

THE ROLE OF ORGANIZATIONAL MANAGERS IN USING FORENSIC ACCOUNTING SERVICES TO DETECT AND PREVENT FRAUD: A CASE STUDY IN IRAN AND IRAQ

Khaled Albadr¹, Mohammad Reza Abbaszadeh^{*2}, Reza Hesarzadeh³

^{1,2,3}Department of Accounting, Economics and Administrative sciences, Ferdowsi University of Mashhad, Mashhad, Iran

***Corresponding author: Mohammad Reza Abbaszadeh,**

khalidalbdr016@gmail.com¹
abbas33@um.ac.ir.²

ABSTRACT

The present research seeks the role of organizational managers in using forensic accounting services to detect and prevent fraud in Iran and Iraq. In other words, this research aims to find an answer to whether organizational managers effectively implement legal accounting and prevent fraud. A researcher-made questionnaire was used to test the hypotheses for this purpose. The research questions were tested using a sample of 203 people consisting of auditors and managers of small and medium companies in Iran and Iraq and using PLS and Amos Graphic software. The conclusions indicate that Iranian and Iraqi executives broadly use forensic accounting, and managers also use various forensic accounting services in Iran and Iraq. In addition, Iranian and Iraqi executives tend to use the services of damage, loss, and profit assessment by forensic accounting. On the other hand, the results show that Iranian executives have a great tendency to use valuation services by forensic accounting, and Iranian executives have a great desire to use the examination of negligence in accounting matters by forensic accounting to a large extent. They tend to use fraud services by forensic accounting. Since research has yet to be done on forensic accounting in developing countries such as Iran and Iraq, this study can provide insight into understanding financial management and accountability and conducting audits in organizations using accounting consulting services; provide legal and examine the relationships between multiple variables caused by organizational pressures, other prominent factors, and the intention to use legal accounting services among organizational managers.

Keywords: organization managers; forensic accounting; scam; fraud

1. Introduction

Today, with the expansion of commercial markets and various industries worldwide, fraudulent and dishonest financial activities are known as a common problem in the financial field. As a result, businesses are at risk of unethical and dishonest practices. Fraud is a diverse crime category that includes using deception to obtain certain benefits^[1]. Fraud can occur in any field, such as financial, commercial, or even personal, and can be done in various ways, such as manipulation of accounting records, forgery of documents, or fraud, and this can have serious consequences. The consequences of fraud can include damage to public trust, loss of investment, or even bankruptcy^[8]. According to Bawaneh^[2], fraud statistics published by relevant bodies only represent the tip of the iceberg, as it is likely that many frauds go undetected, thus remaining hidden from official reports. In this regard, the harmful effects of financial scandals in recent years have made it inevitable to pay attention to the issue of fraud. These financial scandals have not only caused economic costs and losses, such as hurting creditors, investors, and shareholders, but also brought political, judicial, etc. costs. Reduction of productive investment in the long term, creation of a class gap in the organization and spread of dissatisfaction, waste of resources, creation of public dissatisfaction, customer dissatisfaction, weak public trust and reduction of resources, reduction of stock value, and bankruptcy are the consequences of fraud.

The first thing that crystallized in the minds of all members of society after these frauds was the question of procedures and laws that should be observed on this matter. In this regard, the role of legal accounting and what role these laws play in preventing fraud in the organization. Do they prevent fraud in organizations? Is the appropriate and efficient selection system not implemented when recruiting executive managers? It was revealed that despite these questions, less attention has been paid to identifying the factors influencing the use of forensic accounting in preventing fraud and implementing methods to prevent it. Extensive research has been done on why. The practical implementation of these prevention methods has yet to be done. Meanwhile, if fraud is discovered and controlled through monitoring and control or account reconciliation, its costs are much lower than when detected through passive methods. Also, in a technology-based business environment that is accompanied by rapid changes, there is an urgent need for effective methods to prevent and control fraud.

Hence, the increasing number of business scandals worldwide has expanded the need for forensic accounting. Alshurafat et al.^[3] state that one of the strengths of forensic accounting can be its advantages for accounting students and professionals in the field of creating new career channels and reducing fraud, and its weaknesses can be the lack of regulations, lack of control over entering the profession, lack of agreement in The case of teaching legal accounting, the lack of specialized research journals, the misconception of its inherent purpose, the lack of experienced professionals and trainers, and its general lack of recognition among countries. Webster's Dictionary in 2019 defines forensic accounting as applying scientific knowledge to solve legal problems by judicial experts. Here, judicial experts mean accountants. An accountant is helpful by providing ongoing financial advice, processing and analyzing financial data, reporting findings to business managers, supporting and ensuring financial compliance with the law, monitoring financial performance, and monthly or quarterly accounts reviews. It prevents fraud. In addition, the forensic accountant uses accounting and auditing techniques financial and research skills to comment on uncertain issues. In forensic accounting, auditors and accountants are more skeptical than those investigating corporate financial crimes^[4]. Independent legal auditors and accountants to deal with financial crimes examine the company's financial and accounting documents to ensure their accuracy and correctness, and their goal is to identify any financial fraud and non-disclosure of financial claims. Due to this high information capacity, auditors and accountants may sometimes face some doubts. They have also developed specialized skills, techniques and tools to use established and investigate suspicious situations, such as vertical or horizontal relationship analysis, correlation analysis, trend analysis, and data mining software^[5].

Specifically, the contribution of this article to the forensic accounting literature is to investigate the role of organizational managers in using forensic accounting services to detect and prevent fraud in Iran and Iraq. This study examines the skills of Iranian and Iraqi employees in forensic accounting procedures, including fraud detection, fraud investigation, claim support systems, digital forensic accounting, asset tracking, internal control system assessment, loss measurement, fraud risk management, and assurance strategy development. from compliance with regulations, legal actions, fraud training, and anti-fraud procedures, as well as assessing their willingness to use damage assessment, profit and loss, valuation services, and fraud services. Considering executive managers' role in using forensic accounting to reduce fraud in organizations, this research will give a new perspective to legislators and politicians to formulate laws and standards to prevent fraud. In general, the results of the present study show that Iranian and Iraqi managers are aware of the use of forensic accounting to detect and prevent fraud, but they may have different goals regarding how to use forensic accounting. Iraqi managers focus more on using forensic accounting to evaluate and

improve internal control systems, while Iranian managers focus more on identifying and investigating suspicious situations. The reason for these differences may be various factors, such as cultural differences, differences in accounting regulations and standards, and differences in their organizational structure. In addition, inaccurate results can help the business choose capable and efficient managers to use forensic accounting to prevent fraud effectively and create a comprehensive understanding of the strengths and advantages of forensic accounting. In the continuation of the research, the foundations and existing literature and backgrounds are stated. The research method is described, and then the data analysis in terms of demographics and the statistical findings of the research questions are stated. Finally, the results of the analysis and Interpretation of the data and practical suggestions for the research are provided.

2. Theoretical principles and statement of questions

2.1. Fraud

Fraud is a complex, predetermined, and planned process or device, usually carried out by a person or group of people to deceive another person or organization to obtain an illegal benefit^[6]. In addition, fraud is a deceptive act intentionally planned to get an illegal or unfair advantage, and the conduct of such a fraudulent process will harm other beneficiaries. The American Association of Fraud Examiners has accepted a comprehensive definition of fraud and says: “Fraud includes all the various tools that are man-made, and one person uses it to gain an advantage over another through false advice or concealment of the truth.

According to Özkul and Pamukçu^[7], the goals of financial statement fraud are to increase the business's market value, match the financial statements with the budget, and obtain unfair profits by misrepresenting the value of the business. Accounting fraud knowingly falsifies accounting records, such as sales or expense records, used to increase net income or profit in financial statements. Fraud in accounting processes is illegal and exposes the company and executives to civil lawsuits^[8]. Managers who intend to cheat in their financial statements and reports present more complex reports with less readability to hide their opportunistic behavior^[9]. Discovering and predicting the occurrence of fraud in business units is one of the most effective ways to take advantage of investment opportunities and prevent waste of resources^[10]. Failure to properly implement the unit's legal accounting and financial reporting systems under review and not defining appropriate controls, including financial controls, controls related to compliance with laws, and risk warning controls, causing and recording any fraud and misuse of the company's financial and non-financial resources. As a result, the factors affecting fraud and the implementation of its prevention methods are essential for the efficiency and effectiveness of these methods.

2.2. Legal accounting

Forensic accounting can be defined as a challenging discipline that fundamentally interacts with auditing, economics, finance, information systems, and law. The profession conforms and must meet essential criteria such as independence and commitment to be recognized as a profession. Davia^[11] opined that forensic accountants would continue to exist in line with economic crime and fraud perpetrators, branch inspectors, and prosecutors and assisting them. The existence of legal accounting will make fraud, management fraud, administrative corruption, fraud in salaries, and embezzlement of assets traceable. Asogwa^[12] states that forensic accounting is a discipline that is suitable for legal review, provides the highest level of assurance, and includes the newly accepted concept of reaching the scientific method and providing the findings needed to resolve disputes. Forensic accountants calculate values, draw conclusions, and identify irregular patterns or suspicious transactions by critically analyzing financial data^[13]. Forensic accounting requires

reporting accountability for fraud if proven, and the report is considered as evidence in administrative proceedings or a court of law. Forensic accountants with appropriate training, education, and experience can help organizations and departments responsible for enforcement, recovery, audit committees, regulations, and financial statement audit teams to increase their responsibilities^[14]. Forensic accounting encompasses all branches of accounting knowledge^[15] and includes two main components: investigative services and litigation services^[16]. Therefore, forensic accounting may cover a wider area of fraud auditing, such that fraud auditing is considered a subset of forensic accounting^[17]. Forensic accounting is a social and professional activity combining accounting, auditing, law, values, and specific functions. Forensic accounting can detect bank fraud, embezzlement, insurance fraud, money laundering, fraud in securities and goods, tax evasion, cybercrimes, and commercial evaluation^[3,18].

2.3. Relationship between forensic accounting and fraud avoidance

Forensic accounting is the branch of legal science that looks at a company's financial records to see if there is fraud. The combination of audit strategy and techniques with the accounting profession led to the creation of a specialty called "forensic accounting" that focuses on preventing and determining accounting fraud^[22,23]. Ozuomba et al.^[24] view forensic accounting as using accounting, auditing, and investigative skills to assist in legal matters and applying specialized knowledge to evidence economic transactions and appropriate reporting for court proceedings and accountability. In recent years, fraudulent financial reporting has significantly affected market participants, including investors, creditors, pensioners, and employees. Investors, creditors, regulators, and other stakeholders rely on the accuracy of financial statements to make economic decisions about a company^[4]. However, although the amount of fraud in financial statements has decreased in recent years, the occurrence of fraud can significantly impact the global economy^[19]. In this regard, financial corruption is one of the topics that has become a political issue in industrialized countries and has been widely noticed by economists and experts at the macro level. According to Gottlieb^[20], when Enron faced a financial scandal in America and the company's capital was lost, auditors had duties such as supporting investors, pension funds, employees, and insurance companies. Due to the fraud of the company's auditors, it was exposed to bankruptcy. Therefore, one of the fundamental problems in today's world is fraud. Fraud is an illegal and unethical act used to deceive people who need information and make decisions accordingly. Usually, it leads to financial loss for the shareholders^[21]. Since all companies and business units worldwide are dealing with this issue, paying attention to legal accounting has become a vital factor in solving this issue.

Forensic accountants effectively change the extent and nature of the audit test when the risk of management fraud is high. Forensic accountants suggest unique procedures that auditors do not offer. Forensic accountants can use various methods when the risk of management fraud is high. Determine the effectiveness of an audit plan so that it can have the best results in the fraud risk assessment process, which leads to better results than just consulting with them^[25]. Legal accountants can be more efficient than auditors and discover more frauds than others. Legal audit methods significantly reduce the risks of fraud. In addition, proactive forensic data analysis using sophisticated computer-based analytical tests can detect fraud that may go unnoticed for years.

Many studies have been done in this field, the findings of Mirinaviciene^[26] show that most studies have concluded that strong internal controls are an influential factor in financial reporting and fraud prevention and detection. This research found that most companies focus on detecting fraud while preventing fraud and implementing proper internal controls, and preventing it is better than financial language after the fraud occurs. In addition, Othman et al.^[27] in a study aimed at

identifying the methods of detecting and preventing fraud and corruption in the public sector in Malaysia from the point of view of accountants. In this research, using structured questionnaires on a sample of accountants and internal auditors from the Malaysian public sector, it was determined that operational auditing, increasing the audit committee's role, improving internal controls, implementing fraud reporting policies, employee turnover, and reporting lines. Fraud and forensic accountants are the most effective fraud detection and prevention methods in the Malaysian public sector. Zager et al.^[28] concluded that fraudulent activities such as fraudulent financial statements and misuse of assets bring high losses for companies. According to this research, the most common technique for fraudulent financial reporting, including exaggeration of assets, was identified and suggested that companies should design and implement robust internal control systems. Also, determine the role and responsibilities of all parties in financial reporting in fraud prevention and detection. In their study, Clavería Navarrete and Carrasco Gallego^[4] addressed the issue of whether forensic accounting techniques and tools can help prevent fraud in financial statements. The results indicate that legal accounting techniques and tools can help prevent fraud in financial reporting.

Therefore, the main issue is posed as follows:

How much do managers use forensic accounting services to detect and prevent fraud?

Based on this question, the following questions are raised:

RQ1: To what extent do managers use forensic accounting?

RQ2: What types of forensic accounting services are used by managers?

RQ3: Do managers desire to use the services of damage, loss, and profit assessment by forensic accounting?

RQ4: Do managers tend to use valuation services provided by forensic accounting?

RQ5: Do managers tend to use the services of auditing negligence in accounting matters by forensic accounting?

RQ6: Do managers tend to use fraud services by forensic accounting?

RQ7: How willing are managers to continue using forensic accounting services?

3. Research methodology

The research methodology employed in this study is predominantly quantitative, aiming to investigate the role of organizational managers in utilizing legal accounting services for fraud detection and prevention in Iran and Iraq.

Data analysis is particularly important for examining questions and testing hypotheses for any research. Therefore, the raw data has been analyzed using statistical techniques and tests, and after processing, it is provided to users in the form of information. In this article, the collected data has been analyzed descriptively and inferentially. In the inferential part, using one-step confirmatory factor analysis using Amos Graphic software, the validity of the questionnaire is checked. Then, the research questions are examined using the single-variable *t*-test.

In this research, in order to measure the hypotheses, the researcher made a questionnaire that includes 7 sections of personal information, the primary skills that a legal accountant should have, legal accounting services, managers' opinion about fraud and internal control factors, institutional factors and other factors, and the intention to use the accounting service is legal, it has been used.

The information required for evaluation and measurement using a questionnaire and in a field form from the statistical population including 203 people, including all executive directors, financial affairs manager/chief financial affairs officer, managing director, president/supervisor/internal audit manager, company resource manager and head/supervisor/manager of the internal control team of public companies in Iran and Iraq, which

includes the listed companies of these two countries, has been collected for the year 2022. Then this information is summarized in the excel file and then this information is entered into Amos Graphic software and will be analyzed. In addition, due to the unavailability of all business unit managers to publish the questionnaire, several managers will be selected as a sample using the Cochran^[33] sampling method.

The questionnaires were distributed to the selected participants in a strategic manner. This process involved contacting the participants through various channels, such as email, in-person meetings, and electronic platforms.

In general, the step-by-step steps of this study are as follows: determining the target population and sample used, developing a questionnaire, distribution of the questionnaire, collecting data, data analysis, interpretation of results.

4. Data analysis and research findings

4.1. Descriptive study of statistical sample data

4.1.1. Descriptive analysis of the statistical sample in terms of job title

According to **Table 1**, the job of most of the Iraqi and Iranian respondents is the head/supervisor/director of internal audit. Most Iraqi and Iranian respondents have a master's degree and most Iranian respondents are 31 to 35, and Iraqis are less than 30. Most respondents' service type is government.

Table 1. Frequency distribution of respondents.

Job title	Iran		Iraq	
	Frequency	Percentage	Frequency	Percentage
Administration manager	30	14.78	5	5.49
Director of financial affairs/chief of financial affairs	14	6.90	6	6.59
CEO	30	14.78	10	10.99
Chief/supervisor/director of internal audit	15	7.39	3	3.30
Company resource manager	29	14.29	16	17.58
Chief/supervisor/director of internal audit	75	36.95	51	56.04
Head/supervisor/manager of the internal control team	10	4.93	0	0.00
Total	203	100.00	91	100.00
Education				
Associate degree	12	5.91	7	7.69
Bachelor	56	27.59	39	42.86
Masters	123	60.59	40	43.96
Ph.D.	12	5.91	5	5.49
Total	203	100.00	91	100.00
Age				

Less than 30 years	61	30.05	39	42/86
31 to 35 years	76	37.44	32	35.16
36 to 40 years	31	15.27	10	10.99
41 to 45 years	22	10.84	5	5.49
46 to 60 years	13	6.40	5	1.10
Service type				
Governmental	102	50.25	61	67.03
Private	40	19.70	9	9.89
Non profit	61	30.04	21	23.08
Total	203	100.00	91	100.00

4.1.2. Descriptive study of a statistical sample of the current provision of internal audit services at the workplace

According to the results of the **Table 2**, most of the Iranian respondents think that the internal audit function is performed internally and within the organization, it is partially outsourced, and sometimes it is wholly outsourced and performed through shared services, as well in the company/institution, there is a team or group to prevent fraud. In addition, most Iraqi respondents think the internal audit function is performed internally and within the organization. It is not outsourced to some extent; sometimes, it is entirely outsourced. It is also not done through shared services and in the company. There is a target institution, team, or group to prevent fraud.

Table 2. Frequency distribution of respondents according to the current provision of internal audit services at the workplace.

		Iran		Iraq	
		Frequency	Percentage	Frequency	Percentage
Is the internal audit function performed internally and within the organization?	Yes	107	52.710	63	69.230
	No	96	47.290	28	30.770
	Total	203	100.000	91	100.000
Is the internal audit function partially outsourced?	Yes	109	53.690	45	49.450
	No	94	46.310	46	50.550
Is the internal audit function completely outsourced?	Yes	103	50.740	48	52.750
	No	100	49.260	43	47.250
Is the internal audit function performed through shared services?	Yes	107	52.710	43	47.250
	No	96	47.290	48	52.750
Is there a team or group to prevent fraud in your company/institution?	Yes	105	51.720	59	64.840
	No	98	48.280	32	35.160

4.1.3. Descriptive study of the statistical sample in terms of the number of employees of the anti-fraud team/unit

According to the **Table 3**, the number of employees of the anti-fraud team/unit of most of the Iranian and Iraqi respondents is less than ten people.

Table 3. Frequency distribution of Iranian and Iraqi respondents according to the number of anti-fraud team/unit employees.

The number of employees of the anti-fraud team/unit	Iran			Iraq		
	Frequency	Percentage	Valid percentage	Frequency	Percentage	Valid percentage
Less than 10 people	64	31.530	61.000	29	31.870	49.200
11 to 15 people	16	7.880	15.200	18	19.780	30.500
16 to 20 people	1	0.490	1.000	5	5.490	8.500
21 to 25 people	17	8.370	16.200	4	4.400	6.800
26 to 30 people	5	2.460	4.800	1	1.100	1.700
More than 35 people	2	0.990	1.900	2	2.200	3.400
Total	105	51.720	100.000	59	64.840	100.000
Unanswered	98	48.280		32	35.160	
Total sum	203	100.000		91	100.000	

4.1.4. Descriptive examination of the primary skill that a legal accountant should have

According to the **Table 4**, according to Iranian managers, “diagnosing and gathering evidence regarding the subject under investigation” is the most critical skill a legal accountant must have. According to Iraqi managers, “auditing skills” is the most crucial skill a legal accountant should have.

Table 4. Examining the average score of the primary skill that a legal accountant should have according to Iranian and Iraqi respondents.

Skills	Iran		Iraq	
	Frequency	Percentage	Frequency	Percentage
Audit skills	3.581	1.472	3.527	1.259
problem solving skills	3.542	1.480	3.374	1.496
Critical/strategic thinking	3.468	1.510	3.033	1.538
Research skills	3.330	1.423	3.143	1.457
Effective oral communication	3.335	1.543	3.308	1.511
Doubts	3.483	1.422	3.209	1.321
Effective written communication	3.369	1.448	3.044	1.534

Simplify information	3.369	1.495	2.989	1.487
Identify key issues	3.374	1.448	3.121	1.497
Think like a sinner	3.143	1.430	2.824	1.395
Research ability	3.128	1.376	3.143	1.589
Understanding the objectives of the case and the subject of investigation	3.517	1.366	3.000	1.599
Identification and collection of evidence regarding the subject under investigation	3.823	1.226	3.352	1.537
Synthesis of research results	3.350	1.361	3.121	1.604

4.1.5. Examining the frequency distribution of respondents according to the use of legal accounting at present or in the past

According to the **Table 5**, according to the results of the above table, most of the Iranian and Iraqi respondents believe that they are currently using legal accounting services or have already done so.

Table 5. Frequency distribution of respondents according to the use of legal accounting services.

Response	Iran		Iraq	
	Frequency	Percentage	Frequency	Percentage
Yes	172	84.730	75	82.420
No	31	15.270	16	17.580
Total	203	100.000	91	100.000

4.1.6. Descriptive study of the frequency distribution of respondents according to the use of legal accounting during the last year or before

According to the results of the **Table 6**, most of the Iranian respondents believe that forensic accounting services include fraud prevention systems, fraud detection, fraud investigation and inspection, digital legal expertise including data mining, data imaging, and recovery, asset tracking and retrieval, determination of values claims, fraud risk management, development of regulatory compliance strategies, prosecutions, fraud training have been used for over a year. Most Iraqi respondents believe they have used fraud prevention, fraud detection, and fraud training system accounting services for over a year.

Table 6. Frequency distribution of respondents according to whether they used legal accounting services during the last year or before.

		Iran		Iraq	
Forensic services	accounting	Frequency	Percentage	Frequency	Percentage
Fraud prevention system	Over the past year	78	45.350	36	48.000
	More than a year ago	94	54.650	39	52.000
	Total	172	100.000	75	100.000

Fraud detection	Over the past year	57	34.340	35	47.300
	More than a year ago	109	65.660	39	52.700
Fraud investigation and inspection	Over the past year	73	42.440	37	50.680
	More than a year ago	99	57.560	36	49.320
Digital forensics including data mining, data imaging and recovery	Over the past year	80	47.900	39	52.700
	More than a year ago	87	52.100	35	47.300
Asset tracking and recovery	Over the past year	78	45.880	30	40.540
	More than a year ago	92	54.120	44	59.460
Evaluation and improvement of the internal control system	Over the past year	89	52.660	35	47.950
	More than a year ago	80	47.340	38	52.050
Determining the amount of damage	Over the past year	79	48.170	37	50.000
	More than a year ago	85	51.830	37	50.000
Fraudrisk management	Over the past year	68	39.530	38	52.050
	More than a year ago	104	60.470	35	47.950
Develop regulatory compliance strategies	Over the past year	85	49.420	43	57.330
	More than a year ago	87	50.580	32	42.670
Legal prosecutions	Over the past year	74	44.580	37	50.000
	More than a year ago	92	55.420	37	50.000
Fraud training	Over the past year	79	49.070	31	41.330
	More than a year ago	82	50.930	44	58.670
Review of current anti-fraud procedures	Over the past year	83	51.230	43	58.900
	More than a year ago	79	48.770	30	41.100

4.1.7. Descriptive study of the level of satisfaction with the quality and the level of willingness to use the services provided by forensic accounting

According to the **Table 7**, the average level of satisfaction with the quality of services provided by legal accounting and the level of willingness to use the services provided by legal accounting is

higher than the average number of 3. Iranians are more satisfied with the quality of services provided by forensic accounting than Iraqis. Also, Iranians are more willing than Iraqis to use the services provided by forensic accounting.

Table 7. Descriptive survey of the level of satisfaction with the quality and the level of willingness to use the services provided by forensic accounting.

	Iran		Iraq	
	Mean	Standard deviation	Mean	Standard deviation
Descriptive level of satisfaction with service quality	3.750	1.044	3.667	1.044
Willingness to use the service in the future	3.459	1.357	3.213	1.398

4.1.8. Descriptive study of managers' opinions about legal accounting services

According to the **Table 8**, we will examine the statements of Iranian and Iraqi managers. According to Iranian managers, the average "evaluation of the effectiveness of forensic accounting services to detect and prevent fraud before obtaining the services is difficult." It is more than other cases. According to Iraqi managers, the average "forensic accounting services help recover cash and assets that have been embezzled" is higher than others. According to the **Table 8**, the opinions of Iranian and Iraqi managers on the issues, if the executives are victims of fraud, the financial loss will likely be severe, the impact on the prestige of the executives will likely be profound, the effect on the morale of the employees will likely be severe. If it were, the impact on the efficiency and productivity of my executives would likely be profound, and the cost of investigation and prosecution would likely be high, more so than in other cases. According to Iranian managers, "executive managers delegate appropriate levels of authority and responsibilities to management and employees to facilitate effective internal control." It is more than other cases. According to Iraqi managers, two factors: "executives have an effective and up-to-date strategy to deal with fraud." and "at the executive level, the number of staff and resources dedicated to dealing with fraud are sufficient." It is more than other cases. According to Iranian and Iraqi managers, "recommendations of external auditors" are more important than other factors influencing the managers' decision to use forensic accounting services. The intention of Iranian managers to use legal accounting services to prevent fraud in the "donation fraud" field is more than in other cases. Iraqi managers intend to use forensic accounting services to prevent fraud in "fraud risk management" more than in other cases.

Table 8. Descriptive study of manager's opinions about legal accounting services.

Examining managers' beliefs about Iranian and Iraqi legal accounting services

Skills	Iran		Iraq	
	Mean	Standard deviation	Mean	Standard deviation
Using forensic accounting services helps prevent fraud	3.133	1.304	3.330	1.430
Using their forensic accounting services enhances my local authority	3.246	1.226	3.374	1.372

Forensic accounting services help recover cash and assets that have been embezzled	3.103	1.348	3.725	1.212
Legal accountants have more objectivity and credibility than internal auditors in detecting and preventing fraud	2.980	1.368	3.604	1.452
Forensic accountants have accounting expertise and executive knowledge in dealing with fraud	3.182	1.195	3.242	1.311
Using forensic accounting services can improve the internal control system	3.236	1.366	3.187	1.382
Using forensic accounting services can cause confidentiality problems for executives	2.941	1.416	3.132	1.360
Forensic accounting services are very expensive	3.232	1.294	3.407	1.247
The cost of using legal accounting services affects the decision of executives to use their services	3.030	1.407	3.165	1.302
Executive directors cannot pay for legal accounting services	3.044	1.343	3.121	1.365
Forensic accounting services cannot guarantee the detection and prevention of fraud	3.261	1.300	3.176	1.313
It is difficult to assess the effectiveness of forensic accounting services to detect and prevent fraud before the services are obtained	3.320	1.305	3.220	1.263
The role of forensic accounting services in detecting and preventing fraud is informative	3.182	1.283	3.099	1.317
I am aware of the benefits of using legal accounting services	3.074	1.338	3.143	1.472
I am aware of the risks of using legal accounting services	3.232	1.397	3.242	1.417
The promotion of forensic accounting services drives my executives to use the service	3.246	1.382	3.209	1.434
Forensic accounting firms can provide high-quality services	3.232	1.290	3.231	1.391
The existence of many legal accounting service providers in the market encourages executives to use their services	3.118	1.315	3.264	1.421
In general, the executive managers' understanding of legal accounting is positive	3.177	1.300	3.176	1.450
Examining managers' opinions about accounting services related to preventing Iranian and Iraqi				

fraud

Skills	Iran	Iraq	Mean	Standard deviation
	Mean	Standard deviation		
If executives are victims of fraud, financial loss is likely to be serious	3.542	1.279	4.022	1.265
The effect on the reputation of the executive directors will likely be serious				
The impact on employee morale is likely to be serious				
The effect on the efficiency and productivity of my executive managers is likely to be serious				
The cost of investigation and prosecution will likely be high				
Executives are often worried about falling victim to fraud	3.227	1.250	3.253	1.532
CEOs are less likely to fall victim to fraud	3.108	1.304	3.363	1.243
Compared to other CEOs, the risk of my CEO cheating is lower	3.025	1.280	3.264	1.397
Establishing a fraud investigation service provides benefits to counter fraudulent activities in executives	3.167	1.219	3.297	1.378
My executives share fraud data and information with other executives	3.212	1.364	3.066	1.413
The ineffectiveness of the audit committee has had a negative effect on the anti-fraud activities of the executives	3.251	1.354	3.242	1.319
Fraud awareness campaign is an important tool to prevent and prevent fraud in executives	3.320	1.317	3.308	1.331
A standard definition of fraud that all executives can use should be developed to create a more reliable picture of fraud and appropriate allocation of anti-fraud resources for executives	3.128	1.295	3.154	1.414
Other local institutions, such as the Organization for Inspection and Protection of Organizations, which are considered effective in dealing with fraud, lead executives to use forensic accounting services	3.118	1.249	3.231	1.351
The lack of anti-fraud standards at the national	3.108	1.349	3.055	1.328

level affects the decision of executives to detect and prevent fraud

An outside contractor's judgment of fraud, such as a forensic accounting firm, is likely to be unbiased

Examining the opinion of managers about the level of implementation of the services of Iranian and Iraqi accounting internal control agents

Skills	Iran	Iraq	Mean	Standard deviation
	Mean	Standard deviation		
Organizational structure supports executives to implement effective internal control methods	3.143	1.268	2.989	1.269
Executive directors delegate appropriate levels of authority and responsibilities to management and employees to facilitate effective internal control	3.310	1.250	3.220	1.365
The audit committee supervises the executive directors in the implementation of risk management, effective governance, and anti-fraud arrangements	3.246	1.262	3.264	1.307
There is a significant number of independent members in the audit committee	3.187	1.340	3.000	1.342
At least one audit committee member is a financial expert, such as a qualified accountant or financial professional	3.099	1.411	3.132	1.318
The audit committee at my local authority has a regular meeting with the internal auditors	3.133	1.222	3.066	1.356
The Audit Committee in Executive Directors recommends using forensic accounting services to detect and prevent fraud	3.030	1.364	3.143	1.346
Executives have an effective and up-to-date strategy to combat fraud	3.182	1.415	3.275	1.248
In executives, the number of employees and resources allocated to deal with fraud is sufficient	3.138	1.247	3.275	1.184
In executives, those who work to combat fraud have received specialized professional training and accreditation	3.128	1.248	2.868	1.352
The effectiveness of internal fraud investigation in my executives is very high	3.034	1.268	3.066	1.218

It is difficult to estimate the total economic cost of executive fraud	3.148	1.315	3.209	1.234
Executives can retain (or hire) people with the necessary skills.	2.980	1.364	3.264	1.474
Executives regularly assess the strength of anti-fraud cultures	3.000	1.320	3.165	1.393
Examining managers' opinions about the importance of institutional factors and other factors in influencing managers' decisions				
	Iran	Iraq		
Skills	Mean	Standard deviation	Mean	Standard deviation
Government guidelines, laws, and policies	3.586	1.159	3.429	1.292
Initiatives and action plans by the government to reduce cases of fraud	3.458	1.215	3.286	1.360
The following bodies issue fraud reports: o Audit Commission, Ministry of Labor, and Retirement	3.197	1.274	3.286	1.285
Use of legal accounting services by other executives	3.172	1.284	3.165	1.424
High success rate received by other executives when using forensic accounting services	3.291	1.239	3.264	1.272
Recommendations of professional organizations such as: o Authorized Financial and Public Accounting Institute, Institute of Chartered Accountants, Anti-Fraud Institute	3.005	1.326	3.363	1.362
Stakeholder pressures: o Elected councilors, taxpayers/local residents/voters, senior management, and business partners	3.054	1.321	3.198	1.376
Recommendations of external auditors	3.700	1.105	3.473	1.344
Audit commission recommendations	3.458	1.178	3.363	1.312
Recommendations from staff who hold a professional membership or relevant qualification in accounting and fraud	3.473	1.279	3.231	1.430
News, publications, and discussions about scams from o TV, radio, newspapers/magazines, and online news	3.207	1.245	3.319	1.497

Online social networks such as LinkedIn, Facebook, Twitter

Examining the opinions of managers about the extent of intention to use legal accounting services to prevent fraud

Skills	Iran		Iraq	
	Mean	Standard deviation	Mean	Standard deviation
Fraud prevention system	3.256	1.220	3.187	1.460
Fraud detection	3.419	1.222	3.571	1.359
Fraud investigations	3.296	1.263	3.516	1.393
Claims support and expert witness	3.458	1.122	3.341	1.368
Digital forensic accounting including data mining, data imaging and retrieval	3.300	1.287	3.418	1.184
Asset tracking and recovery	3.419	1.226	3.418	1.317
Evaluation and improvement of the internal control system	3.532	1.268	3.593	1.238
Amount of damage or loss	3.473	1.317	3.505	1.268
Fraud risk management	3.438	1.255	3.648	1.286
Develop a regulatory compliance strategy	3.443	1.156	3.462	1.302
Legal prosecutions	3.488	1.252	3.385	1.428
cheat training	3.522	1.183	3.352	1.401
Review of current anti-fraud procedures	3.424	1.262	3.560	1.352
Housing rental fraud	3.148	1.254	3.352	1.393
Wage fraud	3.463	1.127	3.374	1.411
Tax fraud	3.586	1.221	3.538	1.455
Donation fraud	3.601	1.118	3.484	1.353
Pension fraud	3.404	1.264	3.451	1.327
Internet Fraud.Cybercrime	3.493	1.031	3.363	1.312
Internal fraud (including management fraud)	3.340	1.230	3.330	1.415

4.1.9. Investigating the normality of the main variables of the research separately from Iran and Iraq

In this section, using the Kolmogorov-Smirnov test, the normality of the main variables is checked separately for Iran and Iraq.

According to the **Table 9**, the significance level value for all variables in Iran is more significant than 0.05, so it can be said with 95% confidence that the variables are normal. The value of the significance level for all variables in Iraq is more significant than 0.05, so it can be said with

95% confidence that the variables are standard.

Table 9. Examining the normality of the variables separately for Iran and Iraq.

Variables	Iran		Iraq	
	Test statistic	Significance level	Test statistic	Significance level
The amount of use of legal accounting	0.938	0.343	1.030	0.239
Willingness to use damage, loss, and profit assessment services	1.221	0.085	1.180	0.123
Willingness to use valuation services	1.219	0.086	0.740	0.644
Willingness to use negligence review services	1.227	0.071	0.820	0.512
Willingness to use fraudulent services	1.304	0.061	1.321	0.055
The degree of willingness to continue using legal accounting services	1.304	0.061	0.915	0.373

4.2. Inferential statistics

Examining research questions

Examining the first research question

First question: To what extent do managers use legal accounting?

Table 10. The results of the univariate *t*-test to examine the first question.

Variable	Country	Mean	Standard deviation	<i>T</i> statistic	Degree of freedom	Significance level
Range of use of forensic accounting	Iran	3.433	0.842	7.336	202	0.000
	Iraq	3.413	1.077	3.658	90	0.000

According to the **Table 10**, the significance level value for legal accounting use in Iranian managers' opinion equals 0.000 and less than 0.05. the average is equal to 3.433 and is greater than the number 3, and the significance level value for the amount The use of legal accounting, according to Iraqi managers, is equal to 0.000 and less than 0.05. Also, the average equals 3.413 and more than 3, so it can be said with 95% confidence that Iranian and Iraqi executive managers broadly use legal accounting.

Examining the second research question

Second question: What type of legal accounting services are used by managers?

To examine the second question of the research, the single-variable *t*-test is used according to the normality of the variable of the use of legal accounting. The results of this test for each of the services used by managers are presented in the **Table 11**.

Table 11. The results of the univariate *t*-test to examine the second question.

Service used by managers	Country	Mean	Standard deviation	<i>T</i> statistic	Degree of freedom	Significance level	Usage
Fraud prevention system	Iran	3.256	1.220	2.991	202	0.003	High

	Iraq	3.187	1.460	1.221	90	0.225	Average
Fraud detection	Iran	3.419	1.222	4.884	202	0.000	High
	Iraq	3.571	1.359	4.010	90	0.000	High
Fraud investigation	Iran	3.296	1.263	3.334	202	0.001	High
	Iraq	3.516	1.393	3.536	90	0.001	High
Claims support and expert witness	Iran	3.458	1.122	5.816	202	0.000	High
	Iraq	3.341	1.368	2.375	90	0.020	High
Digital forensic accounting including data mining, data imaging and retrieval	Iran	3.300	1.287	3.326	202	0.001	High
	Iraq	3.418	1.184	3.365	90	0.001	High
Asset tracking and recovery	Iran	3.419	1.226	4.868	202	0.000	High
	Iraq	3.418	1.317	3.024	90	0.003	High
Evaluation and improvement of the internal control system	Iran	3.532	1.268	5.980	202	0.000	High
	Iraq	3.593	1.238	4.572	90	0.000	High
Amount of damage or loss	Iran	3.473	1.317	5.114	202	0.000	High
	Iraq	3.505	1.268	3.802	90	0.000	High
Fraud risk management	Iran	3.438	1.255	4.979	202	0.000	High
	Iraq	3.648	1.286	4.811	90	0.000	High
Develop a regulatory compliance strategy	Iran	3.443	1.156	5.463	202	0.000	High
	Iraq	3.462	1.302	3.381	90	0.001	High
Legal prosecutions	Iran	3.488	1.252	5.549	202	0.000	High
	Iraq	3.385	1.428	2.569	90	0.012	High
Cheat training	Iran	3.522	1.183	6.289	202	0.000	High
	Iraq	3.352	1.401	2.394	90	0.019	High
Review of current anti-fraud procedures	Iran	3.424	1.262	4.784	202	0.000	High
	Iraq	3.560	1.352	3.955	90	0.000	High

According to the **Table 11**, the significance level value for using the fraud prevention system according to Iranian managers is equal to 0.003 and less than 0.05. Also, the mean is equal to 3.256 and is greater than 3. The significance level value for the amount of use of the fraud prevention system, according to Iraqi managers, it is equal to 0.225 and more than 0.05, so it can be said with 95% confidence that Iranian and Iraqi executives use the fraud prevention system to an average extent.

The significance level value for the use of fraud detection, according to Iranian managers, is equal to 0.000 and less than 0.05. Also, the mean is 3.419 and is greater than 3. The significance level value for the use of fraud detection, According to Iraqi managers, it is equal to 0.000 and less

than 0.05. also, the average is equal to 3.571 and more than 3, so it can be said with 95% confidence that Iranian and Iraqi executive managers are far from discovering They use fraud.

The significance level value for the amount of use of fraud investigations in the opinion of Iranian managers is equal to 0.001 and less than 0.05 also, the mean is equal to 3.296 and is greater than 3, and the value significance level for the amount of use of fraud investigations According to Iraqi managers, it is equal to 0.001 and less than 0.05, also the average is equal to 3.516 and more than 3, so it can be said with 95% confidence that Iranian and Iraqi executive managers have a great deal of research. They use fraud.

According to Iranian managers, the significance level value for using claims support and expert witness equals 0.000 and less than 0.05. Also, the average is equal to 3.458 and is more than 3. The value of the significance level for use According to Iraqi managers, it is equal to 0.000 and less than 0.05 from the support of lawsuits and expert witnesses also the average is equal to 3.341 and more than 3, so it can be said with 95% confidence that Iranian executive managers and Iraqis primarily use the support of lawsuits and expert witnesses.

The significance level value for the amount of use of digital legal accounting, including data mining, data imaging, and recovery, according to Iranian managers, is equal to 0.020 and less than 0.05, the average is equal to 3.300 and more than 3, and The significance level value for the amount of use of digital forensic accounting, including data mining, data imaging and recovery, according to Iraqi managers is equal to 0.001 and less than 0.05, also the average is equal to 3.418 and more than 3, so It can be said with 95% certainty that Iranian and Iraqi executives use digital forensic accounting to a large extent, including data mining, data imaging and recovery.

According to Iranian managers, the significance level value for asset tracking and recovery use is equal to 0.001 and less than 0.05. the average is equal to 3.419 and is greater than 3. According to Iraqi managers, the significance level for asset tracking and recovery use is equivalent to 0.000 and less than 0.05. Also, the average equals 3.418 and more than 3, so it can be said with 95% confidence that Iranian and Iraqi executives are widely used in asset tracking and recovery.

According to Iranian managers, the significance level value for evaluating and improving the internal control system equals 0.000 and less than 0.05. Also, the average is equal to 3.532 and more than 3, and the significance level value for the amount The use of evaluation and improvement of the internal control system according to Iraqi managers is equal to 0.003 and less than 0.05. Also, the average is equal to 3.593 and more than 3, so it can be said with 95% confidence that executive managers Iranian and Iraqi use, to a great extent, the evaluation and improvement of the internal control system.

According to Iranian managers, the significance level value for damage or loss equals 0.000 and less than 0.05. the average is equal to 3.473 and is greater than the number 3, and the value of the significance level for the amount of use of according to Iraqi managers, the amount of damage or loss is equal to 0.000 and less than 0.05, also the average is equal to 3.505 and more than 3, so it can be said with 95% confidence that Iranian and Iraqi executive managers They mostly use the amount of damage or loss.

The significance level value for using fraud risk management, in the opinion of Iranian managers, is equal to 0.000 and less than 0.05. Also, the mean is equal to 3.473 and is greater than 3, and the significance level value for fraud management. According to Iraqi managers, the risk of fraud is equivalent to 0.000 and less than 0.05. Also, the average is equal to 3.505 and more than 3, so it can be said with 95% confidence that Iranian and Iraqi executives essentially use fraud risk management.

According to Iranian managers, the significance level for the use of the development of

compliance strategy is equal to 0.000 and less than 0.05. Also, the average equals 3.443 more than the number 3 and the significance level value for use. From the perspective of Iraqi managers, developing a compliance strategy is equal to 0.000 and less than 0.05. Also, the average is equal to 3.462 and more than 3, so it can be said with 95% confidence that Iranian executive managers and Iraqis greatly benefit from developing a regulatory compliance strategy.

The significance level value for the use of legal prosecutions in the opinion of Iranian managers is equal to 0.000 and less than 0.05. Also, the average is equal to 3.488 and is greater than 3. According to Iraqi managers, the significance level for legal prosecutions is equivalent to 0.000 and less than 0.05. the average is equal to 3.385 and more than 3, so it can be said with 95% certainty that Iranian and Iraqi executives are primarily free from persecution. They use it legally.

According to Iranian managers, the significance level value for using fraud training is equal to 0.000 and less than 0.05. Also, the mean is 3.522 and more than 3, and the significance level value for using fraud training. According to Iraqi managers, it equals 0.019 and less than 0.05. Also, the average is equal to 3.352 and more than 3, so with 95% confidence, we can say that Iranian and Iraqi executive managers have an excellent education. They use fraud.

The value of the significance level for the rate of use of checking the current anti-fraud procedures in the opinion of Iranian managers is equal to 0.000 and less than 0.05. Also, the average is equal to 3.424. It is greater than the number 3 and the significance level value for the amount. According to Iraqi managers, checking the current anti-fraud procedures equals 0.000 and less than 0.05. Also, the average is equal to 3.560 and more than 3, so it can be said with 95% confidence that executive managers Iranian and Iraqi use to review current anti-fraud procedures primarily.

Examining the third research question (Managers desire to use valuation services)

Third question: Do managers desire to use the services of damage, loss, and profit assessment by legal accounting?

To examine the research's third question, forensic accounting uses the single-variable *t*-test to consider the normality of the variable of the use of damage, loss, and profit assessment services. The results are presented in the table below.

Table 12. The results of the univariate *t*-test to examine the third question.

Variable	Country	Mean	Standard deviation	T statistic	Degree of freedom	Significance level
Willingness to use damage, loss and profit evaluation services by legal accounting	Iran	3.164	0.869	2.686	202	0.008
	Iraq	3.228	0.937	2.318	90	0.023

According to the **Table 12**, the significance level value for the willingness to use damage, loss, and profit assessment services by forensic accounting is equal to 0.008 and less than 0.05 from the point of view of Iranian managers. Also, the average is equal to 3.164, and from the number 3 is more. The value of the significance level for the degree of willingness to use damage, loss, and profit assessment services by forensic accounting, according to Iraqi managers, is equal to 0.023 and less than 0.05. The average is equivalent to 3.228. The number 3 is higher, so it can be said with 95% certainty that Iranian and Iraqi executives are primarily inclined to use the services of damage, loss, and profit assessment by forensic accounting.

Examining the fourth research question

Fourth question: Do managers desire to use valuation services by legal accounting?

To examine the fourth question of the research, the single-variable *t*-test is used according to

the normality of the variable of willingness to use valuation services by legal accounting. The results are presented in the table below.

Table 13. The results of the univariate *t*-test to examine the fourth question.

Variable	Country	Mean	Standard deviation	<i>T</i> statistic	Degree of freedom	Significance level
Willingness to use valuation services by forensic accounting	Iran	3.164	0.958	2.436	202	0.016
	Iraq	3.273	1.094	2.383	90	0.019

According to the **Table 13**, the significance level value for the willingness to use valuation services by legal accounting according to Iranian managers is equal to 0.016 and less than 0.05. Also, the average is equal to 3.164 and more than 3. According to Iraqi managers, the significance level value for the willingness to use valuation services by forensic accounting is equivalent to 0.019 and less than 0.05. the average is equal to 3.273 and more than 3, so with confidence, it can be said that 95% of Iranian and Iraqi executives have a great desire to use valuation services by legal accounting.

Examining the fifth research question

Fifth question: Do managers desire to use the services of checking negligence in accounting matters by legal accounting?

The single-variable *t*-test is used to investigate the fifth question of the research, according to the normality of the variable, the willingness to use negligence in accounting matters by legal accounting. The results are presented in the table below.

Table 14. The results of the single-variable *t*-test to examine the fifth question.

Variable	Country	Mean	Standard deviation	<i>T</i> statistic	Degree of freedom	Significance level
Willingness to use negligence review in accounting matters by forensic accounting	Iran	3.158	1.017	2.220	202	0.027
	Iraq	3.216	0.981	2.101	90	0.038

According to the **Table 14**, the value of the significance level for the degree of willingness to use the examination of negligence in accounting matters by forensic accounting in the opinion of Iranian managers is equal to 0.027 and less than 0.05. Also, the average is equal to 3.158, and from the number 3 is more. The value of the significance level for the degree of willingness to use the examination of negligence in accounting matters by forensic accounting, according to Iraqi managers, is equal to 0.038 and less than 0.05. the average is equal to 3.216, and from the number 3, It is more, so it can be said with 95% certainty that Iranian and Iraqi executives are primarily inclined to use the negligence review in accounting matters by forensic accounting.

Examining the sixth research question

Sixth question: Do managers tend to use fraud services by forensic accounting?

To examine the sixth question of the research, the single-variable *t*-test is used according to the normality of the variable of willingness to use fraud services by forensic accounting. The results are presented in the table below.

Table 15. The results of the single-variable *t*-test for examining the sixth question.

Variable	Country	Mean	Standard deviation	<i>T</i> statistic	Degree of freedom	Significance level
Willingness to use fraud services by forensic accounting	Iran	3.231	0.947	3.473	202	0.001
	Iraq	3.359	0.975	3.512	90	0.001

According to the **Table 15**, the level of significance for the level of willingness to use fraud services by forensic accounting in the opinion of Iranian managers is equal to 0.001 and less than 0.05, the average is equal to 3.231 and more than 3, and the significance level value for the willingness to use fraud services by forensic accounting according to Iraqi managers is equivalent to 0.001 and less than 0.05. Also, the average is equal to 3.359 and more than 3, so with 95% confidence, it can be said that Iranian and Iraqi executives are primarily inclined to use fraud services by forensic accounting.

Examining the seventh research question

Seventh question: How much do executives want to continue using legal accounting services?

To examine the seventh question of the research, the single-variable *t*-test is used according to the normality of the variable of willingness to continue using legal accounting services. The results are presented in the table below.

Table 16. The results of the univariate *t*-test for examining the seventh question.

Variable	Country	Mean	Standard deviation	<i>T</i> statistic	Degree of freedom	Significance level
Willingness to continue using legal accounting services	Iran	3.126	0.844	2.121	202	0.035
	Iraq	3.138	0.864	1.526	90	0.131

According to the **Table 16**, the significance level value for the willingness to continue using forensic accounting services according to Iranian managers is equal to 0.035 and less than 0.05. The average is equivalent to 3.126 and more than 3. The value and the significance level for the willingness to continue using forensic accounting services in the opinion of Iraqi managers is equal to 0.131 and higher than 0.05, so it can be said with 95% confidence that Iranian and Iraqi executives have an average willingness to continue using They have legal accounting services.

5. Discussion and conclusion

One of the influential factors in reducing the reliability of reports and financial statements is the phenomenon of fraud, which increases the risk and cost of business, reduces the confidence of investors, and questions the credibility and integrity of the accounting profession, considering the importance of fraud in the economy and huge losses. which follows for the shareholders and society and that many financial frauds are not discovered or disclosed for some reason. In general, in Iran and Iraq, unlike advanced countries that have an organization to detect financial fraud, there is no institution or organization and documented information in there is no specific fraud, so in this research, an attempt was made to investigate the role of organizational managers in using forensic accounting services in detecting and preventing fraud in the stock market of Iran and Iraq during 2022. The main purpose of this research is to investigate the role of organizational managers in using forensic accounting services to detect and prevent fraud. As mentioned, this investigation was carried out in Iran and Iraq and the effects of this interaction on preventing fraud in the business

environment. It was discussed. The main result of the current research points to the fact that Iranian and Iraqi managers widely use forensic accounting services, and at the same time, the important differences in the preferences and needs of the managers of each country are pointed out. In general, this research shows important differences between Iran, Iraq, and other developing countries. In fact, the willingness of Iranian and Iraqi managers to use evaluation services provided by forensic accounting and also to use negligence investigations in accounting matters is much greater in Iran, and these cases show the cultural and economic differences between these countries.

The analysis of the statistical results of the research indicates that both Iraq and Iran are countries where executive managers use legal accounting. However, due to restrictions, adverse security, and political conditions in Iraq, forensic accounting is primarily used to create a stable platform for its organizations' economic and accounting activities. For this purpose, legal accountants in Iraq, with the help of laws and guidelines intended for preparing, reporting, and interpreting financial and accounting information of organizations, help executives prepare and present the financial reports of their organizations with the necessary accuracy and accuracy. In Iran, legal accounting is essential in ensuring the accuracy and correctness of organizations' financial statements, and executive managers mostly use it. This aligns with the research of Alshurafat^[29], who believes that managers in organizations and business units use forensic accounting to provide quality and accurate information about the company's activities.

In addition, fraud prevention systems are essential in Iran to reduce financial risks and prevent fraud in organizations. Many executives in this country mostly use these systems. Fraud prevention systems include monitoring employee activities, controlling access to financial information, using software to review financial information, and monitoring tax and banking activities. On the other hand, in Iraq, executives use fraud prevention systems on average. Because some financial and economic problems sometimes prevent executives from optimally using fraud prevention systems. This is in line with ModuguandAnyaduba's^[30] research, which states that there is a significant agreement among stakeholders on the effectiveness of forensic accounting in fraud control, quality financial reporting, and internal control quality.

Also, the results show that, in Iran and Iraq, executive managers, to an immense extent, use damage, loss, and profit assessment services, which are crucial to determine financial figures accurately and estimate losses and losses in organizations. However, in Iran, due to the greater emphasis of executive managers on the accuracy and correctness of financial figures and the role of forensic accounting in this field, the use of damage, loss, and profit assessment services by forensic accounting is more common. Due to the political conditions and unfavorable security, these services may be more limited in Iraq than in Iran.

In addition, in Iran and Iraq, executive managers tend to use valuation services by forensic accounting to a large extent. In Iran, accountants and financial experts are generally referred to value assets and shares accurately. Executives emphasize the use of valuation services by legal accounting due to the importance of accurate financial figures and asset value estimation. In Iraq, the use of valuation services by legal accounting is more limited than in Iran. In Iraq, for accurate valuation of assets and shares, for example, financial experts and legal advisors are usually referred to, and the use of valuation services by forensic accounting in Iraq may face challenges.

Also, in Iran and Iraq, executive managers tend to investigate negligence in accounting matters by forensic accounting. In Iran, investigating negligence in accounting matters is a common problem in organizations, but forensic accounting services are still critical to determining financial figures and asset values. However, in Iraq, forensic accounting services may be more limited. Creating more awareness about how to use forensic accounting tools can help strengthen the

accounting profession because it makes executives use forensic accounting services more effectively and also improves their skills and knowledge. It leads to better decision-making about financial issues and the performance of organizations. In general, this issue can contribute significantly to supporting the accounting profession and improving its credibility.

In this regard, Iranian executive managers continue using legal accounting services mainly due to the importance of accurately determining financial figures and asset values. Forensic accounting services can help improve performance and financial management, so executives in Iran should adhere to these services. In Iraq, executives are moderately interested in using forensic accounting services. However, due to the country's political and security conditions, executives need more trust in these services^[31]. The results are in line with the findings of Rehman and Hashim^[32], which show that legal accounting has a significant direct impact on the sustainability of corporate governance in the field of fraud elimination. Fraud can harm investors, customers, employees, and other stakeholders, leading to loss of trust, declining stock value, and even bankruptcy. Regulatory bodies play an important role in detecting and preventing fraud, so they can prevent fraud by establishing laws and regulations, monitoring companies, and providing training. By emphasizing fraud detection and prevention, they can help strengthen the accounting profession.

One of the limitations of this research is that only one part of the companies has been examined in this study, and perhaps the results of this study cannot be generalized to different parts of society. Also, the influence of other variables whose control is beyond the researcher's reach and the possibility of their influence on the research results cannot be ruled out, such as weaknesses in the control systems or the independence of the board members.

For this purpose, it is suggested that organizations hire and employ talented managers in the field of forensic accounting to strengthen and develop the application of as many issues related to forensic accounting as possible to improve their internal control and governance systems and create a robust system including design and implement regulatory and software programs to prevent violations, frauds and frauds in the field of insurance, taxes, etc., to improve productivity and avoid facing legal problems. It is also suggested that this topic be included in university courses to familiarize researchers, academics, and people working in institutions and companies, and training in this field should also be provided in the executive environment.

Author contributions

Conceptualization, XX and YY; methodology, XX; software, XX; validation, XX, YY and ZZ; formal analysis, XX; investigation, XX; resources, XX; data curation, XX; writing—original draft preparation, XX; writing—review and editing, XX; visualization, XX; supervision, XX; project administration, XX; funding acquisition, YY. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

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Appendix

Analysis of measurement models: confirmatory factor analysis and validity of scales

First, seven confirmatory factor analysis (CFA) models were used to create and measure the validity of seven dimensions of the content of the educational course: teaching style, facilities, teaching staff, classmates, relationships between professors and students, and social life, as adequate dimensions in improving the satisfaction of Iranian executives and Iraqi regarding accounting and auditing education in Iran were drawn and studied in the environment of Amos Graphics software. **Figures 1–7** show the path diagrams of these seven dimensions based on their desired indicators, standard estimates of factor loadings, and variances of hidden variables.

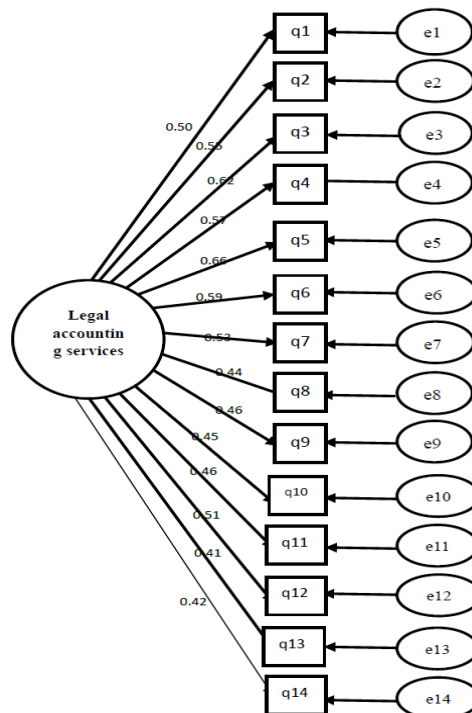


Figure A1. Standard estimates of the confirmatory factor model for forensic accounting services.

The **Figure A1** shows the path chart of legal accounting services based on the desired indicators and standard estimates of factor loads. All values of standardized factor loadings are greater than 0.4.

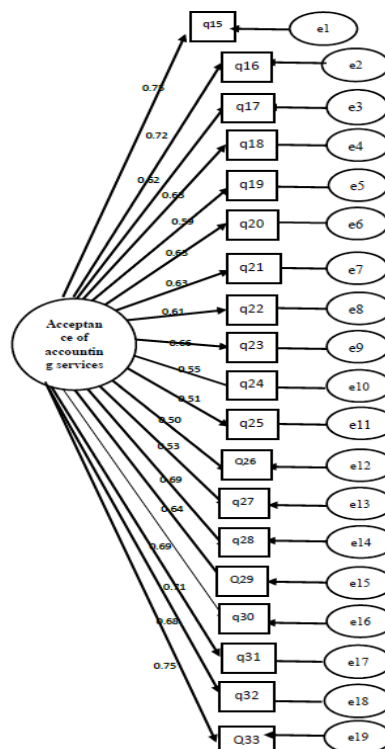


Figure A2. Standard estimates of the confirmatory factor model for agreeing to legal accounting services.

The **Figure A2** shows the approval path diagram of forensic accounting services based on the relevant indicators, along with the standard estimates of factor loads. All values of standardized factor loadings are greater than 0.4.

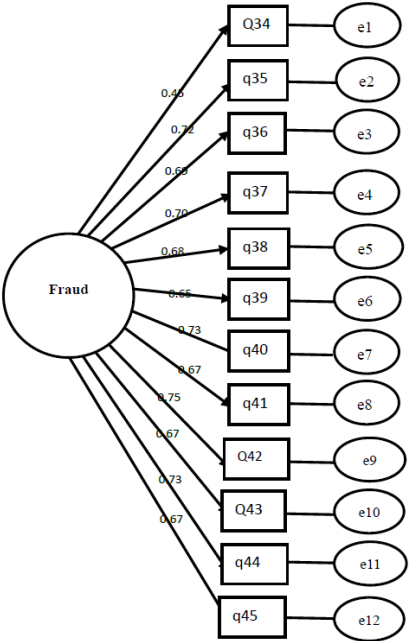


Figure A3. Standard estimates of the confirmatory factor model for fraud.

The **Figure A3** shows the chart of the fraud path based on the relevant indicators, along with the standard estimates of the factor loadings. All values of standardized factor loadings are greater than 0.4.

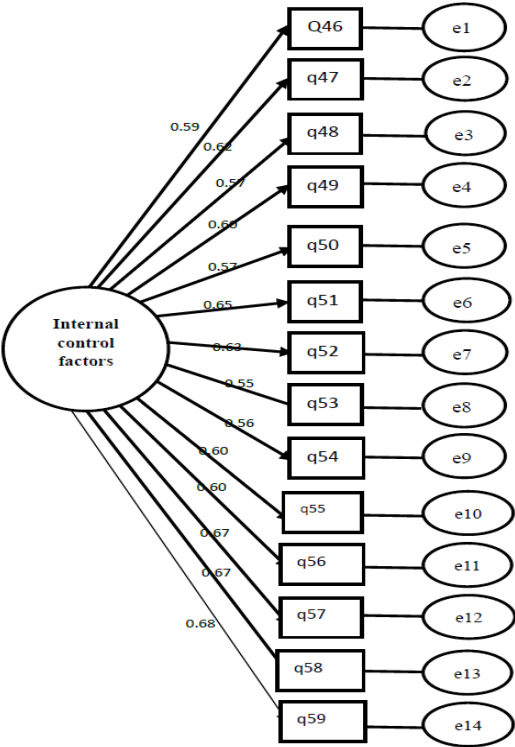


Figure A4. Standard estimates of confirmatory factor model for internal control factors.

The **Figure A4** shows the path diagram of the internal control factors based on the relevant

indicators and standard estimates of factor loads. All values of standardized factor loadings are greater than 0.4.

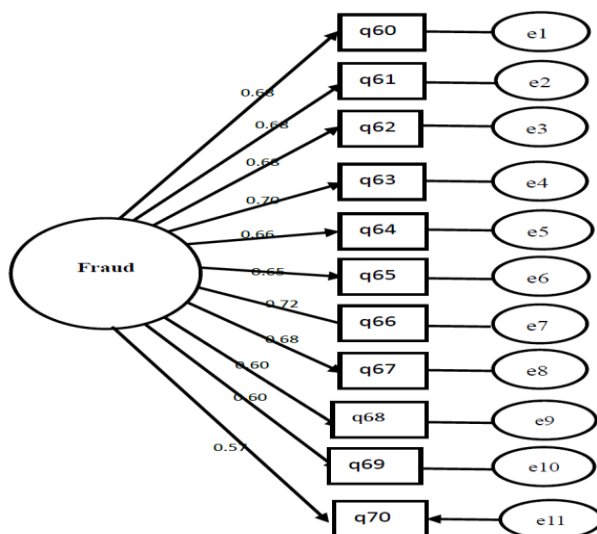


Figure A5. Standard estimates of the confirmatory factor model for fraud.

The **Figure A5** shows the path diagram of institutional factors and other factors based on the relevant indicators, along with the standard estimates of factor loadings. All values of standardized factor loadings are greater than 0.4.

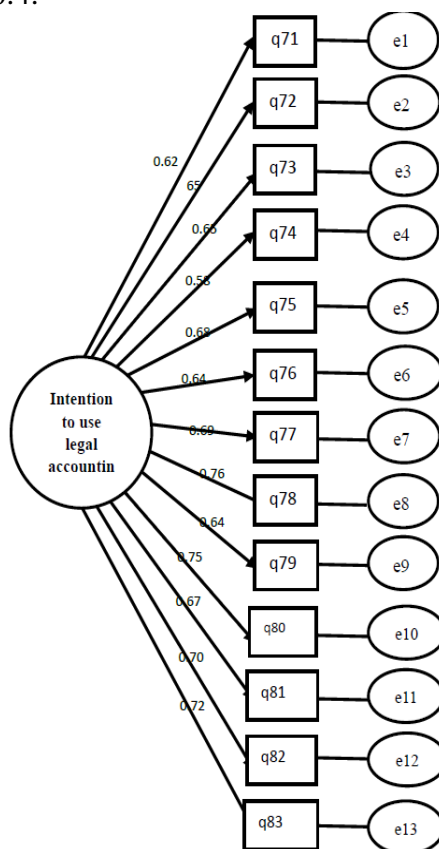


Figure A6. Standard estimates of the confirmatory factor model for the intention to use forensic accounting services.

The **Figure A6** shows the path diagram of the intention to use legal accounting services based

on the desired indicators and standard estimates of factor loads. All values of standardized factor loadings are greater than 0.4.

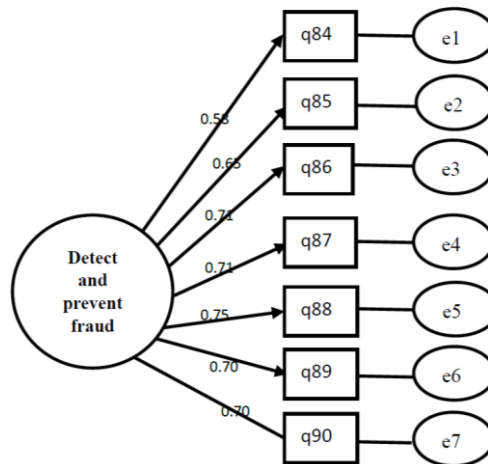


Figure A7. Standard estimates of the confirmatory factor model for detecting and preventing fraud.

The **Figure A7** shows the fraud detection and prevention chart based on the relevant indicators and the standard estimates of factor loadings. All values of standardized factor loadings are greater than 0.4.