifying spousal assets and determining and providing financial information in breach of contracts. Over time, they were found to be beneficial in both civil and criminal proceedings as expert witnesses.

As a result of the scandals that occurred both in the U.S. and Canada, the profession has created a niche. Today, the corporate world is more intolerant to white-collar crimes and, therefore, seeks more and more forensic accountants' services. A report issued by PricewaterhouseCoopers in the summer of 2016 indicated that at least 37% of all companies worldwide had suffered fraud (Ali, Malik, & Al-Fattli, 2017).

Ernst & Young, also known as EY, is a multinational company with headquarters in the United Kingdom. It is one of the widely recognized big four accounting firms in the world. In 1849 it was operating as a single business entity. In 1989, several companies merged to form what is now known as EY. The firm's business model is structured to provide the following services: assurance - deals with financial accounting and forensic assistance, among other things, tax - deals mostly with tax compliance and advisory services. The company has offices in major cities such as Africa, Europe, Asia, and America. Deloitte is one of the longest-serving

professional firms in East Africa. In 1915 it adopted and operated under the name Gill & Johnson before it transitioned to Deloitte East Africa. The company has grown significantly, with over 24 partners and serving over 150 clients.

Grant Thornton # was founded in London in 1904. Over the years, it has merged with other companies from the U.K., U.S., Canada, and Australia. In 1986, the companies came together to form what is now known as Grant Thornton. The company is located in over 40 major cities worldwide. The company underwent some legal trouble in 2018 when one of its member firms was fined for audit misconduct. In 2019, the company lost a client, Patisserie Vallerie, after failing to spot some grievance errors during the audit. KPMG was formed in the Netherlands in 1818. The company has spanned over three decades to be where it is at the moment. In 1988 a merger between PMI and KMG created KPMG. In 2001, the firm spread its wings to the U.S. market. Each member firm acts as a separate legal entity in the different countries it is located. The corporation has had to face several legal battles. For example, in 2003, it was summoned by the IRS for questioning. It was also fined \$456 million in penalties to avoid prosecution from the U.S. government.

The requirement for forensic experts has escalated tremendously over the past decade. A lot of businesses, institutions, and even governments have seen the need for this profession. This practice dates back to the ancient civilized communities that saw the need and importance of bookkeeping for accountability purposes. It is believed that this need came about to capture the economy's progress in those days (Montgomery, 1998). There are numerous examples of ancient communities that began to rely on early financial control systems, such as the Shako dynasty of China, which dates back to 1122–256 BC (Modugu & Anyaduba, 2013).

Notably, auditing is not the same as forensic accounting. Verification involves examining a subject, and it is not limited, while forensic accounting involves a unique theme (Loper, 2013). In an audit, the person seeks to point out errors and misinformation or omit evidence where the improprieties exist (Skalak, Alas, & Sellito, 2006). At the same time, a forensic accountant narrows down to the subject matter of the problem. They examine all the documents related to the problem (Loper, 2013). Apart from investigating crimes such as theft of public funds, forensic experts analyze estimates of claims such as that of the Hurricane Katrina case of 2005 (Dada et al., 2013).

Education stakeholders also have a part to play in supporting and giving aids to help promote this course. At the beginning of the 21st century, the U.S. only had 19 universities that offer separate fraud courses (Peterson & Reider, 2001). In 2002, the ACFE provided free training materials and resources to universities to expand their comprehensive syllabus in forensic accounting (Kranacher, Morris, Pearson, & Riley Jr, 2008). Many U.S. universities followed suit and began to redefine their course structure. There are currently 422 universities in the U.S. that offer separate programs for this course and about 155 institutions that offer a degree or diploma courses solely on forensic accounting (Seda & Kramer, 2014). In countries such as Canada, there is only one graduate program offered by the Alliance for Excellence in Investigative and Forensic Accounting (Gosselin, 2014).

In Australia, nine universities offer fraud and forensic accounting courses (Van Akkeren & Tarr, 2014). In the U.K., five universities offer this course. In terms of research material, the U.S. has published a few, but countries like the U.K. have not followed the same direction. The field of forensic experts in the U.S. is slowly shaping into a full-blown profession. It displays many characteristics of a profession, such as specialized education, certification, and ethical

code, among other things. However, this is far from the case in the U.K. The field of forensic accounting is too broad, and no profession can monopolize it. Consequently, it bears the attributes of a specialized field (Alshehri & Drew, 2010).

In the U.K, the field of forensic accounting is primarily dominated by professional accountants. However, any other profession that requires good communication skills, analytical skills, and investigative skills is eligible to join the field. Globally, it is evident that the determinant for this field of study's progress relies on the legal, cultural, economic, and ethical norms of a particular country.

The future of forensic accounting can be termed as nothing short of great. With emerging technology, new applications are developed daily that help make the work of the expert easier. Nowadays, at the click of a button, one can upload multiple data into an organized system. Data can also be easily retrieved, especially if it is specific. Data analysis software has become better and efficient in assisting data analysts in performing their functions. Technology helps to cut costs, improve efficiency, and save time. The world has become a global village, and those who resist change will be thrown out of this bandwagon. These days, it takes a much shorter time and a small workforce to perform a task than in the pre-technology era. With the advent of technology, crimes have become more complex. In this day and age, the world has to deal with new-age crimes like hacking and cyber theft. Companies need to maximize their data and analytics department to detect fraudulent activities in their database successfully.

According to a survey done by KPMG (2016), a small number of companies are engaging in analytics for fraud detection. A survey was done by KPMG experts who investigated approximately 750 fraudsters. It was discovered that about 3% of the fraud cases were discovered by analytics-focused exclusively on fraud, while the rest was uncovered by

whistleblowers or through tip-offs (KPMG International, 2016). A global survey done in 2016 revealed that approximately \$6.3 billion was lost annually through fraud. For companies to deal with fraud effectively, they should learn to trust the process of data analytics fully. A certain level of scrutiny and transparency must be observed for the corporation to achieve success. The level of trust between the clients and the company has to be top-notch. If the client trusts the service providers, then it is more likely that good relations are fostered, and the results are trustworthy (KPMG International, 2016).

An innovation that will completely change the game for forensic accounting is artificial intelligence (AI). Artificial intelligence relates to how humans relate to technology. With this invention, the downtime for investigations will be significantly reduced as one can specifically communicate to the computer what to look for, even to the minutest details. Forensic experts also need to familiarize themselves with emerging technology, current research, and more knowledge. As a forensic accountant, it is vital to have critical thinking skills. This skill set helps to solve emerging issues because they keep mutating.

The forensic sphere is an underdeveloped yet very promising space. As the world keeps evolving, such disciplines will keep evolving with it. The demand will continue to grow as more spaces will need this field. Fields such as law enforcement, the legal system, and even the corporate world should embrace this domain with wide arms, as it serves to bring efficiency. More and more educational institutions should expand their curriculum; create space for forensic accounting to thrive. As this is relatively new ground, there is still plenty of room for growth. People should establish more firms that provide these professional services to cater to the grounding demand worldwide. Forensic accounting is like the cover page of a book, meaning

there are still plenty of pages to be filled. Let us embrace this advantage and be pacesetters on our own merits.

#### **2.4 Forensic Accounting in Islamic Country / Malaysia**

In many cooperation as WorldCom and Enron cases in the last decade, financial scandals were an eye-opener to the accounting profession. These scandals dimmed the light of accountants in public and lowered citizens' trust in them. As a result, the demand for forensic accountants by many private and public institutions increased worldwide. As a result, also, many higher learning institutions started offering forensic accounting as a course. However, in Malaysia, only the University of Technology Mara (UTM) offers a master's in forensic accounting and financial criminology. The course was introduced upon collaboration with the Anti-Corruption Agency (ACA) of Malaysia to improve forensic accountants' skills and knowledge. Other universities have yet to introduce forensic accounting as a course; instead, they have it as a unit in accounting and auditing courses.

Forensic accounting in Malaysia is considered an expensive practice; hence, only significant and well-performing organizations can provide it. To be engaged as a forensic accountant in Malaysia, they must possess experience of three years and knowledge in accounting, internal and external audit, and taxation. Forensic accountants consist of accountants and lawyers, computer scientists, and law enforcers such as police officers; hence, forensic accountants should possess skills and cognition based on accounting and laws. Malaysia is an Islamic state. Therefore, it is guided by 12 pillars of the ethical value of civic services, which is founded on Islamic values. These values were founded by the national institute of public governance in Malaysia. They include the value of time, the success of perseverance, the pleasure of kneading, the dignity of simplicity, worth of character, the power of kindness, the influence, example, an obligation of duties, wisdom of economy, virtue of functioning,

improvement of talent, and the joy of rising. Forensic accounting involves the in-depth application of specific special skills in areas of, for example, accounting, auditing, finance, research, law, quantitative methods, among others. Forensic accounting is the application of accounting and auditing, investigative skills, and financial accounting to unsettled issues conducted within the context of evidence rules.

## **2.5 Forensic Accounting in the Middle East and Gulf Countries**

We need forensic accounting to accomplish the essential task of helping organizations, individuals, and society at large to detect and prevent frauds, so that vast amounts of public finances are not missed. For example, in the Middle East and Gulf countries, most firms have specialist forensic accounting departments. In the Middle East, there is a definite demand for the profession of forensic accounting to be gifted the most required thrust and boost. Agreeing with this context, the Middle East and Gulf countries' forensic accounting has a broad mixture of purposes. For instance, it can be used in a criminal investigation for criminal information about financial and other related frauds. Moreover, it can also be used in business-related fraud investigation, including asset identification and recovery, tracing of mismanaged finances, gathering intelligence, and preventive actions due to diligence reviews.

Forensic accountants are required to investigate any ongoing financial fraud referred to them. Forensic accounting is one of the top careers of the time to come. The present article discusses forensic accounting's utility and prospects as a profession and its present place in the Middle East and Gulf countries. The forensic accountant should apply several techniques to investigate and unearth fraudulent dealings and embezzlement of public finances through the depth psychology of fiscal data. As the Middle East economies, including Saudi Arabia, developed and enhanced their positions in terms of increased volume and size, there is a definite

need to have heightened levels of scrutiny to achieve the required accountability and transparency.

## **2.6 Accounting Education and Forensic Accounting in Saudi Arabia**

The first two universities of the country were established in 1975 by the King Saud University and King Abdul Aziz University. The Saudi Arabia was an international higher education institution. In Saudi Arabia, the second most significant component of government spending is education. Saudi Arabia has several internationally recognized institutions as a fast-growing higher education system in the Middle East. In 2018, seven Saudi universities ranked in the QS World University Rankings, and in the 2018QS Arab Region university rankings, the nation claims 21 of the 100 best universities in the Arab region (QS Quacquarelli Symonds, 2018). Saudi Arabia was also listed as having the world's 36th best higher education system in the first edition of the QS Higher Education system strength rankings (QS Quacquarelli Symonds, 2016). As in several countries worldwide, universities in Saudi Arabia have Bachelor's, Masters and Ph.D. degrees, which usually last four, two, or three years or four years. While Saudi universities mainly cater to Saudi citizens, Saudi leaders generally welcome international students.

Saudi Arabia's colleges and universities are both supported by the government and private institutions, and they play an important role in the higher education system of Saudi Arabia. The Saudi Arabia Ministry of Education (MOE) is responsible for planning higher education and scientific research, licensing private institutions, preparing laws for establishing federal government institutions of higher education, foreign accrediting institutions, etc. The Ministry is also responsible for ensuring that colleges and universities in Saudi Arabia operate at international quality levels.

The Ministry of Education (higher education) was established in 1975 to supervise, plan, and coordinate Saudi Arabia's needs in higher education to produce a workforce specialized in administrative and scientific areas, who would serve the national development objectives. Higher education has proceeded apace in most areas, and as of 2019, there were 30 registered universities with the capacity to meet the nation's needs. These universities are geographically distributed throughout the various regions of Saudi Arabia. All these universities are linked with the Ministry of Education but enjoy a great deal of administrative and academic autonomy.

The Higher Education Council runs a licensure program for higher education institutions and regulates accreditation for each of their academic programs (Ministry of Education, n.d.). The Higher Education Council's mission is to promote educational excellence across diverse higher learning institutions in Saudi Arabia.

### **2.6.1 The Major Channels Providing Higher Education in Saudi Arabia**

Saudi Arabia has the following institutions providing higher education in forensic accounting:

- Public universities: There are 31 state universities in Saudi Arabia providing free education to Saudi nationals.
- There are 13 Private universities, 42 private colleges in Saudi Arabia, operating under the MOE supervision and providing paid educational programs for Saudi nationals and international students (12 provide degrees in accounting).
- There are other academic institutions for students who prefer diploma-level certification or are interested in technical and industrial areas:
  1. Institute of Public Administration (IPA) – 9 branches
  2. Technical and Vocational Training Corporation (TVTC) – 50 colleges

All 59 schools provide degrees in accounting.

The first accounting department was established at King Saud University, Riyadh, and a course in accounts was introduced in 1957. This was followed by the second accounting department, established at King Abdulaziz University, Jeddah, in 1972. All divisions support Saudi students with accounting education (M. Diamond, 2005). After that, one after another, accounting divisions began to open up. To date, nearly 34 colleges are providing a four-year BA in accounting. New public colleges have arisen, and the organizations are pursuing additional Saudi Arabia graduates have grown. Over the past seven years, their number has increased significantly, resulting in more institutions offering accounting and more students studying accounting. The accounting training process that can produce academic and professional administrators capable of responding to the working environment's demands that seem to be evolving quite rapidly needs to be implemented to meet public accounting requirements.

M. Diamond (2005) claimed that each university has the right to its curriculum and that all universities are not united to their curricula. Furthermore, SOCPA does not invest in its curricula. As for the way the university's compliance curricula are structured, he also remarked that the creation of the accounting program includes a department proposing planned courses that are decided upon at the university council, then debated, and finally, approved by the university council through the Academic Curriculum and Planning Management Committee.

There has been a limited number of past studies on accounting instruction in Saudi Arabia. Gough et al. (2004) investigated the function of two universities—King Saud University and King Abdulaziz University in accounting qualification. In compliance with the Committee on Education Standards of the American Accounting Society, the two universities' programs were assessed. Gough et al.'s (2004) research findings demonstrated the inability to train trained

accountants for both universities as Gough et al. (2004) did not state particular reasons for their findings because they did not discuss the entire education system. The American accounting system also dominated both institutions in that period. In the same year, Gough et al. (2004) assessed the trade in Saudi Arabia concerning the accounting profession's scope. In terms of the university accounting climate, they defined certain limitations. Still, they did not explain why the scope is limited since his research focuses primarily on accounting as a discipline in Saudi Arabia (Gough et al., 2004).

In particular, for developing countries, the need for professional accountants has become increasingly important. Nevertheless, few studies have explored how the accounting education system evolves by the condition of these countries' economies and whether their accounting preparation outcomes will deliver students who will fulfill the job requirements. To research the technical accounting curriculum of 14 developing countries in compliance with their economic conditions, a brief effort was made to show how economic factors affect their forensic accounting.

The reason for the lack of previous research is that they have only focused on specific aspects of the system, such as the curriculum or the surrounding environment, without considering the impact of other influences on the accounting profession. On the other side, Saudi scholars such as Hassall, Joyce, Arquero Montaña, and Donoso Anes (2005) have analyzed and contrasted the accounting education framework to academic standards. Accounting as a discipline is directly affected by the characteristics of the structure and external factors such as economic and social considerations, either academically or professionally.

Therefore, it is recommended that when a researcher is analyzing a particular structure, in addition to external contextual variables, all internal components should be evaluated. The aspect

of the internal components and the effects of the program would be affected by external factors, which would impact the advancement of system operations. To analyze the structure, a researcher should define Saudi Arabia's accounting education system's components and evaluate them (Srdar, 2017). In his research, Srdar (2017) further discussed the external factors that can impact Saudi Arabia's accounting system development. This allowed for the full picture of the Saudi Arabia accounting system and the performance to be measured. His main aim was to determine if these graduates can meet their working environments' requirements or whether a gap exists between education and practice in Saudi Arabia.

According to Grosu, Almășan, and Circa (2015), the accounting career in Saudi Arabia was established because the petroleum industry required accountants, which culminated in the development of university accounting courses before creating the SOCPA. This sequence of events could have influenced the development of Saudi Arabia accounts method and, subsequently, the program's functions. There yet isn't a study on the feasibility of collaboration between SOCPA and institutions offering accounting programs. Research findings and previous studies have pointed out that the accounting career's progress must be connected between the two bodies. Therefore, this plan should be implemented, and its effectiveness should then be measured to bridge the gap between education and practice in Saudi Arabia accounting. Research findings have shown that understanding the gap and SOCPA's position in addressing this gap has been created. SOCPA and the colleges should engage in the accounting system and operate together to generate accountants capable of addressing the working environment's rapid changes. There is a need for higher learning institutions offering accounting, auditing, and forensic accounting programs in Saudi Arabia, to teach skills that will help graduates detect and prevent possible fraud activities in various businesses across the country. Some institutions offer forensic

accounting courses, but each college or university seems to be following its syllabus, meaning that there may be discrepancies in these institutions' forensic skills.

The bachelor's degree system in Saudi Arabia must be capable of producing beneficial outcomes. The education stages should be cumulative and interdependent to support every course. The stairs are the main element of capacity building, and it qualifies accounting and other divisions to satisfy the labor requirement. If the change in education is taken into account, the discussion would be centered on how innovative education will reform a curriculum and create a future generation platform. Some of the inadequate curricula weaken the students' capacity to cope with global and regional development (Shahid et al., 2018). The Saudi Arabian curriculum has previously changed, and only the accounting educators in universities, accounting practitioners, and accounting bodies challenge the knowledge communicated to students from the arrangement. There is no uncertainty that the curricula in Saudi Arabia must be changed due to modern development. The new course of study must satisfy the job market requirement, thus producing qualified human resource persons to lead Saudi Arabia in global fiscal and economic power.

## **2.7 Accounting Profession and Forensic Accounting Practice in Saudi Arabia**

The forensic accounting profession in Saudi Arabia is still in the development phase (the accounting system has not grown to the level of quality equal to developed countries' quality level professionally and academically). The professional body seeks support to boost the development of the career. Gough et al. (2004) found the interaction between the two societies—The Saudi Professional Accounting Authority and the Saudi Organization for Public Accountants Certification (SOCPA)—to be “inevitable,” which implies that the relationship between the two groups is necessary to complete the professional development cycle in the community. The Saudi Organization for Certified Public Accountants (SOCPA) is the Saudi Arabian accounting

industry's primary agent and lobbyist. In contrast to some countries with more than one professional body, there are no other professional bodies licensed in Saudi Arabia.

Accounting should be classified as a specialized practice based on environmental, economic, social, or cultural considerations. Therefore, in a nation like Saudi Arabia, a “high oil-exporting area,” examining accounting education systems is of high concern. HIOECs’ oil exploration has modified its global characteristics and generated the need to improve its financial and economic policies to keep up with the transition.

With oil discovery, Saudi Arabia’s economy changed from a pilgrim tax-dependent economy with minimal internal commodity income to a sole petroleum industry-based economy. Scientific development programs in all areas motivated the new economic policy. The truth is, oil income was the foundation for Saudi Arabia’s growth, and through these measures, the development plans approved by the Government of Saudi African States in previous phases were directly proportional to the oil revenue. Therefore, the growth of Saudi Arabia has contributed to the need for business conditions and businesses to grow since the discovery of oil in different areas (Garcia & Lampe, 2011).

In the phase of the country’s economic growth, accounting and accountants' development is essential from several points of view. The exponential growth in the number and sizes of businesses in Saudi Arabia required suitable accounting systems to manage and monitor corporations' capital and run large firms effectively and efficiently (Garcia & Lampe, 2011). The option of viable investment goals, the best types of investments to be made in the region, is based on advanced forensic financial and accounting skills. Also, the Saudi stock exchange wanted appropriate procedures to ensure a secure market for traders. Such implementation strategies, such as newly adopted qualified criteria and ethical knowledge of accounting

guidelines, will thereby enhance the confidence of traders to invest in companies (DiGabriele, 2008).

All those factors posed an urgent demand for accountants to complete their accounting transactions amid the oil revolution that changed the direction of Saudi Arabia's economy. This situation surrounding the initial appearance of a skilled accounting business in Saudi Arabia is somewhat close to the first introduction of the American accounting industry where, with the Industrial Revolution, qualified accountants also arose to protect the requirements of the revolution (Garcia & Lampe, 2011).

## **2.8 The Judicial System in Saudi Arabia**

In Saudi Arabia, the foundation law upon which all laws anchor is the Islamic Shariah law. Although the modern legal system consists of both written and unwritten rules, Shariah law is still the land's supreme law. The constitution of Saudi Arabia was founded in 1932 through an act of governance, which is a monarchical system. The constitutional law provided that the state draws its rules from the Islamic Holy Book and the Sunna. Article 48 states explicitly that all cases should strictly adhere to the principles mentioned in the Sharia law. It translates that all cases are to be adjudicated based on the Quran and Sunna. The article also states that all decrees issued by the state should conform to the Sharia law. This presented an enigma as judges often wondered whether to apply the Sharia law solely or the Kingdom's other written rules. Most of them, however, resorted to using the principles laid out in the Sharia law.

As a result of this mishap, quasi-judicial committees whose purpose was to resolve judicial failure or refusal to use the land's codified laws were constituted. For fear of abandoning customary law, most judges opted for Shariah law rather than these codified laws. Courts in Saudi Arabia follow a very brief procedure as they do not have judicial precedents, and the code that mainly governs the courts is the unwritten law. Most judges tend to follow the Hanbali

School of jurisprudence in determining cases and giving verdicts. Around 1975, new institutional offices took over the role of the judiciary's premiership in an attempt to foster independence of the court. They included the Supreme Judicial Council, the Council of Senior Saudi Scholars, and the Ministry of Justice. Also, new reforms were introduced into the judicial system of the Kingdom. Although some have not yet been implemented, others have taken effect.

The Ministry of Justice has an administrative role in the judiciary. The institution formally adopted the Law of Criminal procedure, which states that the court may assign one or more experts to counsel the court on technical matters within a prescribed period. In a situation whereby the litigants do not understand Arabic, an interpreter may be sought (Alsahli, 2012). To qualify as an expert witness in Saudi Arabia, one needs to have a valid registration SOCPA, and a valid certificate of ethical conduct, among other requirements.

Forensic accountants had a unique set of skills that differentiates them from regular accountants (Crumbley, Heitger, et al., 2011). They were to use their business acumen to look beyond numbers and figures and navigate different business realities to get answers. The experts also had to have good knowledge of business law to sail through the business world. In Saudi Arabia, the organization tasked with the accounting profession's duty, and all its related matters, is under the Ministry of Commerce. The big companies like Deloitte, KPMG, and PwC have set up shop in the Middle East in countries like Saudi Arabia, where they cater to the ever-growing corporate world. These companies have professionals who have specialized in both the business and legal aspects.

## **2.9 Forensic Accounting from an Islamic Perspective**

Forensic accounting plays a major role in both the public and private sectors; it acts as a tool for identifying questionable and phony accounting activities. A forensic accountant should have diverse skills in subject areas such as accounting and law. Also, they should be able to hold

out on any investigation. Therefore, for a forensic accountant to get permanently employed in the public sector—in the accountant general department—they should possess Islamic values, traits, and skills relevant to forensic accounting; this will enhance their skills in a public establishment. In his speech, Al-Mubarak (2011), the auditor general in Malaysia, said that the top management's primary role in any system is to discover any fraudulent and malicious actions. The forensic accountant needs to have the ability to see beyond financial and accounting records. The forensic accountant must also examine any financial transactions linked to legal cases to identify fraudulent activities.

Forensic accountants in the public sector need to possess essential traits and characteristics, relevant enhanced skills and Islamic values, and employment ethics; these reflect good values in actions, doings, and cerebration. Values and ethics adopted from Islamic concepts and work ethics include sincerity, accountability, loyalty, justice, discipline, and cooperation. Relevant forensic account skills include fraud detection, internal controls, interviewing skills, conflict negotiation, and settlement. The forensic accountant's essential traits are persistent, evaluative, confident, inquisitive, detailed-oriented, and good performance under pressure. The forensic accountant in the public sector must consider all other options, examine every fine detail, and perceive things based on Islamic work ethics. Hence, forensic accounting should be taught at a lower layer of management (junior staff) to instill anti-fraud and anti-corruption culture. Also, Islamic values and ethics should be exercised for the success of forensic accounting.

### **2.9.1 The Role of the Forensic Accountant in Legal Disputes in Saudi Courts**

Professionals often use password protection, firewalls, virus protection, enhancement in internal controls, and fraud checks. Techniques like tools for data research, the use of forensic accountants, and results from screening are not used even when they are highly recommended

(Bierstaker, Brody, & Pacini, 2006). These specific researchers found that litigation assistance and professional observation are a vital part of the forensic management procedure (Heitger & Heitger, 2008). A study carried out by Ramadhan (2015) recommended a discussion of 26 subjects in forensic accounting preparation in Bahrain. The investigator wanted to know which subject industry specialists and scholars liked the most. The researcher discovered that all 26 topics are essential to the participants. Nonetheless, three key issues were illustrated by the respondents. These include bribery and corruption prosecution, strategic appraisal, and corporate governance procedures.

In Ramadhan's (2015) study, a variety of auditors and forensic accountants were consulted. The results showed that the business and research specialists see certain subjects as specific subject fields in forensic accounting. These subjects include digital forensics, interview, assessment expertise, cybercrime, and security (Kramer et al., 2017). This study examined the amount and the existence of forensic oversight systems in the U.S. The analysis revealed that 96 forensic accounting courses had been delivered in American universities at the post-graduate level, with a degree, diploma, and a minor. The framework prerequisite to the teaching of forensic accounting in the United States provides main accounting principles, such as financial statement, key factors, business ethics, business law, contract times, computer skills, communication (both written and oral), and professional cynicism criteria (Seda & Kramer, 2015).

With the growth of Saudi businesses in leaps and bounds, a unique need for forensic accounting arises. Due to a growing need to weed out the scourge of corruption, the government entrusted the Saudi Organization for Certified Public Accountants under the Royal Decree numbered M/12 to promote accounting and auditing as a profession. The umbrella body under

which they operate is the Ministry of Commerce in Saudi Arabia (Council of Ministers' Resolution, 1993).

It is also evident that the academic world has only a few materials available on this topic. A study conducted in the Asir region of the kingdom by Alhassan (2017) concluded that a certain percentage of respondents thought forensic accounting was responsible for reducing financial corruption in the region. A recent study conducted on 120 respondents indicated that forensic accounting was quite a useful tool in pointing out corruption and unmasking misappropriated funds. The research also highlighted a big difference between forensic accounting and auditing (Alhassan, 2017).

Therefore, it is evident that with an increase in businesses, large corporations, and the growth of the economy, the umbrella body of professional accountants in Saudi Arabia, which is SOCPA, should be at the front seat in recognizing forensic accounting as a necessity for the kingdom. Consequently, growth in the economy translates to a heightened need for accountability and transparency. If this is not adhered to, many large corporations and the government risk facing significant fraud cases, and with the state of things, the scourge of corruption will never be effectively dealt with. In litigation matters, forensic accountants are usually asked to quantify the number of damages necessary to be awarded to the plaintiff. When the issue escalates, and evidence is needed for a court decision to be made, the forensic expert may be used as a witness in the matter. In criminal proceedings, the forensic accountant is usually tasked with determining criminal intent and determining whether a crime occurred. Without forensic accounting, society's fabric may be eroded through vices like corruption, which will have a very devastating impact on the lives of the citizens in a country.

## **2.9.2 Qualifications and the Demand for Forensic Accountants**

In recent years, the demand for forensic accountants has increased rapidly. However, demand outweighs the supply (Shahid et al., 2018). Forensic accounting covers an extensive scope, including the financial sector, the insurance sector, and law enforcement. For one to become a qualified forensic accountant, one needs to possess a particular skill set. Forensic accountants spend the majority of their time analyzing financial documents to uncover cases such as fraud, embezzlement, theft, among others. They may also be required to testify in court as expert witnesses. They also need to have skills in investigation and auditing, as this gives them an edge. For one to qualify to become a forensic accountant, they need to pursue a degree in forensic accounting and have CPA certification. Students pursuing this course acquire advanced analytical skills, as they spend a great deal of time analyzing financial documents. One also needs to be proficient in data analysis and critical thinking to be effective. Having excellent investigative skills is also a plus since the job relies heavily on the investigation. Those who work in law enforcement rely mostly on the evidence found after investigations.

An audit is defined as conducting an official inspection of financial documents. A forensic accountant must go through financial files to ascertain and verify the financial position of a specific body or institution and check out for errors. It is, therefore, crucial to have thorough auditing skills in this profession. Excellent communication skills are a vital part of almost every career. More often than not, a forensic accountant is required to present evidence in court as an expert witness. Excellent communication skills are essential in forensic accounting because practitioners must question witnesses and compile evidence and reports, among other things. Excellent organizational skills are also critical in all careers, including forensic accounting. A forensic accountant often works with multiple documents. It is vital to have excellent organizational skills, so reports may not be mixed up or perhaps get lost in analyzing financial

records. It is crucial to have them neatly arranged and in an orderly manner. The world today is all connected by the click of a button on a computer. Everything is gravitating towards the technology space. It is essential, therefore, to acquire technological skills. Accountants who specialize in computer forensics must have excellent data analysis software; they must learn how to conduct cyber forensic investigations with such software.

Generally, the minimum entry-level requirement is a bachelor's degree in accounting specializing in forensic accounting or a bachelor's degree in forensic accounting. Other certifications, such as a CPA state certification, gives an edge. Having a master's degree in this field helps one to stand out in the job market. Pursuing a certification offered by the Association of Certified Fraud Examiners provides the employee with an upper hand. Once a candidate meets all these requirements, they are now ready to enter the job market or seek opportunities to start their firms. While in school, students are advised to seek internship opportunities to practice what they have learned and feel the work environment.

## **2.10 Knowledge Gaps**

This review of the literature reveals that, to date, few studies have been conducted examining the need to fill the gap between accounting education and professional practice in Saudi Arabia. More specifically, the gap in forensic accounting education and training content for practicing CPAs in Saudi Arabia is on the rise because even though the accounting profession has evolved and advanced due to the economic conditions, the accounting education sector has not changed pace.

The studies have further proven that accounting graduates lack the needed skills to match the job market demands in forensic accounting in Saudi Arabia. This situation presents a gap. Therefore further research must be employed to understand the differences contributing to the

lack of skilled graduates in forensic accounting in Arabic regions, Saudi Arabia, more specifically.

Despite the research and studies that have been carried out in Saudi Arabia on forensic accounting and its education, certain aspects that are still missing present a gap that should be researched further; in particular, the future demand for forensic accountants and the typical career path, skills required by practicing forensic professionals to be able to provide forensic accounting services in the Saudi Courts. As seen above, the future demand for forensic accountants and typical career path, skills required by practicing forensic professionals to be able to provide forensic accounting services in the Saudi Courts, colleges, and schools are not in harmony with the accounting system in Saudi Arabia, and this ultimately hinders their professional experience in the field. Further studies can be conducted to understand why there is no physical link between the accounting education offered in school and the accounting board of Saudi Arabia. New research should seek to explain the reasons and forces behind the existing gap to find solutions to fix the accounting systems.

## **2.11 Conclusion**

In conclusion, all the discussed research have specific themes in common as they all incline towards forensic accounting and training while including the accounting profession. The studies defined the complex financial and business problems analyzed, described, and outlined by forensic accountants and can be used by corporations, insurance companies, police forces, government agencies, or national accounting firms. Conclusively, from some of the studies, forensic accountants gather financial data, build computer applications for the administration of collected information, and convey their conclusions in the form of report submissions. As discussed in the works of literature, the theme of forensic financial accounting is a specialized accounting division that includes a register, summarization, and recording mechanism over time

for the various transactions arising from commercial transactions. These transactions are summarized in preparing the balance sheet, sales report, and cash flow statement, which document the business's operating performance. As the studies elaborated, financial accounts employ several established principles. In forensic financial accounting, accounting principles rely on the regulatory and reporting requirements met by the company. Public corporations and companies must carry out financial accounts based on the accepted accounting principles (Saudi Arabia follow international standards). To establish these accounting principles, customers, shareholders, regulators, and tax authorities must be provided with clear data and evidence.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Introduction**

The choice of research design and data collection techniques has a major effect on the consistency of the data collected and, as a result, on the research's conclusions and results. Therefore, the research design and data collection methods must be followed to address the research objectives. The research approach should also reflect the time limits, resource availability, project scope, target population, and research objectives (Gill & Johnson, 2002; Sekaran & Bougie, 2010). Different research design and data collection approaches have been used, such as surveys, quasi-experiments, secondary data, and interviews in accounting education research (Apostolou, Dorminey, Hassell, & Watson, 2013). The selection of approaches depends on (1) the target group (usually academics or students); (2) study (e.g., curricular design, generic skills, training technology); and (3) research goals (Apostolou et al., 2013).

Out of a three-year review of 126 empirical papers in accounts studies (2010–2012), Apostolou et al. (2013) identified 69 papers (54.76 percent) using surveys as their method of data collection. Other approaches used included interviews (Nie, Collins, & Wang, 2013) with accounting academics (KPMG International & American Accounting Association, 2011) and questionnaires (KPMG, 2011).

Essentially, the goal is to gain a full understanding of the current forensic Accounting education Practice and the future career path in Saudi Arabia. This study will implement the

mixed-methods approach that employs qualitative and quantitative methods to achieve the objectives mentioned earlier. The mixed-methods research design would be preferred because the qualitative and quantitative method gives a better understanding of the study. The qualitative method employs a semi-structured approach. The quantitative method involves a survey technique. This chapter validates the research design and data collection methods used in this analysis to examine the questions asked in the previous chapter

### **3.1.1 Qualitative Stage**

The qualitative stage was based on seven semi-structured interviews with seven judges. A total of seven judges participated in the commercial court of appeals and commercial courts. Seven men with an average of 15 years' experience were interviewed from April to May 2020. Researchers currently see FA competency as an important focus area because forensic accounting requires various skills, knowledge, and qualifications to be effective (Davis et al., 2010). In this increasingly changing environment, forensic accountants are primarily engaged in two types of tasks: (a) investigating financial crimes and (b) testifying as expert witnesses (Crumbley, Heitger, et al., 2011).

This qualitative phase answers the following research questions:

**RQ 3.** What do industry experts project to be the future demand for forensic accountants in Saudi Arabia? On what basis do they make this projection?

**RQ 4.** What is a forensic accounting services professional's role, and what types of services do forensic accounting firms in Saudi Arabia provide?

**RQ 5.** What forensic accounting education and training content for practicing CPAs in Saudi Arabia do industry and academic experts perceive as the highest priority?

The data collected were analyzed using thematic analysis, supported by a software program (Quirkos).

### **3.1.2 Quantitative Stage**

This initial stage's results contributed to a deeper understanding of the relationship between forensic accountants and the skills identified as most important for forensic accountants. The results also helped construct the quantitative questionnaire, which comprised of the second and dominant stage. In this second phase, which took place from June until August of 2020, an online questionnaire was distributed to 750 CPAs accounting professionals with fraud and forensic accounting focus area, and 300 to accounting faculty and educator members in three major regions of Saudi Arabia.

This Quantitative phase answers the following research questions:

**RQ 1.** What forensic accounting education and training content for practicing CPAs in Saudi Arabia do industry and academic experts perceive as the highest priority?

**RQ 2.** What skills identified in the literature as being critical in an educational curriculum of forensic accounting are presently absent or given little emphasis by universities in the Kingdom of Saudi Arabia?

**RQ 3.** What do industry experts project to be the future demand for forensic accountants in Saudi Arabia? On what basis do they make this projection? Eighty-eight completed responses were collected and analyzed using SPSS.

### **3.1.3 Qualitative Phase / Semi-Structured Interviews**

The qualitative phase aims to evaluate the extent to which forensic accountants in Saudi Arabia meet the needs of the judicial system and their clients. There are several potential approaches for gathering qualitative data, including in-depth interviews, focus groups, observational study, etc. (Bernard & Ryan, 2009). In academia, the most common approach is to interview participants (Opdenakker, 2006). In this type of approach, a researcher investigates a question or a phenomenon from the individuals' point of view so that the participants are the

experts, and the interviewer is the interpreter of reality based on the participants' experience (Hesse-Biber, 2010).

For this research study, a qualitative interviewing method was undertaken to gain a deeper understanding of forensic accountants' perceptions and practices in supporting judges and the judicial system in Saudi Arabia. The qualitative interviews aimed to explore forensic accounting in depth through the opinions, thoughts, concerns, conceptualizations, and experiences of Saudi judges who are routinely involved in forensic accounting cases requiring expert testimony (i.e., in cases involving, but not limited to, fraud, insurance claims, contract disputes, business loss estimation, and intellectual property claims).

### **3.2 Participants and Sampling Strategy**

There are approximately 2,585 federal and state judges in Saudi Arabia working in 350 First Class Court (Okaz.com.sa, 2019). Seven judges in the commercial court of appeals and commercial courts from different Saudi Arabia regions were interviewed. The population comprised of judges from the Kingdom of Saudi Arabia at the federal and state level, who are routinely involved in forensic accounting cases requiring expert testimony, that is, in cases involving (but not limited to) fraud, insurance claims, contract disputes, business loss estimation, and intellectual property claims.

According to Teddlie and Yu (2007), there are four social science sampling techniques: probability, purposive, convenience, and mixed methods sampling. Snowball sampling is one of the options in the purposive strategy (Shahid et al., 2018). This strategy can be defined as an informal method for finding a target population (Atkinson & Flint, 2001; Browne, 2005), and this approach aims to support and extend a researcher's social networks (Thomson, 1997).

Snowball sampling benefits are getting access to a hard to reach population, building confidence between researchers and participants, responding to in-depth, and providing reliable,

effective solutions (Atkinson & Flint, 2001). On the other hand, this sampling strategy presents some disadvantages. Some difficulties in seeking out participants outside the network, such as the possibility of selective selection on the researcher's part (Atkinson & Flint, 2001; Vershinina & Rodionova, 2011). A total of seven judges participated, including seven men and 0 women with an average of 10 years' experience: all Saudis.

### **3.3 Saturation Points**

Some scholars suggest that a certain number of participants have saturation points. This is described as “the point in the collection of data where the researchers collect the data from existing participants, and the collection of data from new participants does not significantly contribute to the codes or themes that are created” (Creswell, 2017, p. 77).

The criterion of saturation is often used in determining sample size, but it is often not operationally defined. One definition of data saturation is data collection and analysis when data collection produces little or no change to the codebook representing the codes that represent the essential concepts in the study. Theoretical saturation (Glaser & Strauss, 1967) is defined as continuing with data collection until no new theoretical insights are derived from the data, based on the researcher's skill in asking interview questions, sensitively listening to the answers. Also, the ability to interpret the responses using the theoretical frame facilitates the achievement of saturation.

According to the book written by Creswell (2013), which is based on the analysis of several studies, the author proposed that one to two participants would be appropriate for narrative study, three to ten for phenomenological studies, and 20 to 30 individuals for grounded theories research. Nonetheless, defining a certain number of interviews as appropriate or unacceptable is dangerous; it depends on the research's purpose. A scholar might get saturation in five interviews or get saturation in 50 interviews; it depends on the subject.

Therefore, I found between the fifth and sixth interviews that most of the responses had been replicated and that no further observations had emerged. Therefore, based on the saturation concept—drawing from the literature—I concluded that the interview results achieved saturation in seven interviews.

### **3.4 The Interview Protocols**

The interviews were subdivided into five sections: Work undertaken on Forensic Accounting Services: (1–5), Support services to Court and Judges (6–11), Skills needed for forensic accounting services work (12–13), Demand of Forensic Accounting (14–15), and Certification of forensic accountants (16).

### **3.5 Interviews and Focus group discussions (Judges and Court AD)**

#### **3.5.1 Work Undertaken on Forensic Accounting Services**

- (1) Approximately what percentage of your work time is spent on cases involving forensic accounting and/or financial crime?
- (2) Could you give some examples of the types of “cases” that might appear in your courtroom?
- (3) Are forensic accountants relevant as expert witnesses in investigating crime and corruption cases in Saudi Arabia?
- (4) Are forensic accountants in Saudi Arabia considered to be independent?
- (5) a. Do you think forensic accountants in Saudi Arabia appearing in your court have adequate professional experience as expert witnesses?  
b. What are some of the strengths that you have observed?

#### **3.5.2 Support Services to Court and Judges**

- (1) Do forensic accountants provide expert witnesses in litigation support services?

- (2) a. Do forensic accountants in Saudi Arabia have satisfactory education and skills to educate judges on relevant accounting and/or auditing literature at issue in litigation in an understandable manner?  
b. What are some of the notable education and skills that the forensic accountants possess relevant to litigation?
- (3) a. Are forensic accountants in Saudi Arabia well prepared to provide judges with a strong understanding of the key accounting issues and financial records?  
b. Are you able to tell that they are adequately prepared?
- (4) a. Are forensic accountants in Saudi Arabia good at obtaining and preserving evidence to support case theories?  
b. How are they able to achieve this?
- (5) a. Do the forensic accountants provide relevant parties with adequate expert opinions and the basis for these opinions?  
b. What skills do they possess that enable them to do this?
- (6) Do you think forensic accountants should be involved in the formulation of financial crime laws?

### **3.5.3 Skills Needed for Forensic Accounting Services Work**

- (1) What are the top five relevant skills required to perform forensic accounting services?
- (2) What personal characteristics do you think professionals in the field of forensic accounting services need to succeed?

### **3.5.4 The Demand for Forensic Accounting:**

- (1) Do you think this kind of work has increased in demand? If so, how much increase would you estimate have taken place in the last five years for this kind of work?

- (2) Does the occurrence of corporate fraud increase over the past five years? If so, why do you believe that it happened?

### **3.5.5 Certification of Forensic Accountants**

- (1) Do you think forensic accountants should be formally certified by an organization? Why, or why not?

## **3.6 Data Collection Procedures**

The potential participants had the opportunity to choose the time and place to interview. ; most of the judges preferred to be interviewed via Zoom and Skype due to the COVID-19 pandemic.

Two judges withdrew due to changing circumstances during the organization and beginning of interviews. Most of the respondents asked to read the questions. One of the interviewed individuals preferred not to be recorded, and therefore notes were taken, but Zoom and Skype were recorded for the other six judges. Four interviews were held face-to-face with Zoom, while two judges (one in commercial courts and one in first instance courts) requested that it be more convenient if the interviews were conducted using Skype (Hanna, 2012). Seven interviews were conducted from April to May 2020, and it is summarized in detail in Table 1.

### **3.6.1 Transcription Interview Recording**

I completed all seven interview transcriptions from the Arabic recordings. Unfortunately, I could not find a good software program for translating from Arabic. I tried Sonix at my committee supervisors' recommendation, but it gave me very messy transcription documents. This is because most of the interview recording is informal Arabic language (slang Saudi language—we have three dialects of spoken language: Najdi, Gulf, and Hejazi Arabic). So, I decided to do the interview transcription by hand. Transcription required about 20–25 minutes

per page for each interview. Nevertheless, my decision to take on this route helped a lot when I identified my themes and coding; the manual transcription made me very familiar with my data.

The qualitative data from the seven interviews was significant—approximately 169 transcribed pages. Some of the data is not related to the current research but may be useful for future research.

**Table 1.** Summary of Interviewees and Associated Interviews Plan

No	Gen	Industry and Regions	Interviewing type	Date	Time - Recording
Ent01	M	Commercial Court of Appeals Western-Jeddah	ZOOM (Face-to-face)	April 17, 2020	51 minutes Recorded
Ent02	M	Commercial Courts Central-Riyadh	ZOOM (Face-to-face)	April 19, 2020	75 minutes Recorded
Ent03	M	Commercial Courts Western-Jeddah	ZOOM (Face-to-face)	April 21, 2020	38 minutes Recorded
Ent04	M	Commercial Courts Midwest-Madinah	WhatsApp Call	April 28, 2020	55 minutes Not Recorded
Ent05	M	Commercial Courts Central-Riyadh	ZOOM (Face-to-face)	May 2, 2020	44 minutes Recorded
Ent06	M	Commercial Courts Western-Jeddah	ZOOM (Face-to-face)	May 4, 2020	65 minutes Recorded
Ent07	M	Commercial Court of Appeals Southern-Abah	ZOOM (Face-to-face)	May 7, 2020	59 minutes Recorded

The committee supervisors' approval and recommendations, related data to the current research were taken from interview transcriptions after the translation. This made the interview transcription translation process faster. The translation was from Arabic to English.

### **3.6.2 Translation**

One of the most important considerations in this study was translating the interview transcription and questionnaire. The first versions of the qualitative interview questions and survey questionnaire were established in English, and the supervisors approved them. I also received approval from the Institutional Review Boards / Research Integrity & Compliance approval from the University, stating that the researcher translated the interview questions into Arabic.

After multiple revisions of survey questionnaires (Qualtrics) with the committee supervisors and four Ph.D. holders (a pilot interview), we generated a final version of the questionnaire.

I worked with Arabic Translation Services (a certified professional translator) with the committee supervisors' approval and recommendation until we finished transcribing all seven interviews. For the process of translating the questionnaire to Arabic, the following four steps were taken:

- (1) The final English version of the questionnaire was translated into Arabic by Arabic Translation Services Company (certified translator).
- (2) Translate the Arabic version back to English.
- (3) Compare the original surveys with the translated one from Arabic.
- (4) Send to an academic colleague who speaks both Arabic and English fluently for feedback.

### **3.6.3 Validity and Reliability**

In quantitative studies, validity and reliability are key and are becoming more relevant in qualitative studies (Golafshani, 2003). Nonetheless, qualitative researchers use specific concepts, such as integrity, neutrality, efficiency, transparency, trustworthiness, or reliability (Lincoln & Guba, 1985). Performance study validity primarily has to do with the standard of research and quality of a study (Golafshani, 2003). In contrast, qualitative research's reliability rests with convincing readers that a study's findings are “worthy of paying attention” (Lincoln & Guba, 1985, p. 290).

I worked with (a pilot interview) an academic colleague who speaks Arabic and English fluently and holds four Ph.D.'s from the U.S./U.K. in business, engineering, and education, to help modify my interview questions and review my final interview transcriptions.

This study took this into account during the interviews. In particular, great care was taken when the questions were developed. The questions were based on an extensive and comprehensive literature review. They were then discussed and reviewed with the committee supervisors and academic colleagues. A pilot interview was conducted in order to collect feedback. The questions were reconsidered with the supervisors to get the final approval to start this stage. Finally, I found the importance and value of sharing communication with a pilot interview to establish culturally competent research practices.

### **3.7 Analysis**

The data from the semi-structured interviews were analyzed through the Quirkos program. Thanks to the available digital visualizations, the coding, connections, source data, and quotes can be displayed in the virtual container separately or juxtaposed (Davidson, Thompson, & Harris, 2017). Such portable technologies and their portable products have played a major role

in promoting and, by extension, the demands raised by qualitative researchers for transparency (Davidson & di Gregorio, 2011).

Quirkos provides a visual and intuitive way to manage, analyze, and explore your qualitative research: users create the themes and codes as colorful bubbles, and the user tags the text by drag and drop it onto the bubble (code), and themes get bigger and bigger every time text is added (Quirkos, 2020). While other programs can be used for thematic data analysis, such as NVivo, MAXQDA is more able than its competitors to support Arabic.

All transcripts of interviews were published first in Arabic, and the final findings were only translated into English. The researcher then reduced the details and extracted the relevant quotations.

The data obtained from the seven interviews were read without a context and then read again, enabling a better approach to transcripts and improved defining of major themes based upon the interview questions and study objectives and goals. Such themes allowed for improved knowledge and deeper understanding of the personal skills and educational qualifications required of practicing forensic accountants in Saudi courts to meet the judicial system's needs and clients.

### **3.7.1 Thematic Analysis**

Thematic analysis is a tool for data recognition, interpretation, and reporting (themes). It organizes your data in (rich) detail minimally and describes it. Nevertheless, it also interprets specific elements of the field of study (Boyatzis, 1998). An account of “emerging” or “discovered” themes is a passive account of the analysis process, and it rejects the active role researchers always play in identifying, selecting, and reporting patterns/themes (G. W. Taylor & Ussher, 2001). In the semi-structured interviews, the researcher uses the thematic approach to analyze data obtained (Braun & Clarke, 2006; Jones et al., 2011). Themes are described by Ryan

and Bernard (2003) as the fundamental concepts through which researchers attempt to describe a subject of research, whereas the method of thematic analysis could be identified in detail as a “theme of the identification, analysis, and reporting of data pattern (themes)” (Braun & Clarke, 2006, p. 79).

Following Aronson (1995):

- **Firstly**, the data should be collected in the form of interview transcripts.
- **Secondly**, key direct quotes should be identified, and common ideas should be summarized.
- **In the third stage**, related patterns should be combined into themes.
- **The fourth stage** makes a trustworthy and reliable argument regarding the selection of the themes for analysis and creating a storyline that would help your readers realize the process, motivation, and understanding of your research.

The qualitative phase in my study aims to evaluate the extent to which forensic accountants in Saudi Arabia meet the needs of the judicial system and their clients. There are approximately 2,585 federal and state judges in Saudi Arabia working in 350 First Class Court (Okaz.com.sa, 2019). Seven judges with an average of 10 years’ experience in Commercial court of appeals and commercial courts were interviewed from four different Saudi Arabia regions.

To gain a deeper understanding of the perceptions and practices of forensic accountants in supporting judges and the judicial system in Saudi Arabia, the qualitative interviews aimed to explore forensic accounting in depth through the opinions, thoughts, concerns, conceptualizations, and experiences of Saudi judges who are routinely involved in forensic accounting cases requiring expert testimony (i.e., in cases involving, but not limited to, fraud, insurance claims, contract disputes, business loss estimation, and intellectual property claims).

### **3.8 Quantitative Methods**

In the quantitative study, a survey questionnaire was used to obtain the perspectives of accounting educators and practitioners on the relative importance of fraud topics to include in the accounting curriculum of forensic accounting in Saudi Arabia. Information was gathered from select universities across the nation. The targeted population for the inquiry was various stakeholders in the accounting education system in Saudi. These stakeholders included accounting lecturers and other faculty members within the chosen universities and other tertiary institutions. Another target group was accounting professionals with expertise in forensic accounting. These participants' groups were desirable for the research since they possess the relevant accounting knowledge demanded in this inquiry.

### **3.9 Survey Questionnaire**

A sum of 1,000 of the questionnaire survey link was sent by email and different WhatsApp groups to the respondents across the chosen universities and accounting professionals. Such a relatively high number of questionnaires are important to ensure that the rate of copies returned is high. Six hundred copies of the survey were distributed to accounting professionals (CPAs) within my personal WhatsApp groups, and 400 copies were administered to faculty members.

I worked with both my academic colleague and project supervisors (a pilot interview) during the development of the survey questionnaire. Parts of the research questionnaire were adapted and improved from past research like Ramadhan (2015). After multiple revisions and supervisor feedback, we generated a final version of the questionnaire. This was based on reviewing and validating relevant fraud and forensic topics from three professors, an expert from the United States, and an expert each from the Middle East and Saudi Arabia. It was also based on a review of forensic accounting topics analysis research (ACFE, 2010; Crumbley, Heitger, &

Smith, 2009; DiGabriele, 2008; Pearson & Singleton, 2008) and the model forensic accounting curriculum published by West Virginia University and the U.S. Department of Justice in 2007. The model curriculum was developed and approved by the Technical Working Group for Education in Fraud and Forensic Accounting.

Twenty-six fraud and forensic topics were selected for the survey questionnaire. A second part of the questionnaire also collects data from educators about expected demands for forensic accounting in Saudi Arabia, integrating forensic accounting education into the accounting curriculum as a separate course and at any level (undergraduate or graduate). The final part of the instrument required demographic information to help analyze the results.

### **3.10 Quantitative Data Gathering Techniques**

To achieve the highest response rate possible, a mixed response sampling technique was used at this point of the study. Social media networks were used to reach Saudi accounting educators and professionals working in forensic accounting. Participants were also encouraged to share the questionnaire with their friends and followers on social media (Walliman, 2016). This is because online, the questionnaire could be easily spread through mobile apps, e-mails, and social networking sites. Finally, the snowball sampling technique was used to target people who were difficult to identify.

The online survey had advantages and drawbacks, similar to any research instrument. These are summarized by Evans and Mathur (2005), as shown in Table 2. A number of the initial features of the online survey were resolved and improved in a number of ways. First, a leading online survey program (Qualtrics) licensed by South Florida University was selected. This software has advanced features compatible with various languages and many alternative questions. In addition, thirteen 13 doctoral candidate students and accounting professionals were contacted and sent the questionnaire to provide suggestions on clarity and user-friendliness

(Evans & Mathur, 2005). Secondly, the survey instrument was e-mailed to 600 CPAs and 400 accounting educators from two primary sources. The emailing list of CPAs was obtained from the Saudi Organization for Certified Public Accountants (SOCPA). The educators' email list was obtained from each university's website in Saudi Arabia and the business school directory dean.

**Table 2.** Online Survey Advantages and Drawbacks

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Global outreach</li> <li>• Flexibility</li> <li>• Timeliness and speed</li> <li>• Comfort</li> <li>• Ease of input and review of data</li> <li>• Low management costs</li> <li>• Easy to obtain a broad sample</li> <li>• Regulation of the order for a reply</li> </ul>	<ul style="list-style-type: none"> <li>• Consider as junk mail</li> <li>• Lack of representation</li> <li>• Respondent lack of internet access</li> <li>• Technological variations</li> <li>• Directions for unclear answers</li> <li>• Impersonal</li> <li>• Privacy and security issues</li> <li>• Low rate of response</li> </ul>

Source: Evans and Mathur (2005, p. 197).

Thirdly, Twitter and Facebook were used to contact seven accelerators accounts in the three regions and seven well-known accounting educators and CPAs on social media as another step toward diversifying participation and reaching a higher number of responses. Three of these, respectively, agreed to retweet or resent the online survey link to their followers. Moreover, in addition to social media, the online survey link was distributed to five Saudi accounting educators and CPAs on WhatsApp; each group has 250 members.

In the 26 fraud and forensic subjects, the respondents were asked to rate the importance on a seven-point Likert scale, ranging from a score of 1 indicating "Not at all Important" to a score of 5 indicating "Extremely Important." The 26 subjects listed were not a complete list of

all topics related to fraud and forensic accounting. A follow-up email was sent to non-respondents three weeks after the first email was sent in an attempt to raise the response rate.

In conducting an online survey, perhaps one of the most challenging tasks is to achieve an appropriate response rate (Leung, 2001). It is necessary to clean your data and verify the overall quality of the information obtained before you begin analyzing it to ensure that you analyze and interpret your data's highest possible quality.

One hundred twenty-six completed responses were initially received from both groups. The 58-practitioner dataset was analyzed for quality and judged to be of appropriate quality. However, a serious issue was discovered with the educators' survey responses. That dataset showed that about 60% of the 68 educators' datasets had duplicate IP addresses (same IP address) and were from different geographic locations with short timing to respond to the survey. It was determined to remove 43 of the educator survey responses based on the following criteria: (1) any survey with a duplicate IP address, even if the IP address groups are not the same, and (2) any survey with less than a six-minute time response because the average time to answer all survey questions, whether the individual chose Arabic or English language, is about six to eight minutes. In the end, 25 of the responses were judged to be valid and trustworthy educator responses and retained for the study. Personal networks were then used to generate additional valid responses from academics from two universities. Five additional responses judged to be valid were received. The final sample of academics' responses totaled 30.

A number of possible explanations for a significant portion of the initial responses were not valid. Generally speaking, each respondent has their IP number, but a single IP number can be indicated multiple times. This can occur when:

- A person responds multiple times to a survey or multiple individuals that share an IP address take the same survey.
- It may be the same IP address but not the same person. This may occur when an organization has the same IP address (this is typical in the public sector). The survey was directed to the respondents in three public universities. Also, the survey was mostly responded to by respondents from the same computer lab or internet café.
- It may be the same individual, and they think they are getting more money for taking the survey (charity). In an attempt to improve the response rate and make it worth the respondents' time, I promised to pay 10 riyals to charity for each completed survey; part will go to the Disabled Children's Association in Jeddah, and the other part will go to support the new Fraud Examiners Association just established in Saudi Arabia.
- One of the online survey disadvantages is privacy and security issues (Evans & Mathur, 2005). The respondents' privacy, confidentiality, anonymity, and the extent of data protection all have a potential effect on the quality of the data and the response rate (Scriven & Smith-Ferrier, 2003).

## **CHAPTER FOUR: FINDINGS**

### **4.1 Introduction**

The previous chapter explained that the research design would follow and adopt a mixed-methods research methodology that incorporates surveys and interviews to enable a broad coverage of research issues. As a reminder, the qualitative phase aimed to explore forensic accounting professionals' role to evaluate the extent to which forensic accountants in Saudi Arabia meet the needs of the judicial system and their clients. Finally, it sought to understand the future demand for forensic accountants in Saudi Arabia. This chapter presents the findings of the qualitative analysis of the seven semi-structured interviews with seven judges. A total of seven judges from the commercial court of appeals and commercial courts participated in answering the following research questions:

**RQ 3.** What do industry experts project to be the future demand for forensic accountants in Saudi Arabia? Upon what basis do they make this projection?

**RQ 4.** What is a forensic accounting services professional's role, and what types of services do Saudi Arabian forensic accounting firms provide?

**RQ 5.** What are the skills and expertise required by practicing forensic professionals to provide forensic accounting services in the Saudi Court?

The qualitative interviews explored in-depth forensic accounting practice in Saudi Arabia through the opinions, thoughts, concerns, conceptualizations, and experiences of judges. Judges were sought out who are routinely involved in forensic accounting cases requiring expert

testimony. That is, in cases involving (but not limited to) fraud, insurance claims, contract disputes, business loss estimation, and intellectual property claims.

The interview transcripts’ resulting analysis helped address many issues that could not be explained only through quantitative methods. As previously described in the methodology chapter, this study employed thematic analysis using the Quirkos program.

Figure 3 summarizes the key themes that emerged from the interviews. The entire thematic analysis can be seen in the Appendix.

The Key Themes Emerged from the Interviews
1. Support services to court and judges
2. Role of forensic accounting services
3. Types of courts cases
4. Percentage of work related to forensic accounting performed by forensic accounting professionals
5. A section giving opinion in cases by a forensic accountant
6. Report writing challenges
7. Skills needed to practice forensic accounting
8. Personal characteristics/soft skills
9. Forensic accountants’ shortage
10. Certification
11. Demand for forensic accounting

**Figure 3.** The Key Themes

Section 4.2 presents a general overview of the primary support services to the court and judges. Section 4.3 discusses the role of forensic accounting services in Saudi Arabia courts. Section 4.4 discusses the forensic accountant’s opinions in cases. Section 4.5 presents types of court cases, the percentage of work related to forensic accounting in Saudi Arabia courts, and if forensic accountants, when hired as experts, are considered to be independent in the Saudi court

system. Section 4.6 presents reporting skills needed by forensic accountants in Saudi Arabia. Section 4.7 discusses the skills needed to practice forensic accounting, including personal characteristics (soft skills) and the most prominent skills. This is followed by section 4.8 on the demand and shortage of forensic accountants. Sections 4.9 discusses the certification required. The final section, 4.10, presents a summary of the qualitative chapter.

All the key themes that emerged from the interviews were related to my three research questions, starting with the role of forensic accountants and the types of services they provide, the work-based and personal skills required, and finally, the future demand for forensic accountants in Saudi Arabia

## **4.2 Support Services to Court and Judge**

Answers to the first research question identified how industry Saudi forensic accountants define their role. It also outlines the types of services they serve in these roles. A wide variety of tasks and services reflected in the literature that includes knowledge and expertise beyond traditional accounts have made it important to understand the nature of the forensic accounting role.

As indicated in the literature, forensic accountants have a unique set of skills that differentiates them from regular accountants (Crumbley, Heitger, et al., 2011). They are to use their business acumen to look beyond numbers and figures and navigate different business realities to resolve allegations of fraud; this was confirmed by many of the judges' responses.

Of course, there is a part of these issues and disputes that can be resolved by the judiciary without resorting to accounting expertise, so an accountant is used not as a witness but as an expert that means revealing the truth because he will study the papers and documents by both parties and show the final result to the judge so that he can seek help. (Interviews Judge3)

Forensic accountants are sought after to scrutinize, examine, and query various issues relating to financial crimes. According to Stanbury and Paley-Menzies (2010), forensic

accounting is an act of gathering, interpreting, summarizing, and presenting complex financial issues, succinctly and factually, often in a court of law.

Forensic accounting services are designed to enable the CPA to resolve disputes and communicate financial information clearly and concisely in the courtroom. A forensic accountant is also retained to evaluate and summarize facts and present complicated financial and business information in a way that is both understood and well supported.

Because this is an accounting field, the judge does not have experience in accurate accounting matters. This requires an accountant who handles it, especially considering a large number of papers, documents, and financial statements. I mean, it is very difficult for the judge to examine and analyze it and know its content. (Interviews Judge5)

The Big-4 accounting firms like Deloitte, EY, KPMG, and PwC have established practices in the Middle East in countries like Saudi Arabia, where they cater to the ever-growing corporate world. These companies have professionals who specialize in both the business and legal aspects of the primary forensic accounting services offered by small and large CPA firms in Saudi Arabia.

Although a variety of forensic accounting services are available based on firm size, the key services offered by forensic accounting firms in Saudi Arabia include:

- Arbitration
- Financial and commercial dispute
- Inheritance disputes
- Contractual agreement disputes
- financial statement, including misrepresentation
- Liquidation & bankruptcy
- Data mining and reporting

### **4.3 Role of Forensic Accounting Services in Saudi Arabia Courts**

Saudi Vision 2030 was announced on April 25, 2016; it presents the country's 15-year plan to attract high-quality investors from major international companies, among other objectives (Altawyan, 2020).

The Kingdom paid great attention to the judicial environment's development, as it is one of the pillars of Vision 2030. Since legislation and the judiciary are among the most important pillars on which the development process and the realization of the vision are based, the state sought to develop the judiciary and completely restructure its apparatus, issuing many regulations and amending many others. Several courts have renewed some judicial specializations—the most important of which is related to commercial circuits and courts. So, it was logical to issue a new system for commercial courts that keeps pace with global trade developments and the state of prosperity and economic openness that the Kingdom is targeting by creating a fertile and attractive investment environment for both national and foreign investors.

The Ministry of Justice in Saudi Arabia has an administrative role in the judiciary. The institution formally adopted the Law of Criminal procedure, which states that the court may assign one or more experts to counsel the court on technical matters within a prescribed period.

The role of forensic accounting in solving and helping judges in Saudi courts was summarized by the judges interviewed. With the growth of Saudi business in leaps and bounds, when commercial courts must handle a dispute in a complex business case, the need for forensic accounting arises. The judge needs to seek many forensic accounting expert bodies' assistance to give a fair opinion and make some recommendations for actions that can be taken to the judge in a complex business case.

The practical reality in the Kingdom is that it has a special system related to legal accountants that followed the Saudi Accounting Authority, and it has a follow-up of them, but the reality of the accountants is there is a part of them that does not have sufficient capacity or the practical ability to achieve the facts or see the evidence, and this is a subject of follow-up from the authority. (Interviews Judge3)

Identifying the primary documents to be eligible as evidence is critical in aiding the forensic accountant with preparing the lists of documents to be sent to the court or documents required by the case to provide preliminary advice to the judges and the court as an initial evaluation of pleadings, at the beginning of the proceedings and evidence.

When assigning an accountant, we either assign him to confirm the validity of the existing evidence or to collect evidence, but the accountant sometimes cannot collect that evidence, or they take a long time. (Interviews Judge1)

One of the primary assignments of a forensic accountant is preparing a comprehensive and balanced quantitative report. The report must be written in non-technical language and must address all problems, regardless of whether it is helpful or favorable to the client. I asked the participant interviewed judges, “Do forensic accountants in the Kingdom of Saudi Arabia who works with the court have sufficient professional experience as expert witnesses to collect evidence?” One participating judge who worked in a commercial court for almost 14 years shared a story. His story made clear the fact that judges in commercial courts in the Kingdom of Saudi Arabia need the assistance of many national expert bodies in the area of forensic accounting who understand the culture, language, and the commercial judiciary system so that they can give a fair opinion to the judges in Saudi Arabia.

It is one of the biggest conflicts cases we examined during these years in the Kingdom, as these are group companies with multiple business and one of the major suppliers have many fields of business in the country and one of big real estate trading. They are considered not only major companies, but also, they are agents of international companies, in which we resorted to a big forensic accounting company from outside Saudi Arabia. We asked them to evaluate the fair value of each company since we could not find a national company to handle the case. Names of individuals involved were well known – the family and their parents are merchants from the major merchants in the country. There was a dispute between

the heirs, I mean, they are brothers and this family has about 40 companies and all of them are major companies in the country, so we used the help of a very large experience forensic accounting office known outside the country. (Interviews Judge 4)

Review of expert accounting reports submitted by the Case party may impact and influence the quantity of proof and advice for such reports to the judges. This includes advising legal counsel during the pretrial planning of the case on the financial and accounting aspects. Sometimes, a consulting accountant is appointed to offer alternative dispute resolution avenues by proposing an agreement that permits individuals or companies to settle the dispute quickly and with minimum delay (Sigel & Jaek, 2006, p. 530).

A forensic accountant is appointed to help the judge in reaching the right decision, so he must show us the correct result not only from a technical and an accounting point of view. Since sometimes there are cases where there is a problem with amounts in millions, then we find that the evidence presented to the judiciary is merely papers without documents or references, and worse than that, sometimes there are copies of papers only or lists that the plaintiff mentioned without being presented in a document. (Interviews Judge6)

#### **4.4 Giving Opinion in Cases**

Nearly all respondents indicated a gap between forensic accountants' requirements, what the court requires, and what is organized or imposed by the Saudi Organization for Certified Public Accountants.

Some accountants say that their job is only to count and not to give their opinion. Some of them apologize, saying that the Saudi Commission has big punishments for the accountants, and they cannot express an opinion on anything, but others give their opinion. (Interviews Judge4)

To date, no formal forensic accounting standards have been issued by the Saudi Arabian Organization for CPAs (SAOCPA) or the Saudi government. Still, the SAOCPA has a certificate that qualifies the accountant (a CPA) to be an external auditor of a public company.

There are some accountants who work for their company as a CPA, Zakat accountant (Islamic Tax) or tax accountant for many years. They do not know the nature of the work in the courts. The court wants to decide certain points which are

in dispute and does not need a complete inventory of accounts, matters and financial sums, which is what these accountants tend to provide. (Interviews Judge4)

They are supposed to be independent, but sometimes pressure is exerted on them by the Saudi Organization for Accountants, so they apologize for many things and say that the authority prevents them from expressing an opinion sometimes. (Interviews Judge1)

A forensic accountant must go through financial files to ascertain and verify the financial position of the specific body or institution at a given time and check for errors. It is, therefore, crucial to have thorough auditing skills in this profession. Aderibigbe (2000) indicated that a forensic accountant needs to demonstrate a high degree of competence, integrity, and honesty. He believes that a forensic accountant needs to be professionally qualified and demonstrate integrity to enter a recognized accounting body bypassing all the necessary exams.

#### **4.5 Types of Courts Cases, Percentage of Work-Related to Forensic Accounting**

Several types of courts exist within Saudi Arabia's judicial system. According to the Ministry of Justice's website, there are three types of courts. At the top comes the Supreme Court, followed by courts of appeal, then the first instance courts at the bottom of the judicial hierarchy.

All claims falling within their respective jurisdiction shall be assigned to the first instance tribunals in all provinces and regions of Saudi Arabia. Verdicts issued by the first-instance courts are appealable except in simple claims identified by the Superior Judicial Council.

First instance courts deal with a number of divided claims five different types:

- **General Courts** are entrusted with all claims and final evidence that falls outside the jurisdiction of other courts, notary public, or Grievance Tribunal.
- **Criminal Courts** in different provinces and regions of Saudi Arabia are available. Those who deal with every criminal case and all subjects on which the judgment of a criminal case before the same court depends unless the system states otherwise.
- **Court of Marriage** is available in different Saudi Arabia provinces and regions. All marital claims are addressed by marriage courts.

- **The Court of Labor** is available in different Saudi Arabia provinces and regions. Labor courts shall deal with all kinds and forms of labor disputes.
- **Commercial or Business Court** Available in different Saudi Arabia provinces and regions. All major and sequential business disputes are dealt with by business courts.

By virtue of the nature of our work in commercial courts, all cases are against merchants. Most of these cases are financial cases, which may involve accounting managers, companies, and agencies, or they may be related to other matters. I mean, most cases in commercial courts (about 70%) are money-related cases (financial cases). (Interviews Judge3)

One example is a contractor who has problems with the employer on the executed works, so a judicial accountant is assigned to inventory the bills, works, and expenses involved in the project. Another example is a dispute between partners in the event of death—in the inheritance of family—of the father, and they disagree on the shares and the proportions of the company, so a judicial accountant is assigned to inventory and inventory them too. (Interviews Judge 1)

The commercial court system in Saudi Arabia specializes in cases brought against merchants. Most of these cases are financial, whether the merchant is a company or an individual who raises the case or a civil person, the corporate person (companies), merchants, or another corporate person. The standard stipulates that the defendant (who is the person on which the cases are based) is a merchant. Whether it is a company or a natural person trader, most of these cases focused on financial matters (financial claims).

As a commercial appellate judge, for me, financial cases are almost all our work except for some cases. But financial claims are considered. All my work considered a financial dispute and financial issues. I mean, the most percentage, I can tell you 98%–99%. Such as proof of partnership and partner disputes, family company disputes, corruption with international companies. Likewise, conflicts between partners or between companies, or financial contributions they call speculative contracts between joint-stock companies. (Interviews Judge1)

As for foreign companies and their dealings with the Saudi, the Saudi merchant or Saudi companies are governed by the contract between the two parties, meaning some foreign companies resort to the requirement of arbitration in this case what is subject to the Saudi system if they stipulated arbitration in a specific country, for example in France, in Britain. (Interviews Judge3)

The process in most commercial courts in the Kingdom of Saudi Arabia is as follows. The court issues a reassignment decision, which is then communicated to all parties. The judge sends a letter of assignment (an independent letter), communicates with the parties, writes a report on the decision he has reached, and submits it to the court. As the accounting experts are entirely independent, they do not have direct contact with the court.

However, some abuses may occur in certain cases. For example, if the accounting expert is assigned to perform accounting for a certain period or a specific date (for example, the date the partnership begins until the date of liquidation), but the accounting expert may exceed this date and start accounting on a period or date other than the one that was delegated or assigned for it, in this case, he moved beyond his work as an accountant and interfered with the work of the judiciary. (Interviews Judge4)

#### **4.6 Report Writing Challenge**

This is the significant challenges the judges came across in Saudi Arabia's commercial courts. It can be seen that writing the final report was perceived to be either difficult or outside the skillset of forensic accountants in Saudi Arabia. Many of the judges participating in the study mentioned this challenge:

The problem we have in the courts is that some accountants do not have the Information delivery skill since they provide purely technical reports that contain accounting details, as we find the report is made up of many pages (maybe reach 100 pages), but the judiciary need only the summary in five or six pages, which leads the judiciary to the right decision or the truth. (Interviews Judge4)

Documenting findings is a particularly important process in the forensic accounting profession. The submitted report is, in many cases, the only proof that the work has been completed. Cases can be won or lost in the report's writing power. This provides the judges with all the evidence, the crime analysis, and the examiner's job.

I mean, there are specialized skills for the forensic accounting profession to deal in financial conflict with the court, and the most important of which is writing the final report. (Interviews Judge3)

Forensic accountants are judged by what they write. A well-written report shows the judges and the courts your skills and capabilities. Improved writing skills will help forensic accountants better document their work and enhance their credibility.

So, an accountant is used not as a witness but as an expert. That means revealing the truth because he will study the papers and documents by both parties and show the final result. (Interviews Judge4)

Most judges participating in the study shared the same problem. They highlighted that some forensic accounting offices had delivered a report that is very hard to understand, as it was written for accountants and not judges.

The problems that may arise are not in accurate financial matters, but in reality, sometimes, in adapting the expert in his understanding of forensic accounting work and working with the requirements of the court. For example, in the approach he took, it means in preparing and presenting the report and the final analysis presented to the judge, which makes the case more clear, understandable, and simple. (Interviews Judge1)

It differs from office to office. Some offices provide a report that is clear and easy, meaning that anyone can read the report, understand it, and reach the result. There are some accounting office's whose style of writing is not clear. Perhaps someone who has experience in accounting will understand it, as if he is writing for people in his field, so we find it difficult in terms that only accountants can understand. (Interviews Judge6)

A forensic accountant's report must be accurate and understandable, so others know what happened without referring to the report's author. The report has to express itself in other terms. Also important in Saudi Arabia commercial courts is that the accountant's report will be an official record for the court, and it will exist for many years to come.

The skill of drafting and preparing contracts and reports is important as well because it is possible that the Governing Council may ask about a specific thing from a case. It must be well prepared and arranged. Writing or drafting of contracts and reports is one of the weak skills of accountants because accountants always study and deal with numbers. (Interviews Judge4)

When writing the report, the investigator evaluates the evidence and information collected during the investigation and organizes it objectively to explain what the examiner did,

what evidence was discovered, and how they contributed to the conclusion. A good report omits irrelevant information, thus making it possible to draw attention to relevant facts. A published first-rate report is a first-rate analysis of evidence.

The expert often says that he reveals things to you for what they are, or at least what appears from the papers he examines. It may not reveal the whole truth, but what appears to him in the case documents at least. (Interviews Judge7)

Sometimes a lack of experience, for example, or the way he took it in discussing the dispute or in writing the report does not correspond, for example, to the contract or dealings between the two parties. (Interviews Judge5)

The judges were asked, “What is the reason for lack of experience?” Some judges commented as follows:

I do not know whether the reason is a material issue, or they are satisfied with work from other places other than the judiciary. (Interviews Judge1)

Regarding some cases involving investigation by accountants, the expert gives an opinion in just two or three sentences. Sometimes the expert gives two opinions for one case, which makes the matter very confusing for judges. This is considered to be really poor reporting. (Interviews Judge3)

Finally, the AICPA suggests that all forensic accountants and CPA practitioners keep these key goals in mind when preparing and writing a forensic accounting report:

- Know your report reader, including lawyers, suspects, witnesses, judges, juries, and the media; it is very important.
- Understand your goal. Understand your intent. A forensic accountant report's primary aim is to disclose the findings of the fraud analysis and document the job performed.
- Use clear language which is not subject to various interpretations. Explain what complicated or technical words mean when appropriate. Avoid jargon, slang, and colloquialism, as the forensic accountant report may be read by people, including jury members, who are unaware of some phrasing known only to accountants.
- Prepare your report during the review and not long after, avoiding the chance of omitting or distorting relevant data.
- It transmits proof. A well-written report offers all the evidence for the case review.

The discussion above makes it clear; it uses the comments of multiple judges involved in the study to communicate that forensic accounting reports provide various alternatives for evaluating contested accounts in conjunction with various financial disputes. Thus, forensic accountants can provide the necessary evidence allowing judicial authorities to issue appropriate judgments for each disputable event or case in commercial courts in Saudi Arabia.

## **4.7 Skills Needed to Practice Forensic Accounting**

### **4.7.1 Personal Skills and Educational Qualifications**

In terms of the legal system, skills needed can be classified as applying both monetary and analytical skills to an unresolved matter in the legal context. This requires one to have business knowledge, fraud investigation knowledge, and vast knowledge and familiarity with the courts' proceedings. Investigative skills are essential because forensic accountants must inspect financial crimes such as theft, embezzlement, and fraud.

It is true that there is an educational gap between the judicial authorities and universities. It seems there is no room in the curriculum for accounting students at Saudi universities to receive instruction in forensic accounting and how to investigate cases of financial corruption. As a result, students graduate without any knowledge in this field. (Interviews Judge2)

The reality is that most accountants do not have sufficient capacity or practical ability to verify the facts or assess the evidence and this requires follow-up from the authorities. (Interviews Judge5)

To become a qualified forensic accountant, one needs to possess a specialized skillset. Forensic accountants spend the majority of their time analyzing financial documents to uncover cases such as fraud, embezzlement, and theft, among others. They may also be required to testify in court as expert witnesses. They also need to have skills in investigation and auditing, as this gives them an edge. For one to qualify to become a forensic accountant, one needs to pursue a degree in forensic accounting and earn the CPA certification. A student pursuing this course has the opportunity to acquire major analytical skills. Also, they spend a great deal of time analyzing

financial documents. A forensic accountant needs to be proficient in data analysis and critical thinking to detect fraud among other illegal financial acts effectively. Excellent investigative skills are also a plus since the job relies heavily on the investigation.

Mostly, yes, they have this accounting experience because this is their primary specialization. In my understanding, the problems that may arise are not in the accuracy of financial matters but in adapting to the unique nature of forensic accounting work and working with the requirements of the court. (Interviews Judge4)

Generally, the minimum entry-level requirement is a bachelor's degree in accounting specializing in forensic accounting or a bachelor's degree in forensic accounting. Professional certifications, such as a CPA certification, provide the individual an edge over others without such certifications. Having a master's degree in this field helps one stand out in the job market. Pursuing a certification offered by the Association of Certified Fraud Examiners provides the employee with an upper hand. Once a candidate meets all these requirements, they are now ready to enter the job market or seek opportunities to start their firm. While in school, students are advised to seek internship opportunities to practice what they have learned and feel the work environment.

To qualify as an expert witness in Saudi Arabia, one needs to meet individual requirements such as a bachelor's degree in accounting, valid registration with the SOCPA, and possession of a valid certificate of ethical conduct. However, there are no specific requirements related to forensic accounting. Moreover, accounting graduates lack the skills needed to meet the demands of forensic accounting in Saudi Arabia.

Also, there is another matter; there is no continuing education requirement for the judges from the judicial or the accounting authority, such as the Saudi Organization for Certified Public Accountants. Rather, the accountant's personal effort to develop himself to reach his eligibility to enter the courts. (Interviews Judge5)

Excellent communication skills are a vital part of almost every career, including forensic accounting. More often than not, a forensic accountant is required to present evidence in court as an expert witness. Excellent communication skills are essential because one must question witnesses and compile evidence and reports, among other things. Excellent organizational skills are also critical in all careers, including forensic accounting. A forensic accountant often works with multiple documents. It is vital to have excellent organizational skills, so reports may not be mixed up or lost while analyzing financial records. It is crucial to have them neatly arranged and in an orderly manner. The world today is connected by the click of a button. Everything is gravitating towards the technology space. It is essential, therefore, to acquire technological skills. Accountants who specialize in computer forensics must know how to use data analysis software to conduct cyber forensic investigations.

There are some accounting officials whose style of writing the report is not clear, perhaps someone who has experience in accounting will understand it as if he is writing for people in his field, so we face difficulty sometimes because the report is written in terms that only accountants can understand. (Judge 2)

In a survey conducted by KPMG (2016) on approximately 750 fraudsters, it was discovered that a small number of companies engage in the use of analytics for fraud detection. Only about 3% of fraud cases were discovered using analytics-focused exclusively on fraud detection, while the rest was uncovered by whistleblowers or through tip-offs (KPMG International, 2016). A global survey done in 2016 revealed that approximately \$6.3 billion was lost annually through fraud. To deal with fraud effectively, companies should fully trust the process of data analytics. A certain level of scrutiny and transparency must be observed for the corporation to achieve success. The trust level between the clients and the company has to be top-notch if the client is to trust the service.

#### **4.7.2 Personal Characteristics / Soft Skills**

A report published by Development Economics on behalf of McDonald's UK indicates that by 2020, over half a million employees will be significantly held back by their lack of soft skills, and this particular issue will affect all industries (Clarke, 2016). Ironically, communication skills in the USA, Europe, and Morocco were not regarded as important for new graduates by employers (El Mansour & Dean, 2016). Nonetheless, both written and verbal means of communication and the ability to operate efficiently in a team, including a desire to learn, be professional, work ethic, leadership, motivation, flexibility, creativity, problem-solving, and an overall positive attitude were listed among the most common soft skills (Andrews & Higson, 2008; Finch, Peacock, Levallet, & Foster, 2016; Jordan & Bak, 2016; McMurray, Dutton, McQuaid, & Richard, 2016; Radermacher & Walia, 2013; Robles, 2012).

This statement raises the question: What are the essential soft skills for a forensic accountant? No consensus exists regarding the specific skills needed to deliver forensic accounting services in the commercial court in Saudi Arabia or anywhere. A study conducted by Rosenberg, Heimler, and Morote (2012) found that most key players, namely new graduates, faculty, and prospective employers, cannot agree on which skills are most important to develop. However, most judges participating in the study noted mostly soft skills. The most common soft skills mentioned include written communication, verbal communication, negotiation, teamwork, desire to learn, teachable, creativity, work ethic, leadership, motivation, flexibility/adaptability, positive attitude, and problem-solving.

#### **4.7.3 Written and Verbal Communication, Analytical Skills**

Many of the judges participating in the study differed somewhat in their perception of the importance of analytical skills, cooperation, dealing with case parties, negotiation, and

communication. The forensic accountant's ability to communicate effectively with the judge and effectively convey conclusions or judgments in a court of law is essential.

As a forensic accountant who works with several parties, I see personal characteristics are very important (such as tact, intuitive speed, communication and negotiation skills, and analytical skills) that the forensic accountants should have, in my opinion. (Interviews Judge1)

In computer science, for example, the softest qualifications are found to be related to written and verbal communion (Radermacher & Walia, 2013).

I can say only 20% of the accountants have good communication and analytical skills inside of the courtroom. That is, only about 20% of them properly prepare and arrange the final report, and present it in the case in a clearly meaningful way. (Interviews Judge5)

The initial and most important overall characterization may be analytical in a forensic accounting dedication, without which other characteristics and skills could not be established (Davis et al., 2010).

Previous studies also support the importance of analytical characteristics and capability. For example, DiGabriele (2008) found that deductive analysis and analytical proficiency were important for the forensic accountant. Before that study, Messmer (2004) suggested that analytical abilities are critical in forensic accounting practice.

In summary, many judges participating in the study mentioned the importance of analytical characteristics as essential to the forensic accountant's ability to deliver value-added services to commitments that require more than simply auditing and accounting skills.

#### **4.7.4 Cooperation: Teamwork, Flexibility, and Adaptability**

Many of the judges involved in the study were focused on the speed of completing the case and cooperating with the court and judges. They consider this an essential criterion that makes them deal with the forensic accounting firm regularly. This has a direct relationship to

completing the cases in court. Communication was deemed important, but not as important as flexibility and adaptability (Vendolská & Kačerová, 2016).

In my opinion, the most important personal characteristics is cooperation, because we suffer greatly from lack of cooperation in the judiciary, because there are some forensic accountants who issue a report to be discussed in the session, but they may be absent from the session more than once (uncooperative), and in return, there are some accountants cooperating with the court. (Interviews Judge7)

Communication skills do exist, but cooperation is one of the most important personal characteristics that they must have; cooperation matters to you because it helps in speeding up the case. (Interviews Judge3)

#### **4.7.5 Dealing with Case Parties: Leadership**

Among the strong personal characteristics of the forensic accountant is dealing with the case parties because some parties sometimes get them to try to procrastinate, or delay in the delivery of documents or such. If the accountant has a strong charismatic means that he has the ability to manages the case process correctly. This also serves us in the judiciary in processing the case faster. (Interviews Judge2)

Some accountants bring the two parties together when the disputant parties delegate the issue, and limit the disagreement between them. This important point any forensic accountant to know the limitation of the dispute between the two parties so that the accountant does not branch, because some accountants enter in second role that none of the parties need to claim. (Interviews Judge5)

Investopedia.com reports that hard skills can be defined and measured by different skills that can be taught, like typing, writing, mathematics, reading, and using technology. Those are the skills that higher education institutions have in the best interests of motivated students. By comparison, soft skills are less measurable and more challenging to quantify, such as communication, to keep up with others, to listen, and to speak. Such skills are often considered part of one's character and have received little attention from higher education institutions until recently.

Thankfully, this change began as universities and the college community realized that soft skills are increasingly required to succeed in the workforce (Clarke, 2016).

In terms of looking at the cases that we have, many cases are referred to experts and few experts accept these cases. I don't know if it's a material issue or that they have enough work outside the judiciary, but sometimes judges refer some cases to accountants. We know that the quality of their reports is not of the high quality that brings justice, but that's what exists. (Interviews Judge3)

#### **4.8 Demand of Forensic Accounting in Saudi Arabia and the Certification Required (RQ3)**

##### **4.8.1 Forensic Accountants' Shortage**

In recent years, the demand for forensic accountants has increased rapidly. However, demand outweighs the supply (Shahid et al., 2018). Forensic accounting covers an extensive scope, including the financial sector, the insurance sector, and law enforcement.

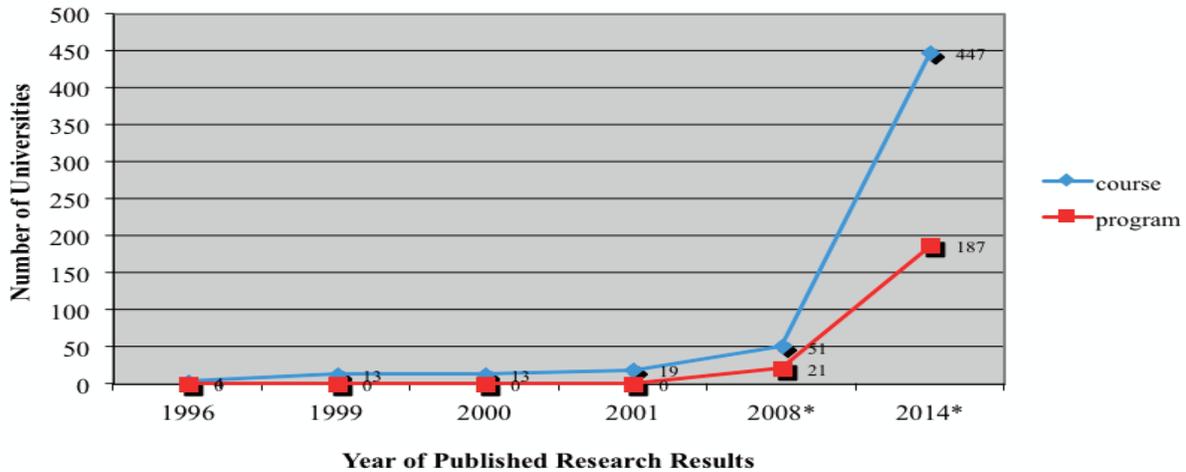
Unfortunately, in the western region of the Kingdom of Saudi Arabia, the number of accountants trusted by the judiciary is very small. Besides working with the courts, the accountants work in foreign companies and in contracts or on some old cases that persist for years. Such service increases the pressure on accountants. (Interviews Judge5)

The forensic sphere is an underdeveloped yet auspicious space. As the world keeps evolving, such disciplines will continue to evolve with it. The demand will continue to grow as more fields require this specialization. Fields such as law enforcement, the legal system, and even the corporate world should embrace this domain with open arms to fight fraud and bring efficiency. More and more educational institutions should invest in expanding the curriculum for forensic accounting to thrive. As this is relatively new ground, there is still plenty of room for growth. People should establish more firms that provide these professional services to cater to the growing demand worldwide. Forensic accounting is like a cover page of a book; there are still plenty of pages to be filled. Let us embrace this advantage and be pacesetters on our own merits.

I will say it very clearly, we are facing a torrent of cases that need an accounting expert considering many financial issues between partners at the present time, especially in family and individual companies that we need many companies

specialized in forensic accounting services in order to complete transactions in the court. But there are few on the market. (Interviews Judge2)

#### 4.8.2 Research Sample Demonstrating the Development of Education Available in Forensic Accounting



**Figure 4.** Year of Published Research Results

Adapted from Kramer, Seda, and Bobashev (2018)

Figure 4 shows that universities worldwide have responded to the demand to offer forensic accounting education. Several institutions have developed forensic accounting programs in addition to specific programs, including undergraduate, diploma, certificates, minors, and specialization programs. It also covers colleges outside the United States, even though many of these institutions are located within the United States.

Sometimes some accounting officers receive many cases from the courts with a lack of staff with experience in the field of forensic accounting in their office, so they have pressure in completing the cases for you in a timely and appropriate time, which causes us a lot of disruption in the scheduling of cases. (Interviews Judge3)

The financial scandals in many corporations, such as WorldCom and Enron, were eye-openers to the accounting profession in the last decade. These scandals dimmed accountants'

light in the public's eyes and lowered citizens' trust in them. As a result, the demand for forensic accountants by many private and public institutions increased all over the world

#### **4.9 Certification**

Many accounting firms—especially the large ones—are reluctant to enter as expert witnesses in commercial cases. In my opinion, the reason is, entering into these disputes may affect contractual relations with the clients of these companies, in addition to the fact that the financial fees may be relatively low and do not constitute profitable returns for them. This had led to the entry of a few small companies in this region that has dominated the poor forensic accounting services in this field. Thus, these companies' reports result in damage to one of the parties to the conflict, the inability to detect fraud and identify evidence, or the loss of customers' rights.

There are few Saudis that have knowledge of accounting work and knowledge of litigation procedures. Such characteristics matter to the judiciary. (Interviews Judge1)

I asked, "What is the reason?"

Therefore, we, the judiciary, sometimes have to refer cases to individuals or accountants who we know will respond, even though we know that the quality of their reports provided to justices is not very high. (Interviews Judge1)

All judges participating in the study agreed that CPAs should have specialized certification. I asked them, "Do you think that CPAs must have specialized certificates and be officially certified in the area of forensic accounting by local and international organizations?" According to a survey done by KMPG (2016), a small number of companies in Saudi Arabia use data analytics for fraud detection.

It is better than accounting has one or more specializations, such as a judicial specialization or another specialization. As for certificates, I see that it is necessary to be able to do professional work. (Interviews Judge6)

In addition to the previous obstacles and difficulties, the big problem is, there is no control over the market for forensic accounting services. However, the forensic investigation report issued by accounting firms is one of the engagements CPAs perform to testify as expert witnesses in accounting and auditing. His responsibility is to adhere to professional standards, the requirements of the rules of ethics, and the standards for professional behavior according to the Law of Legal Accountants and its implementing regulations in the Kingdom of Saudi Arabia. Article 10 of the law stipulates that “the certified accountant must adhere to the conduct and ethics of the profession, as well as to the accounting and auditing standards and technical standards issued by the Saudi Organization for Certified Public Accountants.” However, the accountant (CPA) work in the field of forensic accounting is not subject to the supervision of the Saudi Organization for Certified Public Accountants.

#### **4.10 Conclusion**

In conclusion, the seven semi-structured interviews with Saudi judges enabled me to attain a deeper and better understanding of the state of the forensic accounting service professionals in the Kingdom of Saudi Arabia. The qualitative data analysis revealed several important subjects and themes related to a forensic accounting service professional’s role, including evaluating the extent to which forensic accountants in Saudi Arabia meet the judicial system's needs and their clients and the future demand for forensic accountants in Saudi Arabia.

The interviewees discussed a general overview of the primary support services to courts and judges. They then discussed the role of forensic accounting services in Saudi Arabia courts, followed by types of court cases, percentage of work related to forensic accounting in Saudi Arabia courts, and if forensic accountants, when hired as experts, are considered independent of the Saudi court system. Furthermore, they discussed forensic accountants’ opinions in cases.

The judges who participated in the interviews were also questioned about forensic accountants' reporting skills in Saudi Arabia. This included the discussion of the personal characteristics (soft skills) and the most prominent skills. Finally, we discussed the shortage of forensic accountants, forensic accounting demand in Saudi Arabia, and the certification required.

All the key themes that emerged from the interviews were related to my three research questions, starting with forensic accountants' role and the types of services they provide, the work-based and personal skills required, and finally, the future demand for forensic accountants in Saudi Arabia.

## **CHAPTER FIVE:**

### **FINDINGS OF QUANTITATIVE ANALYSIS**

#### **5.1 Introduction**

This chapter aims to analyze the data collected via the questionnaire administered to academics and practitioners and present the results. First, descriptive statistics are presented (e.g., frequencies, percentages, means, and standard deviations) to summarize the data and relate the variables to the research questions. A descriptive statistical analysis will also explain the demographic/background characteristics of this study's participants to address some of the research questions. This chapter then presents t-test results to compare the mean differences for the study's variables between academics and practitioners.

Section 5.5 reports descriptive statistics of participants' responses for the primary variables: participants' demographics, their knowledge and familiarity with forensic accounting, their perceptions of the eight aspects of education in forensic accounting, the perceived importance of the subjects in the course of forensic accounting, the role of forensic accounting education in Saudi Arabia, and the possible future career paths and demand for forensic accountants in Saudi Arabia.

The results of the descriptive analysis address the following three research questions:

**RQ1.** What forensic accounting education and training content for practicing CPAs in Saudi Arabia do industry and academic experts perceive as the highest priority?

**RQ2.** What skills identified in the literature as being critical in an educational curriculum of forensic accounting are presently absent or given little emphasis by universities in the Kingdom of Saudi Arabia?

**RQ 3.** What do industry experts project to be the future demand for forensic accountants in Saudi Arabia? On what basis do they make this projection?

## **5.2 Process of Developing the Questionnaire**

The questionnaire developed for this study was created based on a thorough literature review with my committee supervisors' consultation, as mentioned in the methodology section (Bryman & Bell, 2015). After multiple consultations with subject matter experts, a final version of the questionnaire was administered to the study's participants. Individuals who contributed to the development include academics from institutions in both the U.S., Middle East, and Saudi Arabia, as well as knowledge derived from a review of forensic accounting topics analysis research (Crumbley et al., 2009; DiGabriele, 2008; Pearson & Singleton, 2008) and a forensic accounting curriculum model published by West Virginia University and the U.S. Department of Justice in 2007. The model curriculum was developed and approved by the Technical Working Group for Education in Fraud and Forensic Accounting (West Virginia University, 2007).

The questionnaire developed for this study is divided into eight sections. The first section (Questions 1–7) obtains general background information from the participants; here, the respondents were asked about their gender, education level, professional certifications, and years in practice. However, the second, third and fourth parts (Questions 8-16) were aimed at identifying the knowledge and the familiarity of the participant with forensic accounting, aspects of forensic reporting education, the importance of subjects in forensic accounting, the role of forensic accounting educators in Saudi Arabia, and possible future professional trajectories and demands for forensic accountants.

### 5.3 Questionnaire Validation (Content and Reliability Analysis)

Cronbach's alpha was calculated for each study variable to measure a unidimensional construct with multiple items. A Cronbach's alpha value closer to 1 demonstrates high internal consistency reliability, while Cronbach's alpha values under 0.6 are considered poor (Sekaran & Bougie, 2010). However, the psychometric literature generally agrees that when the Cronbach's alpha is measured for a scale and the resultant value is at or above 0.7 or 0.8, it is considered reliable (Field, 2013). Kline (1999) claims that, based on experiments performed, Cronbach's alpha's acceptable value varies, where 0.8 is commonly agreed for cognitive testing and 0.7 for ability testing.

**Table 3.** Internal Consistency Reliability and Cronbach's Alpha

Internal Consistency Reliability	Number of items	Cronbach's alpha
Perceived benefits of forensic accounting	8	0.875
Covering Topics in a forensic accounting course	25	0.910
Role of forensic accounting education in Saudi Arabia	7	0.844
Future career path for Forensic Accountants in Saudi Arabia	5	0.666

Therefore, Cronbach's alpha tests were conducted for the Likert-type scale questions used in the questionnaire. Table 3 summarizes the outcomes of these tests.

### 5.4 The Individual Characteristics of Participants/ Respondents' Demographics

Table 4 provides an analysis of participants' responses to the various demographic questions. This part is divided into two panels of characteristics: practitioners and educators. The first panel was the practitioner demographics, and the second panel was educator demographics.

Responses were obtained from 58 practitioners and 30 educators. Eighty percent (80.7%) of the participants were male and, (19.3%) of the participants were female.

**Table 4.** Common Questions from Both Surveys Descriptive Statistics – Demographics

	Respondents		
	Practitioners 58 (66%)	Academics 30 (34%)	Both 88 (100%)
<b>Gender:</b>			
Male	47 (81%)	24 (80%)	71(80.7%)
Female	11 (18%)	6 (20%)	17(19.3%)
<b>Years of experience working in the forensic accounting field:</b>			
Less than 5 years	23 (39%)	6(20%)	29(33.0%)
Between 5 and 10 years	10 (17%)	15 (50%)	25(28.4%)
Between 10 and 15 years	9 (15%)	8 (9.1%)	17(19.3%)
More than 15 years	16 (27%)	1 (1.1%)	17(19.3%)
<b>Highest level of education:</b>			
Bachelor's degree	42 (72%)	12 (40%)	54 (61.4%)
Master's degree	13 (22%)	12 (40%)	25 (28.4%)
PhD degree	1 (1.72%)	1 (3.3%)	2(2.3%)
Other	2 (3.45%)	5 (16.7%)	7(8.0%)
<b>Panel A: Practitioners</b>			
<b>Professional certifications</b>			
CPA		7	11.86
CMA		6	10.17
CFE		0	0.00
SOCPA		46	77.97
	<b>Total is n/a *</b>	<b>58</b>	<b>100%</b>
<b>Note: * A total is not applicable since many respondents hold multiple certifications. Worked or still working in the area of forensic accounting service</b>			
Yes		15	25.86
No		43	74.14
	Total:	58	100%
<b>Employment area:</b>			
Private forensic investigative practice		10	17.24
Saudi's Police Service		3	5.17
Specialized government investigative agency		2	3.44
Academia		7	12
Internal departmental investigation unit in Government		12	20
Internal departmental investigation unit in the Private Sector		24	41.37

Total:	58	100%
<b>Have you ever worked or still working in forensic accounting? (Note: academic question states “outside of academia”)</b>		
Yes: 33 (26.2%)		
No: 93 (73.8%)		

**Note: \* A total is not applicable since many respondents hold multiple certifications. Worked or still working in the area of forensic accounting service**

Moreover, from the table above, we can see among the academic and practitioner respondents, most of them are male. Most of the academic respondents have a master’s degree; the case is different for practitioners. Most of the practitioners have a bachelor’s degree. Both sets of respondents have an average of five years of teaching experience. King Abdullah’s scholarship has been an excellent opportunity for the Saudi people as it facilitated the pursuit of higher education from the Western countries (C. Taylor & Albasri, 2014). The results reflect recent efforts to promote education among Saudi people by expanding interest in higher education and scholarship.

Table 4 indicates that the vast majority (61.4%) of practitioners have obtained bachelor’s degrees, (28 %) have a master’s qualification, and (28.4%) have over ten years of practice experience. Seventy-eight percent (77.97%) has a SOCPA certification, which is the equivalent of a CPA, and 11% had both SOCPA and CPA along with other certifications (CPA, CMA, CFE, etc.). Forty-one percent (41%) work in an internal departmental investigation unit in the private sector, 20% work in an internal departmental investigation unit in the government, and 17% in private forensic investigative practice.

Finally, Table 4 clearly shows that only (26.2%) of the practitioners have worked or are still working in the area of forensic accounting, while (73.8%) had never worked in forensic accounting. This is not surprising since forensic accounting is still a new discipline in Saudi Arabia.

## 5.5 Knowledge and Familiarity with Forensic Accounting – Practitioners

The respondents were asked to indicate whether they were aware of forensic accounting (Table 5). All practitioner respondents said they are familiar with forensic accounting since they all have professional skills with five or more years of work experience.

The respondents were asked to indicate whether they were aware of the concept of forensic accounting (Table 5). All practitioners indicated that they are aware of forensic accounting; however, they noted they are not familiar with forensic accounting work's intricacies.

**Table 5.** Knowledge and Familiarity with Forensic Accounting – Practitioners

<b>Are you familiar with forensic accounting?</b>			
	<b>Answer</b>	<b>%</b>	<b>Count</b>
1	Yes	62.07%	36
2	No	37.93%	22
	Total	100%	58
<b>How did you first hear about forensic accounting?</b>			
	<b>Answer</b>	<b>%</b>	<b>Count</b>
1	Internet	20.34	12
2	Colleagues/friends	20.34	12
3	Classroom	28.81	17
4	Media	11.86	7
5	Workshops	10.63	6
6	Textbook/journals	8.02	4
7	Conferences	0	0
	Total	100%	58

\* Percentages are based on the number of respondents

The primary source of awareness was classroom education (28%) and the internet (20%), especially in professional accounting qualifications. This was followed by colleagues/friends (20%) and media (11%). The three sources cited with lower frequency were workshops (10%), textbooks/journals (8%), and (0%) conferences. One respondent added that through work experience and practice, he became aware of forensic accounting. “My role is an investigator for that job he said it was.”

## 5.6 State of Forensic Accounting Education in Saudi Arabia

This section analyses the state of integrating forensic accounting into accounting education and curricula in Saudi Arabia, examining academics' perceptions of the importance of the inclusion of forensic accounting in the curriculum, as well as their perceptions of prerequisites courses for forensic accounting, who should teach forensic accounting courses, and at what academic level forensic accounting courses should be offered. This investigation concentrates on the sub-questions of research in Table 6. Respondents were asked to answer multiple-choice questions regarding forensic accounting education. From their responses, we learned that most institutions do not cover forensic accounting courses in Saudi Arabia. However, they think that both undergraduate and graduate students should be offered forensic accounting courses.

Furthermore, they also consider that both academicians and practitioners should take part in the course of teaching. Regarding the course subject, 36.67% believe that auditing should be chosen as the prerequisite. Another few academicians of the same percentage believe that current issues in accounting should be considered a prerequisite for forensic accounting teaching.

**Table 6.** Additional Questions Asked Only of Academics

Description	<i>n</i>	%
<b>How does your department integrate forensic accounting education into the accounting curriculum?</b>		
We integrate forensic accounting topics into auditing courses	5	16.7%
We offer a separate forensic accounting course	5	16.7%
We currently do not cover forensic accounting at all	20	66.7%
Total	30	100%
<b>At what level do you think a forensic accounting course should be offered?</b>		
Undergraduate	4	13.3%
Graduate	9	30%
Both undergraduate and graduate	17	56.7%
Total	30	100
<b>Who should teach forensic accounting courses?</b>		
Academicians	4	13.3%
Practitioners	4	13.3%
Both academics and practitioners	22	73.3%
Total	30	100%

Which courses should be prerequisites for a forensic accounting course?		
Auditing	11	36.7%
Advanced Accounting	7	23.3%
Current Issues in Accounting	11	36.7%
Other	1	3.3%
Total	30	100%

First, I asked them, “How does your department integrate forensic accounting education into the accounting curriculum?” The findings demonstrate that (66%) of academic respondents indicated that their school currently does not offer and cover forensic accounting at all. However, 33% of accounting academics who participated in the study said that forensic accounting should be integrated as a separate course and integrated as topics into auditing courses.

Afterward, academician respondents were asked at what level should a forensic accounting course be offered. Fifty-six percent of the academician respondents indicated that forensic accounting should be offered and taught at both undergraduate and graduate levels.

However, 30% indicated that it should be offered and taught at the graduate level. In contrast, results show that 13% of academician respondents indicate that forensic accounting should be offered and taught at the undergraduate level. These findings align with Meier, Kamath, and He (2010), highlighting that a specific course, such as the fraud examination, has not yet been incorporated into the accounting curriculum in many colleges and universities in Saudi Arabia. Forensic accountants have a unique set of skills that differentiates them from regular accountants (Crumbley, Heitger, et al., 2011). They must use their business acumen to look beyond numbers and figures and navigate different business realities to get answers.

Rezaee and Burton (1997) found little evidence of integrating forensic accounting into the formal accounting curricula before Enron, Anderson, and other financial scandals. Those incidents changed peoples’ minds about forensic accounting, and it became inevitable. Those incidents helped inquire if there is a consistency between the academicians’ work and

practitioners' needs for a well-qualified forensic accountant. Previous studies show a consensus that integration between forensic accounting and formal accounting curricula is a must. Academicians' response rate is higher than that of practitioners.' More than 58% of the responding schools would obtain administrative support to offer a forensic accounting course. This study also suggests that forensic accounting education should be integrated into the accounting curriculum. Two different approaches to covering forensic accounting education are possible.

Participants were next asked, "Who should teach forensic accounting courses?" More than 73% (73.3%) of the respondents believed that both academics and practitioners should teach forensic accounting courses, 13.3% believed practitioners should teach, and 13% believed academics should teach forensic accounting.

Finally, participants were asked, "Which courses should be prerequisites for forensic accounting course?" Thirty-six percent (36%) of the participants indicated that *Current Issues in Accounting* should be a prerequisite. Simultaneously, respondents answered similarly, with 36% for Auditing courses and 23% for *Advanced Accounting* as prerequisites introductory course for forensic accounting.

## **5.7 Perceived Benefits of Forensic Accounting**

Table 7 shows respondents' perspectives on the importance of forensic accounting education. Table 7 lists eight possible benefits that might occur as a result of forensic education. Using a 5-point Likert scale, participants were asked, "In your professional judgment, what is the relative importance of each of the following eight aspects of education in forensic accounting?"

Both groups were asked to indicate the relative importance of eight aspects of education in forensic accounting. The results can be seen in Table 7. The rating scale ranged from 1 (not at all important) to 5 (extremely important). Both academicians and practitioners think that forensic

accounting is very important (Mean of academicians and practitioners are close to 4) to strengthen financial reporting credibility. We can say both think the p-value is insignificant (greater than 0.05).

**Table 7.** Perceived Importance of Forensic Accounting Education

Items	Academic Respondents N=30		Practitioner Respondents N=58		<i>t</i>	<i>p</i>
	Mean	SD	Mean	SD		
Strengthen the credibility of financial reporting	3.83	1.12	4.03	0.97	-0.87	0.385
Promoting responsible corporate administration	3.87	1.07	3.83	1.03	0.17	0.868
Increased forensic accountant demand	3.63	1.25	3.45	0.86	0.82	0.416
Make students better on the market	3.80	0.96	3.36	0.93	2.07	0.042*
Meets the forensic accounting demand of society	3.53	1.07	3.45	0.96	0.38	0.706
Prepare students for an examination of fraud	3.63	1.27	3.74	1.07	-0.42	0.675
Prepare students for litigation support advice	3.27	1.23	3.59	0.96	-1.35	0.182
Prepare students for expert testimony	3.43	1.17	3.64	0.97	-0.88	0.383

Note: \* =  $p < 0.05$ , \*\* =  $p < 0.01$ : Items were responded to on a scale of 1 (not at all important) to 5 (extremely important)

As observed in the first case, all the participants consider forensic accounting as important because they think benefits like responsible corporate governance, increased demand for forensic accountants, meeting society's demand for forensic accounting, students to engage in fraud examination, litigation support consulting, expert witnessing is the results of forensic accounting, as all these have insignificant p-value (greater than 0.05).

From the descriptive point of view, the top three relative important aspects of education in forensic accounting for both academics and practitioners are strengthening the credibility of financial reporting with a mean (A 3.83 and P 4.03), promoting responsible corporate governance (A 3.87 and P 3.83 ), and preparing students to engage in fraud examination (A 3.63 and 3.74 ).

A t-test comparison was used to determine where these differences existed between the groups. There is a significant difference (not highly significant) in participants' perspectives about the benefit; "Make students more desirable in the marketplace." Academic participants consider it very important (3.80), while practitioners beveled it as just important (3.36). After all, participants of both groups consider the factor in the same direction. The rest of the aspects received a similarly high rating; no significant differences were found in seven out of eight relative importance of eight aspects comparisons.

Academic respondents consider corporate governance (3.87) as the most perceived benefit of forensic accounting, whereas practitioners emphasize their concern on strong credibility (4.03).

Practitioners believe the elements of preparing students to engage in the three areas of forensic accounting are interrelated. However, in practice, they prepare students to engage in fraud examination (3.74), prepare students to engage in expert witnessing (3.64), and prepare students to engage in litigation support consulting (3.59). Most academics favored increasing demand for forensic accountants (3.63) and satisfying society's demand for forensic accounting (93.53).

According to the previous research, after the Enron, Arthur Andersen, and other financial scandals, investor confidence in financial reports eroded (Uwuigbe, Felix, Uwuigbe, Teddy, & Falola, 2018). For both internal and external purposes, the financial report's accuracy is critical (Chen, Hope, Li, & Wang, 2011). Corporate governance is required for internal purposes to recognize good projects that will eventually improve investment productivity and share values (D. W. Diamond & Verrecchia, 1991). For external purposes, accurate reports can also allow capital suppliers to survey the company's open doors as well as screen administrative operations.

Also, reliable financial reporting allows lenders to determine the quality of credit, as the return of their investment, based on an additional investment or disinvestment, would be higher, relative to capital suppliers. Sadly however, the question of the accuracy of financial statements has become a problem in recent decades. This has become evident as a result of the public financial summary mistake that has shaken the capital markets and has attracted attention to the universal network. Then the business community and accounting profession increased their focuses on reported financial and accounting standards. As a result, they thought forensic accounting would be the only panacea for rebuilding investors' confidence. This supports our finding on why respondents believe forensic accounting is important to strengthen financial reporting credibility. The study also found that academicians voted that strengthening the credibility of financial reporting, promotes responsible corporate governance, increase expertise in processing forensic accounting education and skills, and engaging in fraud examination is important as the benefits of forensic accounting education.

Moreover, it is not surprising that the results show that both groups selected to promote responsible corporate governance as a higher aspect. This was also the most selected subject as standard operators, regulators, and others emphasize. The importance of strong and effective responsible corporate governance is to prevent and reduce fraud in organizations. Studies have shown that forensic accountants increased transparency. Including enhanced independence of external auditors and supporting members in their oversight roles by assuring internal audit results has positively affected corporate governance, thereby reducing company failure and impoverishment (Eyisi & Ezuwore, 2014). Therefore, accounting students need to understand how to analyze a responsible corporate governance system to avoid and detect workplace fraud.

## 5.8 Covering Topics in a Forensic Accounting Course: Legislation, Regulation, and Governance

Twenty-five topics were chosen for this study. Both groups of respondents were asked to indicate their perceptions of the importance of covering topics in a forensic accounting course using a Likert scale of one to five, with five being the “extremely important” and one being the “not at all important,” organized in the areas forensic accounting, fraud investigation, legislation, regulation, and governance. Table 8 contains participants’ responses to the degree of importance of different aspects of education in forensic accounting.

**Table 8.** Importance in forensic accounting of coverage issues

Items	Academic Respondents N=30		Practitioner Respondents N=58		<i>t</i>	<i>p</i>
	Mean	SD	Mean	SD		
Analytical review procedures	3.63	1.13	4.14	0.83	-2.39	0.019*
Investigation into Bribery and Corruption	3.90	1.32	4.31	0.78	-1.83	0.070
Works in forensics accounting	3.57	1.04	3.78	1.01	-0.91	0.364
Conducting internal investigations	3.63	1.03	3.95	0.85	-1.53	0.129
Conflicts of interest investigation techniques	3.47	1.01	3.86	1.07	-1.68	0.097
Fraud in the financial report	4.10	1.03	4.24	0.92	-0.65	0.514
Detection of fraud and disruption programs	3.73	0.94	4.22	0.80	-2.57	0.012*
Fraud against intellectual property	3.50	1.07	3.84	1.04	-1.46	0.148
Internal control evaluation	3.93	0.94	4.07	0.95	-0.63	0.527
Interviewing abilities and legal interviewing aspects	3.67	0.88	3.72	0.95	-0.28	0.784
Forensic Accounting professional standards	4.00	1.05	4.12	0.88	-0.57	0.570
Security and privacy	3.77	0.90	4.02	0.93	-1.21	0.228
Business assessments and estimates of costs	3.53	0.86	3.62	1.02	-0.40	0.690
Conformity to the legislation and regulations applicable	3.90	0.99	4.09	0.78	-0.97	0.337
Corporate governance	3.80	1.03	3.88	0.84	-0.39	0.699
Earnings management	3.73	1.08	3.83	0.99	-0.41	0.683
Effective report writing	3.83	1.05	3.97	1.01	-0.57	0.567
Expert witnesses and technical experts	3.57	1.07	3.95	0.87	-1.80	0.075
legal systems knowledge	3.87	0.90	4.16	0.89	-1.43	0.156
Fraud's legal elements	3.77	1.01	4.16	0.87	-1.88	0.064
Litigation consulting techniques	3.80	0.85	3.90	0.83	-0.51	0.609
Ethics principles and the Code of conduct of companies	3.93	1.11	3.93	0.81	0.01	0.991
Settlement of misconduct claims	3.87	0.94	4.02	0.89	-0.74	0.461
Rules of evidence	4.00	0.95	4.19	0.89	-0.93	0.356
Shareholder litigation	3.87	0.97	3.90	0.95	-0.14	0.890

*Note: \* =  $p < 0.05$ , \*\* =  $p < 0.01$ : Items were responded to on a scale of 1 (not at all important) to 5 (extremely important)*

From Table 8, we can see that academicians put the highest importance on “financial statement fraud” (4.10) and put the lowest weight on “conflicts of interest investigation techniques” (3.47). Though there is a difference in weighting any particular aspect as more important than the other, they do not underestimate any aspects; rather, they consider all aspects important.

When academicians focus on financial statement fraud, practitioners consider “bribery and corruption investigation” (4.31) to be the most important aspect of education. They impose the least weight on “Business valuations and cost estimates” (3.62).

Practitioners scored higher on the bribery and corruption investigation (4.31), financial statement fraud (4.24), techniques in locating hidden assets (4.22), rules of evidence (4.19), knowledge of the legal system, and legal elements of fraud (4.16). Educators scored higher on financial statement fraud (4.10), professional standards pertaining to forensic accounting (4.00), and rules of evidence (4.00). The topics of intellectual property fraud (3.50), business valuations (3.53), and careers in forensic accounting (3.57) were the least important topics to academics while interviewing skills and legal aspects of interviewing (3.72) and careers in forensic accounting (3.78) proved least important of covering topics to practitioners.

Significant differences occurred regarding “analytical review procedures” and “fraud detection and deterrence programs” as their corresponding p-values are less than 0.05. Though differences do exist, these factors are considered important by both types of respondents. Considering all this, it appears respondents think forensic accounting is important for finding out financial statement manipulation and fraud that managers have undergone to preserve any of the stakeholders' interests.

Previous findings suggest that there is always a minor dispute regarding the content, forensic accounting education. In some studies, respondents were asked about forensic accounting education. Academicians strongly agreed that financial scandals had increased the interest in forensic accounting and fraud examination. They also believe that the accounting curriculum should be merged with forensic accounting courses. All the auditing textbooks and audit engagement should include forensic fieldwork auditing.

Academicians and practitioners were asked to rank 49 of the forensic accounting topics. Both academicians and practitioners ranked “Fundamentals of Fraud” and “Financial Statement Fraud as first and second. A difference arises in ranking regarding the “Effective Report Writing” course. Practitioners ranked them as third, where academicians ranked them as low as 20th. Practitioners tended to rank fraud type topics lower than academicians. This supports the findings in our test. Practitioners are found to think of fraud examination as important, but they think the topics related to techniques in locating hidden assets, conflicts of interest investigation techniques, compliance with applicable laws and regulations, litigation consulting techniques, and so on, are more important.

A logical explanation of discrepancies in both groups can be attributed to different work experiences. Also, forensic accounting is still a very new professional. Moreover, substantial differences exist between the two groups (academics and practitioners). An individual working as a professor at the government (state) university in Saudi Arabia is prohibited from working in professional practice. Furthermore, this is what creates the gap between Saudi universities’ accounting graduates and Saudi market demands.

## **5.9 The Role of Forensic Accounting Education in Saudi Arabia**

This section describes the role of forensic accounting education in Saudi Arabia. Both groups were asked several questions relating to the role of forensic accounting education in

Saudi Arabia. Responses were graded on the five-point Likert scale, with “5” representing “strongly agreed” and “1” reflecting “strongly disagreed.” In this section, we wanted to know what the respondents thought about the role of forensic accounting in Saudi Arabia. Table 9 shows that both academicians and practitioners are optimistic about, not highly though, the role of forensic accounting. What could be the causes behind this? In one of our previous analyses, we found that institutions have not yet included forensic accounting in their curriculum. This can be one of the reasons they cannot decide about the role of forensic accounting.

Also, the charts show that respondents were undecided about many forensic accounting roles. Nevertheless, both groups of the respondents think the spread of forensic accounting education and training in Saudi Arabia will affect the demand for forensic accountants. Both academicians and practitioners agree with this point, having mean values of 3.67 and 3.78, respectively. No significant difference exists between the two groups of respondents in any of the points.

**Table 9.** The Role of Forensic Accounting in Saudi Arabia

Items	Academic Respondents N=30		Practitioner Respondents N=58		<i>t</i>	<i>p</i>
	Mean	SD	Mean	SD		
In the next decade years, Saudi Arabia’s need for forensic accountants will increase	4.27	0.58	4.10	0.87	0.92	0.359
The current accounting education and training in Saudi Arabia provides basic forensic accounting skills required by future forensic accountants	3.00	1.02	3.07	1.31	-0.25	0.802
To become a successful forensic accountant, one requires specific training and education that provides skills and knowledge in forensic accounting	4.07	0.83	4.36	0.72	-1.74	0.086
The quality of the current formal education provides adequate basic skills required for the growth of future forensic accountants	2.80	1.03	3.22	1.30	-1.55	0.124

Forensic accountants acquire the advanced skills required in practice only through practical experience	3.33	1.18	3.41	1.21	-0.30	0.767
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*Note: \* = p<0.05, \*\* = p<0.01: Items were responded to on a scale of 1 (strongly disagree) to 5 (strongly agree)*

Previous research suggests that a complex business environment makes forensic accounting education an inevitable need. Furthermore, it is possible for future demand for the need to increase rapidly. But some situations make our judgment about forensic accounting blurry. Properly structured funding and institutional and administrative support can help forensic accounting education to thrive. As our research suggests, a properly structured education system consistent with expert forensic accountants' needs can benefit this sector. We need to focus on the education system, whether it is properly structured or not. Previous research found many areas lacking, such as lack of financial resources, lack of institutional materials, lack of administrative interest and support, lack of faculty interest, and so on. All these contribute to the hindrance thriving in this sector.

### **5.10 Future Career Path and Demand of Forensic Accountants in Saudi Arabia Academicians**

This section reports responses on what the respondents think about the future Career Path for Forensic Accountants in Saudi Arabia. Both groups of respondents think that the future demand for forensic accountants will increase in the next decade. Furthermore, the respondents strongly agree with a mean value of 4.27 and 4.10 for the academicians and practitioners. However, they are undecided that current accounting education and training in Saudi Arabia provide basic forensic accounting skills required by future forensic accountants. This might not be a good sign. They are optimistic about forensic accounting's future growth, but they are not quite sure if the institutions are providing the required skills and learning methods.

In the next point, they agree with the point that specific training and educations are required to become a forensic accountant, but the current formal education does not provide adequate basic skills required for the growth of future forensic accountants. Looking at the next point, it can be observed that both respondents disagree with that particular point having a mean of 2.80 and 3.22 for the academicians and practitioners, respectively. Finally, both groups agree that practical experience is important for forensic accountants to acquire advanced practice skills.

**Table 10.** Future Career Path for Forensic Accountants in Saudi Arabia

Items	Academic Respondents N=30		Practitioner Respondents N=58		<i>t</i>	<i>p</i>
	Mean	SD	Mean	SD		
In the next decade years, Saudi Arabia's need for forensic accountants will increase	4.27	0.58	4.10	0.87	0.92	0.359
The current accounting education and training in Saudi Arabia provides basic forensic accounting skills required by future forensic accountants	3.00	1.02	3.07	1.31	-0.25	0.802
To become a successful forensic accountant, one requires specific training and education that provides skills and knowledge in forensic accounting	4.07	0.83	4.36	0.72	-1.74	0.086
The quality of the current formal education provides adequate basic skills required for the growth of future forensic accountants	2.80	1.03	3.22	1.30	-1.55	0.124
Forensic accountants acquire the advanced skills required in practice only through practical experience	3.33	1.18	3.41	1.21	-0.30	0.767

Note: \* =  $p < 0.05$ , \*\* =  $p < 0.01$ : Items were responded to on a scale of 1 (strongly disagree) to 5 (strongly agree)

Previous research also found a gap between forensic accounting practice and education. Also, they found the forensic accounting career to be one of the most secure carrier tracks.

Besides, there are several limitations in the number of accounting programs that offer forensic accounting courses. Practitioners in the said study believed that practical experience and academic study are important for greater expertise. All the research findings support our survey outcome.

### **5.11 Conclusion**

This chapter presents the quantitative data analysis findings to address the research questions proposed in Chapter Three. As a reminder, the instrument used in this stage was a questionnaire sent to 600 Saudi accounting practitioners CPAs and 400 Saudi accounting educators from two primary sources.

Before developing and distributing the questionnaire, it was reviewed by committee supervisors and an academic colleague, and a pilot study was also conducted to check clarity and organization. The online Qualtrics questionnaire was distributed to the target group, and after excluding incomplete questionnaires, 88 completed responses were received.

The results revealed that more than half of the respondents were academics at 34% and 66% for practitioners. Just over 80% (80.7%) of the respondents were male, and (19.3%) were female. More than half of the respondents had at least a bachelor's degree (61%), and 28% had a master's degree. Additionally, 40% of both groups (academic and practitioner) had five years in practice. Finally, the results show that 74 % of the practitioner's sample had not worked or still work in the area of forensic accounting.

Forensic accounting is a multidisciplinary area, as previously stated. The findings of this chapter underline the multidisciplinary nature of forensic accounting. It also highlights the fact that educational offerings can have an influence. The findings suggest that educators' and practitioners' perceptions of forensic accounting material are substantially different. Moreover, 30% of the academicians indicate that forensic accounting should be offered and taught more at

the graduate level, while 56% indicate that it should be offered and taught at both undergraduate and graduate levels.

Practitioners rated higher than academics on the elements of preparing students to participate in the three fields of forensic accounting that are interrelated but differ in nature: preparing students to engage in fraud analysis, preparing students to engage in specialist witnessing, and preparing students to engage in litigation service consulting. Different job experiences may be related to a rational interpretation of inconsistencies between both groups.

This research presents the findings discussed by educators and professionals on the relative importance of various aspects of education in forensic accounting. The overall results of the study indicate a consensus between educators and practitioners about the topics chosen. Significant differences occurred regarding “analytical review procedures” and “fraud detection and deterrence programs” as their corresponding p-values are less than 0.05. Though differences do exist, these factors are considered important by both types of respondents. Respondents think forensic accounting is important for finding out financial statement manipulation and fraud that managers have undergone to preserve any of the stakeholders' interests.

It is not surprising that the most selected topic is the promotion of responsible corporate governance, as standard operators, regulators, and others put considerable emphasis on the importance of a strong and effective system of responsible corporate governance to prevent and minimize fraud in organizations. This research is exploratory, given that little research is available in this field.

All selected topics are potentially relevant in this study for forensic accountants' education. This can have consequences when planning the curriculum for universities; it is difficult to include all relevant topics in one course. Also, the respondents indicated that the

demand for forensic accountants would continue to rise. For the structuring of academic curriculums, higher institutions should consider the above. The information presented in this study is also extremely important for students to decide on career paths.

The respondents suggested that they believe there will continue to be a strong demand for forensic accountants. When planning curricula, this should be considered by universities, which is critical for students when they decide on a major career path. Academics and practitioners in the study suggest that as future demand grows, the future is bright for students who specialize in forensic accounting.

## **CHAPTER SIX: DISCUSSION AND CONCLUSION**

### **6.1 Introduction**

The Kingdom of Saudi Arabia desires to have a legal system that is competent in all legal matters. This is enshrined in Vision 2030, where the nation identifies legal prowess to foster transparency and openness, a requirement for attracting high-end foreign investors in the country (Nurunnabi, 2020). The growing number of foreign investments and local involvement has led to a complex commercial structure that has resulted in complicated commercial disputes, which are difficult for Saudi Arabia's local courts to handle. Given the gravity of the dispute, judges are compelled to solicit external expatriates' services to offer professional assistance so that a just verdict is given (Dammer & Albanese, 2010). Since most government and corporate world disputes revolve around finance, the legal system cannot thrive without forensic accountants' services.

The training, qualification, role, benefits, and challenges of forensic accountants have been dealt with in the previous chapters. Chapters Four and Five reported the findings of the qualitative and quantitative analyses. In this chapter, the findings of Chapter Five are interpreted and future implications are presented and discussed. The discussion begins by focusing on the role of forensic accounting education in Saudi Arabia by considering the number of practitioners and their competence in the field. Secondly, the benefits of forensic accounting are related to the government, corporate, and legal systems of the kingdom. Next, the content of a forensic accounting syllabus is examined by looking at the covered topics, or that should be covered, and

their contribution to knowledge and theory. After a careful examination of the study's practical implications and limitations, conclusions are drawn.

## **6.2 Research Aim, Objective, and Research Questions**

As a reminder, this research's chief aim was to critically examine the role of forensic accountants and their effectiveness in meeting the needs of their clients together with the future demands of their services in Saudi Arabia. This study's main objective was to evaluate the extent of the need for forensic accountants in the kingdom and critically examine the services provided by accounting firms to determine if they meet their clients' needs. In the same spirit, the role played by the education system in making a forensic accountant is examined and whether the syllabus was rich enough to cover all topics required to train competent forensic accountants is determined. Lastly, the gap between college training is examined and what was required by practicing forensic accountants and how this gap could be closed. The following research questions guided the above objectives:

**RQ 1.** What forensic accounting education and training content for practicing CPAs in Saudi Arabia do industry and academic experts perceive as the highest priority?

Sub-questions:

**RQ 2.** What skills are critical in forensic accounting education, which is presently absent or given little emphasis by universities in the Kingdom of Saudi Arabia?

**RQ 3.** What do industry experts project to be the future demand for forensic accountants in Saudi Arabia? Upon what basis do they make this projection?

**RQ 4.** What is a forensic accounting services professional's role, and what types of services do Saudi Arabian forensic accounting firms provide?

**RQ 5.** What are the skills and expertise required by practicing forensic professionals to provide forensic accounting services in the Saudi Court?

## **6.3 Discussion**

### **6.3.1 The Role of Forensic Accounting Education in Saudi Arabia**

According to respondent 5, the complex nature of accounting disputes in Saudi Arabia is beyond the judiciary's understanding. To effectively execute their mandate, judges need forensic accountants' services to interpret financial documents and advise them accordingly on challenging matters in financial documents. As an emerging economy, the country is attracting foreign investments in various sectors of the economy—mainly in oil and gas. As the nation embarks on economic development and the implementation of Vision 2030, there is a need for a more robust and efficient judicial system with high capability in dealing with all trade disputes. To achieve this objective, the Saudi Judiciary needs forensic accountants' services with high professional acumen to advise the court in financial disputes, including but not limited to fraud, embezzlement, contract disputes, business loss estimation, inheritance, intellectual property dispute, and insurance claims.

The Big Four international Accounting Firms Deloitte, EY, KPMG, and PwC, have set up shop in the Middle East in countries like Saudi Arabia, where they cater to the ever-growing corporate world. These firms have professionals who are specialized in both the business and legal aspects of forensic accounting. Previous research found many areas lacking, such as lack of financial resources, lack of institutional materials, lack of administrative interest and support, lack of faculty interest, and so on, which help prevent this sector from thriving. In that study, the responding academicians slightly agreed that the current accounting curriculum is not sufficiently responsive to society's demand for forensic accounting education and practice. This supports our finding: both groups of the respondents are neutral in response to the criteria "The

current accounting education and training in Saudi Arabia are adequate for financial accountants to remain globally competitive.”

Buckhoff and Schrader (2000) reported that only about 9% of their responding institutions offered or planned to offer a course in forensic accounting. This also supports our findings: both groups of respondents are neutral in response to the criteria “The current accounting education and training in Saudi Arabia do not provide critical skills required in forensic accounting.”

Integrating fraud and forensic subjects into an accounting program will help improve the understanding and skills in corporate fraud prevention, investigation, and identification of fraud amongst graduates of the 21st century.

According to qualitative findings, many Saudi Arabia companies were oblivious to the role of forensic accountants in their business. Their ignorance made them unable to deal with basic financial issues affecting their company and burdened the court in solving their disputes. Forensic accounting education in Saudi Arabia will provide the necessary skills to accounting students who, after qualifying, will help reduce the high demand for forensic accountants and enhance service delivery in the Saudi judicial courts. Skalak, Golden, Clayton, and Pill (2011) argue that forensic accounting knowledge will reduce state and corporate corruption and enhance accountability in corporate and state dealings. It will increase transparency in public and private transactions, which will attract foreign investments in the country.

### **6.3.2 Perceived Benefits of Forensic Accounting**

According to the average responses across both groups, educator and practitioner responses, forensic accounting education was found to strengthen forensic accountants' credibility in Saudi Arabia and increase their demand. According to Dutta (2013), an increased number of forensic accountants in the kingdom and an increase in forensic accounting awareness

was found to reduce financial and trade disputes and promote efficiency and trust among trading partners. This was projected to reduce financial losses in Saudi Arabian companies caused by corruption and dirty trade deals. Dutta (2013) further argues that forensic accounting knowledge will help businesses discover flaws in their accounting system before they grow to warrant a shutdown.

According to Rezaee and Burton (1997), after the Enron, Anderson, and other financial scandals, investor confidence in financial reporting has eroded. As a result, the business community and accounting professions have increased their focus on reported financial and accounting standards. As a result, they thought forensic accounting would be the only panacea for rebuilding investor confidence. This supports our finding on why respondents believe that forensic accounting is important for strengthening the credibility of financial reporting.

According to the qualitative findings, forensic accountants' services offered to the judiciary were of the highest importance. Their services were found to increase efficiency in conflict resolution by the kingdom's judicial system. Through the technical interpretation of financial data, writing concise financial reports, expert witnesses, and advice to the court concerning the dispute under investigation. Skalak et al. (2011) opine that forensic accountant services in Saudi Arabia will increase the judicial system's service delivery rate by reducing the time spent on each court case, thus reducing the congestion of cases in the judiciary.

Due to increased foreign involvement in Saudi Arabian businesses, forensic accounting knowledge was found to help prevent local businesses from foreign exploitation and foreign businesses from local exploitation. Research conducted by Kranacher, Riley, and Wells (2010) indicated that businesses that employed forensic accountants' services were less likely to suffer from domestic and foreign business exploitation compared to those that did not. This fact is also

shared by respondent Judge 4, who argues that the complex trading system in Saudi Arabia needed forensic accountants' services to handle complex financial disputes associated with domestic and foreign trade. According to Manning (2016), forensic accounting knowledge was likely to increase mutual trust between different trading entities and foster cooperation and efficient conflict resolution among trading partners. Saudi Arabia needed clean commercial breathing space for it to thrive economically.

Knowledge of forensic accounting will enable businesses in the kingdom to avoid legal problems due to commercial malpractice, non-compliance, unfair trade, and corruption. According to respondent 5, forensic accountants will identify the above problem early, through concerted scrutiny, which would prevent legal problems before the situation grows to warrant a public outcry. This research found that the legal cost of financial disputes was always high due to the length of court proceedings and the number of parties involved. Avoiding legal problems through regular and timely forensic audits was found to prevent a business from incurring unnecessary expenses arising from illegal business practices.

Theoretically, in organizations with a strong system of promoting responsible corporate governance, fraud is potentially less likely than in organizations with a poor system of promoting responsible corporate governance. Similarly, fraud perpetrators could look for weaknesses in the corporate governance system as an opportunity to commit fraud.

A company or business with a good trading record will have its brands stand out compared to one with business scandals. Knowing forensic accounting in the kingdom was found to improve companies' efficiency and brand reputation in Saudi Arabia. According to Crumbley, Campbell, Karam, and Maresco (2011), a company with a high brand reputation was more profitable and economical to operate than one with a low brand reputation. By increasing profits,

improved brands were found to foster economic growth and enable the country to compete effectively with developed and developing economies.

According to respondent 6, the main duty of a forensic accountant was to detect fraud. It was beneficial to know forensic accounting in Saudi Arabia because it would increase the fraud detection rate and foster a sense of responsibility among the company executive. Ugwulali (2019) argued that a forensic accountant in a company fosters a sense of openness, responsibility, and accountability among business managers for fear that if they acted otherwise, their actions would be exposed.

### **6.3.3 Covering Topics in a Forensic Accounting Course**

Success in forensic accounting is pegged on an extensive wealth of knowledge beyond traditional accounting qualification. It is essential for curriculum designers and moderators to critically examine forensic accounting courses' requirements to capture all the fine details required in the training of competent forensic accountants. Collaboration between trainers and practitioners should be conducted to equip students with the required skills relevant in the field. There should be a concerted consultation among education stakeholders, accounting bodies, and forensic services consumers like the judiciary to determine forensic accounts' content and qualification.

According to the average responses across both groups, significant differences occurred regarding “analytical review procedures” and “fraud detection and deterrence programs,” as their corresponding p-values are less than 0.05. Though differences do exist, these factors are considered important by both types of respondents. Taken together, we can say respondents think forensic accounting is important for finding out financial statement manipulation and fraud that managers have undergone to preserve the interest of any of the stakeholders.

A Research study analyzed several topics explored in the United States and Canada internal auditing courses, found that topics related to fraud were taught in more than 30% of examined internal auditing courses (Groomer & Heintz, 1994).

Rezaee and Burton (1997) suggest that there is always a minor dispute regarding forensic accounting education content. In some studies, respondents were asked about forensic accounting education. Academicians strongly agreed that financial scandals had increased the interest in forensic accounting and fraud examination. They also believe that the accounting curriculum should be merged with forensic accounting courses. All the auditing textbooks and audit engagement should include forensic fieldwork auditing. It further added that forensic fieldwork auditing should be integrated into auditing textbooks and audit engagements. They also noted that there are numerous employment opportunities in forensic accounting. In the said study, academicians and practitioners were asked to rank 49 of the forensic accounting topics. Both academicians and practitioners ranked “Fundamentals of Fraud” and “Financial Statement Fraud” as first and second. A difference arises in ranking regarding the “Effective Report Writing” course. Practitioners ranked them as third, whereas academicians ranked them as low as 20th. The most robust differences in the rankings between academics and practitioners have been on the following subjects: (1) elements of fraud that consist of stress, opportunity and rationalization; (2) kinds of fraud; (3) flags of the red environmental and business; (4) anti-fraud criteria; The most robust differences in the rankings between academics and practitioners have been on the following subjects: (1) elements of fraud that consist of stress, opportunity and rationalization; (2) kinds of fraud; (3) flags of the red environmental and business; (4) anti-fraud criteria; The academics demonstrated more interest in the fraud examination coverage than practitioners, including themes like fraud, environmental and corporate red flags, fraud elements

and anti-fraud criteria. Practitioners regarded fraud as important but also highlighted topics relating to hidden asset locations techniques, compliance with applicable laws and rules, conflict of interest investigation techniques, expert witness testimony, effective report-making, and litigation consultation techniques.

Practitioners tended to rank fraud type topics lower than academicians. That supports the findings in our test. Practitioners are found to think of fraud examination as important, but they think more important are the topics related to techniques in locating hidden assets, conflicts of interest investigation techniques, compliance with applicable laws and regulations, and litigation consulting techniques, etc.

Forensic accountants' success in the field depends on the level of knowledge acquired in school and their experience in the field. This, in turn, depends on how inclusive the syllabus is in covering all the required topics. Forensic accounting entails examination, consideration, analysis, detection, and reporting of financial anomalies from a myriad of financial records. Knowledge, skills, and techniques beyond normal accounting courses are required to achieve the correctness required. This calls for more effort in syllabus design structuring to ensure that the entire course requirements are covered (Crumbley, Ziegenfuss, & O'Shaughnessy, 2008).

These reports found that the most important topics to be given an upper hand were analytic review procedures, bribery and corruption investigation, forensic accounting, external and internal investigation, conflict of interest investigation techniques, fraud detection, and deterrence techniques, intellectual property fraud, internal control evaluation, interviewing skills, the technique in locating hidden assets, and forensic accounting ethics. Apart from the hard skills mentioned above, it is more valuable to include soft skills in the syllabus coverage. These skills include, but are not limited to, the following: verbal and written communication, negotiation

skill, teamwork, creativity, work ethics, leadership, adaptability, motivation, positive attitude, and problem-solving skills.

Having known the syllabus content, it was important to consider how the topics should be covered to ensure efficiency in learning. This study found that it was essential to include some forensic accounting topics and auditing at the undergraduate level to be familiarized with forensic accounting. The students can then decide to take a full-fledged forensic accounting course at the postgraduate level. According to Dutta (2013), many forensic accountants' problems were caused by their late engagement with the course. He argues that students will determine their professional direction when basic forensic courses are introduced in normal accounting and auditing courses, whether to major in traditional accounting, auditing, or forensic accounting.

According to Van Romburgh (2008), forensic accountants' training should not be left to universities and colleges alone. There should be adequate participation from practitioners and trainers to equip students with theoretical and practical skills required in practice. Students should be given adequate time for attachments and internships, where they will acquire practical skills and experience and demonstrate classroom knowledge's practicality. Measures should be put in place by all universities and other academic stakeholders in the kingdom to ensure that all graduates can perform their professional duties effectively and competitively after completing their studies.

#### **6.3.4 Future Career Path and Demand of Forensic Accountants in Saudi Arabia**

Having an effective judicial system in the kingdom is one of the pillars enshrined in Vision 2030. The education syllabus for judicial officers in Saudi Arabia does not comprehensively cover accounting courses. Judges and magistrates are called to perform their duties without basic accounting skills, making them incapable of handling financial disputes and

other related cases in the court. The current expertise of judicial officers does not enable them to make a fair judgment in matters involving complex financial disputes. This makes the services offered by forensic accountants important. The Supreme Court, the court of appeals, and the court of the first instance all need forensic accountants' services. According to Brandt (2017), the demand for forensic accountants in Saudi Arabia outweighs the supply.

According to the average responses across both groups, the academicians and practitioners are optimistic about forensic accounting's future growth in Saudi Arabia. However, they are not quite sure if the institutions are providing the required skills and learning methods. Moreover, they agree that specific training and educations are required to be a forensic accountant, but the current formal education does not provide adequate basic skills required for the growth of future forensic accountants.

The majority of academicians and practitioners in the previous study expect future demand for and interest in fraud examination to increase; this supports our finding for the fraud examinations' importance is higher for both academicians (3.63) and practitioners (3.74). Also, differences in responses between practitioners and academicians regarding fraud examination are not statistically significant in the previous study, supporting our findings. From the above discussion, we can conclude that practitioners emphasize practitioners for litigation support and expert witnessing compared to academicians. Rezaee and Burton (1997) state that litigation support and expert witnessing do not have the same support at the university level as in the marketplace, and practitioners emphasize these two areas of forensic accounting.

Also, corporate governance is an important issue to discuss. As our survey result suggests, both academicians and practitioners think this aspect is important with a score of 3.87 and 3.83, respectively. These results are consistent with the recent report of the Ethics Education

Task Force of the AACSB (2004), which states, “knowing the principles and practices of sound, responsible corporate governance can also be an important deterrent to unethical behavior” (p. 6).

There is a significant shortage of forensic accountants in Saudi Arabia. A career in forensic accounting is promising due to the numerous career opportunities available in the judiciary. As foreign investment increases in Saudi Arabia and as local citizens continue to partner with foreigners in trade dealings, trade in the country becomes more complex. Any trade dispute arising from this kind of trade dealing will be difficult for our judicial officers to handle conclusively. This is where the services of forensic accounting officers are required. They are called upon to examine, consider, interpret, compare, detect financial anomalies, and write a report that will help the court make a fair judgment. Companies that are keen on avoiding disputes and internal fraud will find it worthwhile to employ a forensic accountant's services to carry out a regular forensic audit so that the business is run free from scandals. This drives this report to conclude that the future of forensic accountants in Saudi Arabia is promising.

## **6.4 Contribution**

### **6.4.1 Contribution to Knowledge**

Forensic accounting is a growing discipline that contributes to responsible corporate governance. According to Dutta (2013), forensic accounting fosters a sense of accountability and responsibility among business executives, and it imparts commercial discipline among trading partners. It also increases the knowledge in fraud examination and fraud detection, saving billions of losses lost through fraud and corruption in government and corporate dealings.

### **6.4.2 Contribution to Theory**

Forensic accounting provides a platform for more research in matters relating to financial credibility and financial reporting. Financial reporting is important for the success of a forensic

accountant; this study has found that knowledge in financial reporting is crucial to a forensic accountant because of the sensitivity of the report they're meant to pen. They should be able to simplify financial reports into an understandable form, so they can be read and understood by people with no accounting knowledge.

## **6.5 Policy and Practical Implication**

The increase in financial crimes involving big companies in Saudi Arabia calls for specialized techniques and efforts to curb this menace. For trade to flourish and for the country to continue attracting direct foreign investment, measures should be put forth by the government to detect and stop fraudsters who secretly steal from unsuspecting victims. By teaching forensic accounting in universities and colleges in the kingdom, the number of forensic accountants will increase. Their services will be essential for public and private companies, where they will be engaged in scrutinizing financial records and transactions to identify and report fraud. This will enhance fairness and openness in trade transactions, and corruption cases will decrease in Saudi Arabia.

## **6.6 Limitations of this Research**

It is important to report some limitations of the thesis, which may have affected the findings in the two phases of the study before proposing an agenda for future studies. It is necessary to note that the data collection process for this study took place from March 2020 until the end of August 2020. The first constraints I faced were time, economic resources, and location, in particular. This research would have been better suited if it had been performed in collaboration with other researchers to obtain richer and wider interpretations.

One of the major research limitations is data survey collection. Duplicate responses were collected in the initial sample. I discovered a serious issue with the educators' survey responses. It shows that about 60% of the 68 educators' datasets have duplicate IP addresses (same IP

address) and are from different geographic locations with short timing to respond to the survey, an additional five responses were collected from academics. I received five new responses. After cleaning and with new responses, the academics' responses totaled was 30. Problems related to the validity and reliability of findings have become an important issue in survey research. The inconsistency of the data collected can be because of the uncertainty or fleeting occurrence of the observed event or because of the lack of truth or accuracy in the answers given. Some of the main risks to the accuracy of the data are there may be bots and duplicate responses. Sometimes the bots will complete surveys in large numbers, or an individual will take surveys multiple times on behalf of someone else. Luckily, professional analysis monitors these trends to ensure that only the highest quality of data is obtained from your surveys. Depending on how a questionnaire is set up, duplicate responses can be avoided before data is collected. If potential respondents are known ahead of time, e-mail the questionnaire to them directly can help ensure that no user is allowed to use an anonymous link.

Given the sensitivity of interviewing and surveying Saudi judges who conducted semi-formal or informal events, I eventually had to use my contacts to meet and interview judges involved in the study, rather than relying on formal lists from government agencies. This limitation played a key role in making the phenomenon of forensic accounting better understood.

Another concern was limited or no access to female judges to interview, which meant that there was no representation of their experiences in interviews. This has affected the generalizability of the findings, considering that there might be differences in perceptions due to gender. However, female accounting academics and practitioners have been able to engage in online questionnaires, and their views have, therefore, been taken into account in the quantitative

portion of this study. No sample structure has become a second concern, while the snowball approach has largely become resolved.

Interviews were conducted with judges in only three regions of Saudi Arabia: the central, west, and southern regions, due to time constraints. This restriction may have limited the possibility of obtaining rich quality data from judges in the northern and eastern regions.

The response rate was also influenced by COVID-19 pandemic challenges. One thousand of the questionnaires were sent to accounting academics and practitioners. However, only 126 completed responses were returned. I attempted to re-submit messages to all respondents to enable them to complete the questionnaire and provide them with some time, but there was no significant response.

In general, however, notwithstanding the above limitations, this thesis represents a novel study of the role of forensic accounting practice and education in Saudi Arabia. These limitations are a basis for the future research agenda to be discussed next section.

### **6.6.1 Recommendations to Accounting Educators**

It is critical for universities to identify not only the core competencies desired by the companies that employ their students but also their primary stakeholders. This knowledge can drive a university's decision regarding the departments with which it wants to collaborate when developing or improving its forensic accounting education and help it provide the multidiscipline forensic instruction needed by students.

The results of this study indicate that academics have to raise awareness of the value of the use of innovative learning methods to teach forensic accounting effectively. They will need to improve their understanding of the nature and purpose of forensic accounting education and their teaching capability. This can be established by the involvement of academics in advanced and customized training programs and workshops. For example, through its Education Program,

the Association of Certified Fraud Examiners (ACFE) offers a variety of sessions focused on developing academic skills in applying framework-based teaching.

In addition, all business schools in Saudi Arabia need to integrate the accounting curriculum with fraud and forensic subjects. The findings of this study can provide educators and administrators with useful recommendations in the accounting curriculum in the selection of fraud and forensic accounting.

A further recommendation for universities should evaluate their course offerings and implement programs for assessment of their courses. They need to recognize that students have several learning styles and that accounting educators need to be prepared in approaches that can help increase meaningful learning opportunities for students and increase their interest and participation in class discussions. Academics could contribute to improvement by shifting students' learning habits from memorizing and repeating knowledge to understanding and evaluating principles-based concepts. By incorporating this strategy, academics can integrate forensic accounting more efficiently into the curriculum. Finally, since forensic accounting is a new area in Saudi Arabia, accounting educators need to do more research in this area.

### **6.6.2 Recommendations to Professional Accounting Bodies**

The current forensic accounting standards are inadequate to meet the challenges of the ever-changing world. It is vital for accounting bodies in Saudi Arabia to review these standards and update them to go hand in hand with the international standards of forensic accounting. These will increase Saudi forensic accountants' competitiveness and enable them to meet all the challenges associated with their careers and seek job opportunities overseas.

Based on the research result, we recommended the following. There should be a concerted effort to increase awareness among forensic accountants and auditors through seminars and workshops. This should be done in order to update them with current trends of

forensic accounting in order to sharpen their skills and techniques of carrying out their daily duties. Secondly, forensic accountants should be trained in the preparation of forensic accounting reports on request. The importance of forensic reports in the judiciary is vital, sufficient to warrant special skills from forensic accountants in preparing this report. Since most forensic accountants' work revolves around dispute resolution by the judicial system, I recommend increasing awareness of forensic accountants and auditors on laws governing financial transactions and business activities to enable them to write their reports within the boundaries of the law. Finally, this research recommends increasing awareness of the judicial workers on the importance of forensic accountants and the role they play in resolving disputes of financial nature.

#### **6.7 Areas for Further Study**

In order to improve forensic accounting in Saudi Arabia, more research should be conducted to find a balance between Islamic law and forensic accounting. Since forensic accounting is a new field of study in Saudi Arabia, more research should be done on integrating forensic accounting knowledge into businesses and the judiciary. More research should also be conducted on the relationship between forensic accounting in Saudi Arabia with other Islamic countries to determine how they are meeting their challenges, and if there is anything the kingdom can learn from them. It is also important to conduct research on the perceived benefits of learning approaches adopted by students to determine their usefulness or hardness and propose measures of containing the hardship encountered. More research should also be conducted on additional skills required by forensic accountants to perform their duties effectively. These secondary skills are not directly related to forensic accounting, but they are of vital importance to accountants for facilitating their work. In order to encourage more students to

take forensic accounting studies, more research should be done on the cost of training a forensic accountant and the benefit accrued or the pay of forensic accountants.

## **6.8 Conclusion**

The knowledge of forensic accounting is of immeasurable importance for the success of developing and developed economies. It is the basis of fair judgment by the judiciary in matters relating to financial disputes and hidden trade secrets. For the judiciary to give a balanced verdict in disputes related to trade, a forensic accountant is engaged to investigate the financial records of the disputing parties and to write a report that will be used by the judiciary in determining the fate of the disputant.

For forensic accountants to perform their duties effectively, proper education should be accorded. This includes hard skills and soft skills. Hard skills are what the syllabus covers in the university, while soft skills can be taught and acquired through experience. Among the soft skills, writing skills and communication are most vital since a forensic accountant is supposed to give a summary report of their findings at the end of the investigation. Because their report is read by people with limited accounting knowledge, forensic accountants should be able to simplify their report to the most understandable mode.

Because of the complex nature of forensic accounting, the inclusion of basic forensic study topics in accounting and auditing courses is recommended, so students get familiarized with them. Later on, students may decide to major in forensic accounting. A significant gap exists between what is offered in class and the expectation in the field. A large discrepancy exists between theory and practical knowledge. This should be reduced by reviewing the syllabus and increasing the amount of time spent by students in attachments and internships.

Saudi Arabia, being an emerging economy, needs the services of forensic accountants in the public and private sectors. The nature of business dealing in the country is so complex that

without the services of forensic accountants, it will be difficult for the judiciary to carry out their duties effectively. This calls for an increased number of public accountants, making their careers in the kingdom promising.

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## APPENDICES

## 9.1 Appendix A: Academicians Questionnaire

# Academicians Questionnaire

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### Informed Consent

#### Informed Consent to Participate in Research Involving Minimal Risk

**Title:** Forensic Accounting Education, Practice, and Future Career Paths in Saudi

**Arabia Overview:** You are being asked to take part in a research study. The information in this document should help you to decide if you would like to participate. The sections in this overview provide the basic information about the study. More detailed information is provided in the remainder of the document.

**Study Staff:** This study is being led by Mohammed Alzahrane who is a doctoral student at the Muma College of Business at the University of South Florida. This person is called the Principal Investigator. He is being guided in this research by Dr. Mark Taylor Dr. Uday Murthy. Other approved research staff may act on behalf of the Principal Investigator.

**Study Details:** This study is being conducted at the University of South Florida. The purpose of the study is to identify the knowledge and skills deemed to be the most important for an educational program focusing on forensic accounting. The study will focus on the current state of forensic accounting education offered and available at both public and private universities in the Kingdom of Saudi Arabia (KSA). The objectives of the study are also to investigate the future demand for forensic accounting professionals in Saudi Arabia and to identify the typical career path for a forensic accounting professional in Saudi Arabia.

**Subjects:** You are being asked to take part because you are affiliated with accounting as either a practitioner or an academic in Saudi Arabia.

**Voluntary Participation:** Your participation is voluntary. You do not have to participate and may stop your participation at any time. There will be no penalties or loss of benefits or opportunities if you do not participate or decide to stop once you start.

**Benefits, Compensation, and Risk:** We do not know if you will receive any benefit from your participation. However, your participation will benefit the academic body of knowledge regarding the current state and prospects of forensic accounting education and practice in Saudi Arabia. There is no cost to participate. This research is considered minimal risk. Minimal risk means that study risks are the same as the risks you face in daily life.

**Confidentiality:** Even if we publish the findings from this study, the information you provide will be kept private and confidential. Anyone with the authority to look at your records must keep them confidential.

If you have any questions, concerns or complaints about this study, call Mohammed Alzahrane at 813-591-7430. If you have questions about your rights, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638 or contact them by email at RSCH-IRB@usf.edu.

I freely give my consent to take part in this study. By clicking "I consent, begin the study", I am giving consent to take part in this study.

- I consent, begin the study
  - I do not consent, I do not wish to participate
- 

### Demographic Data

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**Q1 What is your gender?**

- Male
  - Female
- 

**Q2 What is the highest level of education you have obtained?**

- Bachelor's degree
  - Master's degree
  - PhD degree
  - Other: (Please specify)
- 

**Q3 How many years of teaching experience do you have?**

- 5 years or less
- 6-10 years
- 11-15 years
- More than 15 years

**Q4 What professional certifications do you possess? (You can check more than one choice)**

- CPA
  - CMA
  - CFE
  - Other: (Please specify)
- 

**Q5 Forensic accounting is the use of accounting skills to investigate fraud or embezzlement and to analyse financial information for use in legal proceedings. Have you ever practiced or are you still practicing in the field of forensic accounting outside of academia?**

- Yes
- No

**Q6 Do you expect the demand for forensic accounting to:**

- Increase
- Decrease
- Remain the same

Q7 How does your department integrate forensic accounting education into the accounting curriculum?

- We integrate forensic accounting topics into auditing courses
  - We offer a separate forensic accounting course
  - We currently do not cover forensic accounting at all
- 

Q8 At what level do you think a forensic accounting course should be offered?

- Undergraduate
  - Graduate
  - Both undergraduate and graduate
- 

Q9 Who should teach forensic accounting courses?

- Academicians
  - Practitioners
  - Both academics and practitioners
- 

Q10 Which courses should be prerequisites for forensic accounting course?

- Auditing
- Advanced Accounting
- Current Issues in Accounting
- Other: (Please specify)

**Q11** In your professional judgement, what is the relative importance of each of the following three section aspects of education in forensic accounting (using the 7 -point scale below):

**Perceived Importance of Forensic Accounting Education**

	Not at all Important	Somewhat Important	of little Importance	Neither unimportant nor important	Important	Very Important	Extremely Important
Strengthen the credibility of financial reporting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote responsible corporate governance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase demand for forensic accountants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make students more desirable in the marketplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satisfies society's demand for forensic accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare students to engage in fraud examination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare students to engage in litigation support consulting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare students to engage in expert witnessing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Importance of Covering Topics

**Q12-**In your professional judgement, what is the relative importance of each of the following three section aspects of education in forensic accounting (using the 7 -point scale below):

#### 1- Forensic Accounting, Fraud, and Investigation

	Not at all Important	Somewhat Important	Little Importance	Neither unimportant nor important	Important	Very important	Extremely important
Analytical review procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bribery and corruption investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Careers in forensic accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conducting internal investigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflicts of interest investigation techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial statement fraud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fraud detection and deterrence programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual property fraud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internal control evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interview skills and legal aspects of interviewing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional standards pertaining to forensic accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security and privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Techniques in locating hidden assets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 2- Legislation, Regulation and Governance

	Not Important	Somewhat Important	Little Importance	Neither unimportant nor important	Important	Very Important	Extremely Important
Business valuations and cost estimates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance with applicable laws and regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corporate governance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earnings management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effective report writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expert testimony and expert witness techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge of the legal system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal elements of fraud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Litigation consulting techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Principles of ethics and corporate code of conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resolution of allegations of misconduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules of evidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shareholder litigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Importance of Learning Mechanisms

**Q15** On the five-point scale below, please select a circle that most closely matches your opinion regarding the importance of each of the following learning mechanisms in teaching forensic accounting.

	Not at all important	Somewhat Important	Little Importance	Neither unimportant nor important	Important	Very Important	Extremely Important
<b>Textbooks and journals</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Research projects</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Videos</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Cases</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Guest speakers</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Field trips (e.g., to professional organizations, correctional facilities)</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### The role of forensic accounting education in Saudi Arabia.

**Q15** This Section has statements regarding the role of forensic accounting education in Saudi Arabia. On the five-point scale below kindly respond with the response that matches your opinion. Please select the circle which best describes your level of agreement or disagreement with each statement.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
The current accounting education and training in Saudi Arabia provides critical skills required in forensic accounting	<input type="radio"/>				
Increase in the spread of forensic accounting education and training in Saudi Arabia will affect the demand for forensic accountants.	<input type="radio"/>				
The current accounting education and training in Saudi Arabia strengthens the credibility of financial accountants	<input type="radio"/>				
The current accounting education and training in Saudi Arabia makes financial accounting students more desirable in the highly competitive forensic accounting market	<input type="radio"/>				
The current accounting education and training in Saudi Arabia is adequate for financial accountants to remain globally competitive	<input type="radio"/>				
The current accounting education and training in Saudi Arabia adequately prepares accountants to effectively and efficiently conduct fraud investigations and reporting in a court of law	<input type="radio"/>				
The current accounting education and training in Saudi Arabia adequately prepares forensic accountants to conduct litigation support and give expert opinions in a court of law	<input type="radio"/>				

**The future career path for Forensic Accountants in Saudi Arabia**

Q16 This Section contains statements regarding the future career path for Forensic Accountants in Saudi Arabia. On the five-point scale below please select the circle which best describes your agreement or disagreement on each of the following statements.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
In the next decade years, Saudi Arabia's need for forensic accountants will increase	<input type="radio"/>				
The current accounting education and training in Saudi Arabia provides basic forensic accounting skills required by future forensic accountants	<input type="radio"/>				
To become a successful forensic accountant, one requires specific training and education the provides skills and knowledge in forensic accounting	<input type="radio"/>				
The quality of the current formal education provides adequate basic skills required for the growth of future forensic accountants	<input type="radio"/>				
Forensic accountants acquire the advanced skills required in practice only through practical experience	<input type="radio"/>				

## Obstacles in integrating forensic accounting into the accounting curriculum

Q18 On the five-point scale below, please select the number that mostly closely corresponds to your indicating to indicate your agreement on the following statements about obstacles in integrating forensic accounting into the accounting curriculum.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Educational policymakers in Saudi are adequately supporting the integration of forensic accounting into the accounting curriculum in the country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ministry of higher education in KSA supports the integration of forensic education in the curriculum in Universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The success of the forensic accounting education system in KSA will require the accounting curriculum to be changed and approved by the ministry of higher education and the successful adoption of these changes by universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We have adequate qualified forensic accounting educators to deliver the needed forensic accounting-related courses in Saudi's universities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Q19** Please list some of the challenges faced in the integration of forensic accounting into the Saudi accounting curriculum.

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**Q20**Comments: Please feel free to comment on the current state of forensic accounting education and practice in Saudi Arabia.

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**Q21**If you would like summary results of the study emailed to you after the study is complete, please enter your email address.

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## 9.2 Appendix B: Practitioner Questionnaire

# Practitioner Questionnaire

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### Start of Block: Informed Consent

#### Informed Consent to Participate in Research Involving Minimal Risk

**Title:** Forensic Accounting Education, Practice, and Future Career Paths in Saudi Arabia  
**Overview:** You are being asked to take part in a research study. The information in this document should help you to decide if you would like to participate. The sections in this overview provide the basic information about the study. More detailed information is provided in the remainder of the document.

**Study Staff:** This study is being led by Mohammed Alzahrane who is a doctoral student at the Muma College of Business at the University of South Florida. This person is called the Principal Investigator. He is being guided in this research by Dr. Mark Taylor Dr. Uday Murthy. Other approved research staff may act on behalf of the Principal Investigator.

**Study Details:** This study is being conducted at the University of South Florida. The purpose of the study is to identify the knowledge and skills deemed to be the most important for an educational program focusing on forensic accounting. The study will focus on the current state of forensic accounting education offered and available at both public and private universities in the Kingdom of Saudi Arabia (KSA). The objectives of the study are also to investigate the future demand for forensic accounting professionals in Saudi Arabia and to identify the typical career path for a forensic accounting professional in Saudi Arabia.

**Subjects:** You are being asked to take part because you are affiliated with accounting as either a practitioner or an academic in Saudi Arabia.

**Voluntary Participation:** Your participation is voluntary. You do not have to participate and may stop your participation at any time. There will be no penalties or loss of benefits or opportunities if you do not participate or decide to stop once you start.

**Benefits, Compensation, and Risk:** We do not know if you will receive any benefit from your participation. However, your participation will benefit the academic body of knowledge regarding the current state and prospects of forensic accounting education and practice in Saudi Arabia. There is no cost to participate. This research is considered minimal risk. Minimal risk means that study risks are the same as the risks you face in daily life.

**Confidentiality:** Even if we publish the findings from this study, the information you provide will be kept private and confidential. Anyone with the authority to look at your records must keep them confidential.

If you have any questions, concerns or complaints about this study, call Mohammed Alzahrane at 813-591-7430. If you have questions about your rights, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638 or contact them by email at RSCH-IRB@usf.edu.

I freely give my consent to take part in this study. By clicking "I consent, begin the study", I am giving consent to take part in this study.

- I consent, begin the study
  - I do not consent, I do not wish to participate
- 

### Demographic Data

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**Q1 What is your gender?**

- Male
  - Female
- 

**Q2 What is the highest level of education you have obtained?**

- Bachelor's degree
  - Master's degree
  - PhD degree
  - Other: (Please specify)
- 

**Q3 For how many years do you have in practice?**

- 5 years or less
  - 6-10 years
  - 11-15 years
  - More than 15 years
-

**Q4 What professional certifications do you possess? (You can check more than one choice)**

- CPA
  - CMA
  - CFE
  - Other: (Please specify)
- 

**Q5 Forensic accounting is the use of accounting skills to investigate fraud or embezzlement and to analyse financial information for use in legal proceedings. Have you ever worked or are you still working in the area of forensic accounting service?**

- Yes
  - No
- 

**Q6 In which of the following sectors do you work? Please indicate all sectors that apply.**

- Private forensic investigative practice
  - Saudi's Police Service
  - Specialized government investigative agency
  - Academia
  - Internal departmental investigation unit in Government
  - Internal departmental investigation unit in the Private Sector
-

Start of Block: Additional Questions

Q10 Do you expect the demand for forensic accounting to:

- Increase
- Decrease
- Remain the same

**Perceived Importance of Forensic Accounting Education**  
**On the five-point scale below, please select a number to indicate the importance of the perceived benefits of forensic accounting education**

	Not at all important	Somewhat important	of little importance	Neither unimportant nor important	Important	Very Important	Extremely Important
Strengthen the credibility of financial reporting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote responsible corporate governance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase demand for forensic accountants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make students more desirable in the marketplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satisfies society's demand for forensic accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare students to engage in fraud examination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare students to engage in litigation support consulting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare students to engage in expert witnessing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Importance of Covering Topics

In your professional judgement, what is the relative importance of each of the following three section aspects of education in forensic accounting (using the 7 -point scale below):

#### 1- Forensic Accounting, Fraud, and Investigation

	Not at all important	Somewhat Important	Little Importance	Neither unimportant nor Important	important	Very important	Extremely important
Analytical review procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bribery and corruption investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Careers in forensic accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conducting internal investigations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflicts of interest investigation techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Financial statement fraud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fraud detection and deterrence programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intellectual property fraud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internal control evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interview skills and legal aspects of interviewing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional standards pertaining to forensic accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security and privacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Techniques in locating hidden assets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 2- Legislation, Regulation and Governance

	Not at all Important	Somewhat Important	Little Importance	Neither unimporta nt nor important	Important	Very Important	Extremely Important
Business valuations and cost estimates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Compliance with applicable laws and regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Corporate governance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earnings management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effective report writing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expert testimony and expert witness techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Knowledge of the legal system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legal elements of fraud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Litigation consulting techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Principles of ethics and corporate code of conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resolution of allegations of misconduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rules of evidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shareholder litigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**The role of forensic accounting education in Saudi Arabia.**

Q15 This Section has statements regarding the role of forensic accounting education in Saudi Arabia. On the five-point scale below kindly respond with the response that matches your opinion. Please select the circle which best describes your level of agreement or disagreement with each statement.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
The current accounting education and training in Saudi Arabia provides critical skills required in forensic accounting	<input type="radio"/>				
Increase in the spread of forensic accounting education and training in Saudi Arabia will affect the demand for forensic accountants.	<input type="radio"/>				
The current accounting education and training in Saudi Arabia strengthens the credibility of financial accountants	<input type="radio"/>				
The current accounting education and training in Saudi Arabia makes financial accounting students more desirable in the highly competitive forensic accounting market	<input type="radio"/>				
The current accounting education and training in Saudi Arabia is adequate for financial accountants to remain globally competitive	<input type="radio"/>				
The current accounting education and training in Saudi Arabia adequately prepares accountants to effectively and efficiently conduct fraud investigations and reporting in a court of law	<input type="radio"/>				
The current accounting education and training in Saudi Arabia adequately prepares forensic accountants to conduct litigation support and give expert opinions in a court of law	<input type="radio"/>				

**The future career path for Forensic Accountants in Saudi Arabia**

Q16 This Section contains statements regarding the future career path for Forensic Accountants in Saudi Arabia. On the five-point scale below please select the circle which best describes your agreement or disagreement on each of the following statements.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
In the next decade years, Saudi Arabia's need for forensic accountants will increase	<input type="radio"/>				
The current accounting education and training in Saudi Arabia provides basic forensic accounting skills required by future forensic accountants	<input type="radio"/>				
To become a successful forensic accountant, one requires specific training and education the provides skills and knowledge in forensic accounting	<input type="radio"/>				
The quality of the current formal education provides adequate basic skills required for the growth of future forensic accountants	<input type="radio"/>				
Forensic accountants acquire the advanced skills required in practice only through practical experience	<input type="radio"/>				

**Q19 Comments:** Please feel free to comment on the current state of forensic accounting education and practice in Saudi Arabia.

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**Q20** If you would like summary results of the study emailed to you after the study is complete, please enter your email address.

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### 9.3 Appendix C: IRB Approval



#### EXEMPT DETERMINATION

March 27, 2020

Mohammed Alzahrane  
1347 alaquay way  
Melbourn, FL 32904

Dear Mohammed Alzahrane:

On 3/27/2020, the IRB reviewed and approved the following protocol:

Application Type:	Initial Study
IRB ID:	STUDY000094
Review Type:	Exempt 2
Title:	Forensic Accounting Education, Practice, & the Future Career Path in Saudi Arabia
Funding:	None
Protocol:	• <a href="#">Mohammed's Study Protocol</a>

The IRB determined that this protocol meets the criteria for exemption from IRB review.

In conducting this protocol, you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Please note, as per USF policy, once the exempt determination is made, the application is closed in BullsIRB. This does not limit your ability to conduct the research. Any proposed or anticipated change to the study design that was previously declared exempt from IRB oversight must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant a modification or new application.

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit a new request to the IRB for a determination.

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#### Institutional Review Boards / Research Integrity & Compliance

FWA No. 00001669

University of South Florida / 3702 Spectrum Blvd., Suite 165 / Tampa, FL 33612 / 813-974-5638

Page 1 of 2



Sincerely,

Various Menzel  
IRB Research Compliance Administrator

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Page 2 of 2