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THE EFFECT OF FORENSIC ACCOUNTING TECHNIQUES AND SKILLS ON DETECTING AND COMBATING FINANCIAL CORRUPTION

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ABSTRACT

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This paper aims to identify the effect of forensic techniques accounting in detecting (and preventing) corruption and fraud and identify the skills that required for Forensic Accountants in detection and combating the practices of corruption and financial fraud. To achieve the objectives of the study was developed questionnaire included (22 questions) distributed on 63 professionals accounting (external auditors) in the Kurdistan Region Iraq, The researchers reached a number of conclusions after analyzing questionnaire's questions. The most important of these conclusions is that the Using Forensic



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Doi: 10.25212/lfu.qzj.5.1.13 Accounting techniques that have an impact in detecting and combating financial corruption. The researchers also made а number of recommendations. Educating accountants and auditors in the Kurdistan Region with Forensic Accounting and the necessary skills to practice them, through holding training courses and workshops, which inform them about techniques and skills Forensic Accounting and its goals.

Introduction

From the perspective of world economy, countries having financial crisis and those who are facing economic distress, corruption is a major dilemma. It is considered as a very much complex phenomenon, having impact on all the key indicators of the economy corruption and financial frauds have resulted in mega losses to various business firms round the globe. Corruption is contentedly reflecting sever negative impact on the under developing countries including Iraq and Kurdistan region, but for Iraq in general, the corruption has been as innumerable and continuing problem, however the financial fraud and corruption resulted in huge financial crises, scandals, bankruptcies of many national and international corporations, such as Enron, WorldCom, Xerox, Kmart, and others in many developing and under developing countries as well. The main objective of this study is to access and measure how the awareness of forensic accounting practice and education would help to enhance detection, prevention financier fraud and corruption in Iraq and Kurdistan region.

In developed economies where the control of such activities is very much strong and majority of the financial activities and free from such illegal trends,



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it effects negatively to the economy (Avnimelech, Zelekha, & Sharabi, 2014). Meanwhile, some have provided a strong evidence for the corruption as a greasing of economic wheels as compare to the putting them into sand. It means that it is less effective for the states where the departmental efficiency is not very much effective or extremely ineffective; the developing economies. However, while not putting aside the positive role of corruption to run the economic activity in specific time and countries, the major findings of the existing studies suggest negative impact on economic growth ultimately (Bardhan, 1997; d'Agostino, Dunne, & Pieroni, 2016).

Problem Statement

The problem of series of frauds exists both in public and private sector under the supervision of auditors of the organization. It is more than sufficient to say that internal auditors are working as the employee of the organization so their independence is not guaranteed. Because of this issue the point of external auditors come into existence but the problem of frauds still being steadfast on gradual basis (Fiia, 2013). Besides, in the contemporary business environment, in the field of accounting might have an in-depth understanding of governance and accountability issues. To address this issue, the accountants and auditors which are working within the organization, must have a clear and concise understanding of how to deal with the fraudulent activities specially the business transactions and forensic accounting too. there is an increasing demand in almost all the business sectors for the accountants who can work under the framework of forensic accounting for the detection and control of frauds (Alabdullah et al., 2013; Jim Wang, Lee, & Crumbley, 2016).

Traditional accounting has a lack of modern techniques and tools which can help the accountant to identify and control the fraudulent activities in any department or business firm. So, Forensic Accounting due to its modern approaches, skillful guidelines and techniques, investigative and fraud



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knowledge and with the rules of evidences got significant attention (Bhasin, 2015a; Gbegi & Adebisi, 2014; Koh, Arokiasamy, & Suat, 2009; Matson, 2016). So, the need of time in the present study is to address the problem of how to detect and control the corruption and financial frauds in the Kurdistan region of Iraq with the need assessment of Forensic Accounting. Up to now, the role of Forensic Accounting in detection and control of fraud and corruption especially from the perspective of Iraq is not very well addressed. So, this gap has provided another way to research on the stated topic.

Research Questions

Specifically, this paper seeks to find answers for the following research questions:

- 1. What is the role of forensic accounting techniques in detecting (and preventing) corruption and fraud? Why and how are they important?
- 2. What are the skills required of a forensic accountant to detecting and preventing financial fraud and corruption in the area?

Research Hypothesis

- 1. There is significant effect of the use of Forensic Accounting techniques in detection and combating corruption and financial fraud practices.
- **2.** There is significant effect of the skills required for Forensic Accountants in detection and combating the practices of corruption and financial fraud.

Purpose of the Study

This paper has the following aims:

1. To identify the effect of forensic accounting techniques in detecting (and preventing) corruption and fraud.



2. To identify the skills that required for Forensic Accountants in detection and combating the practices of corruption and financial fraud

Research Methodology

In order to achieve the objective of this research the researchers have applied the descriptive analytical approach based on the following sources:

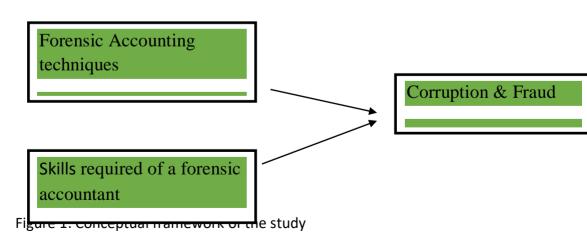
- 1. Primary sources (practical side): through the distribution of an ad hoc questionnaire and the analysis of the answers to test the validity of the hypothesis.
- 2. Secondary sources (theoretical side): referring to articles, books and studies on the same topic.

framework of the study

In order to carry out the analysis the researchers designed specific model to include all the variables. Figure (1) illustrates the relationships of these variables

Independent variable

Dependent variable





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Literature Review

Both corruption and financial frauds affect the growth of the business firms as their existence is everywhere round the globe but not at the same level. The level of corruption varies from region to region like the wages and the tax rates. Among the several challenges for those business firms which are working in different regions is how to understand and accept the level of local corruption. However, the limit of corruption for the business firms is not just to assess but also to focus on its ultimate impact on the operational efficiency as well (De Rosa, Gooroochurn, & Görg, 2010; Gaviria, 2002; Habib & Zurawicki, 2002). To operate effectively, business firms must understand the corruption level and various factors associated with it as the nature of corruption is now under significant discussion in existing literature.

From the perspective of Institutional Management, accounting data have got an importance place because of the development and diversity in the business activities (Akyel, 2012). The level of information must be reliable which will enable the decision-making process more effective for the management. With the advancement in accounting transactions, the fraudulent activities for instance by the accountant are also attempted with the imputed approval from the top-level management and employee. Such changing trend has affected the overall economy and specifically the financial statements of the company. At recent time, fraudulent conducts are increased gradually and same time it makes the detection and finally the prevention process very much difficult with the ultimate disagreement between company and the key stakeholders like employees, Govt. and credit institutions. Malicious experts can manipulate the accounting data, notebook, invoices and other documentary evidence or the value of sales can be increased or decreased as per the manager's demand. For such matter, the support from some expert or specialists is very much needed to remove the controversy. As per the view point of American Institute of Certified Public Accountant AICPA,



this support is called as professional support.

To consider the accuracy in financial statements the importance of Forensic Accounting (FA) cannot be ignored. Recent years in US, England and Canada to detect the records of accounting frauds, FA is established as a new occupation (Akyel, 2012). From the perspective of FA, it is normally referring to the Certified Public Accountants or CPAs whose prime responsibility is to conduct the investigation, inspection and auditing to reach the ultimate truth. The examination of accounting and financial frauds refers to the services of CPAs (Akyel, 2012; Crumbley, 1995, 2003). In various third world countries like Nigeria and developing economies, financial crimes, corruptions and frauds have affected the citizens negatively as it is down to the root level. The alarming and devastating issue is that both frauds and financial corruptions are the fundamental matters in developing countries and for this purpose the role of forensic accounting is much important to consider (Kasum, 2009). Similarly, in some developing economies the concept of FA to detect and control the frauds is in its emerging phase (Bhasin, 2015d; Okoye, 2009).

From the perspective of Iraq, as per the report of Transparency International, it has captured the top position in the list of financially corrupt region (Alabdullah, Alfadhl, Yahya, & Rabi, 2013). Out of 175 countries, Iraq got the position of 166 as least corrupted country. The average corruption rank in Iraq is 161.29 from 2003 to the year 2016 and in the year 2007 it has got the highest rank of 178 in the year 2007 and low level of 113 in the year 2003.

For the detection and prevention of frauds in forensic accounting, the first one is Bedford's law which deals with the distribution of probability which is characterized by some digits from the real data set (Nigrini, 2000). It is also known as the first digit law with the expected frequencies and list of numbers. This law states the fact from the list of various numbers from real life sources of data, the leading number is very specific having a non-uniform way which



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assumed a geometric sequence. According to (Tam Cho & Gaines, 2007) Bedford's Law, is an excellent example for an intriguing mathematical result.

With the failures of audit and consequences of issuance of statement of auditing and standard number 99, the consideration of fraud and related activities in the audit of financial statement is very much necessary as per the argument of (American Institute of Certified Public Accountant, AICPA, 2002). The origin of Bedford's law starts from the year 1881, when an American astronomer have observed that copies of specific logarithm books in the library were much worn out from the starting pages with the low digits than the following page numbers. The idea of this law was later rediscovered in the year 1938 and it was done by physicist, Frank Benford. He also found the same idea that first pages were more worn out as compare to later ones (Tam Cho & Gaines, 2007).

Besides the above mechanism, some computer assisted audit tools are also under consideration. Such tools can be defined as the use of technological innovation to help the auditor to perform specific audit result and to come up with the results which are more corrected (Braun and Davis, 2003). Without being tied to manual methodologies and approaches, audit tasks are performed with more efficient, quick and intensive way (Miller, 1970). The tools like computer-assisted audit tools which are also known as CATT, allow the auditors to select and perform a task they want to do with the specific criteria through getting additional information (Braun & Davis, 2003). For the audit procedures, CATT are used by auditors as a part of overall audit process (T. Singleton & Flesher, 2003).

Authors like Zhaol, Yen and Chang (2004) also explained the fact that CATT can improve the audit efficiency and results as well. in the findings of he posted the fact that CATT can be defined as a tool and technique use to explore the internal logic of an application and to draw a final inference. Up to now five



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major categories of CATT are identified which are test data, parallel simulation, embedded audit module, integrated test facility and generalized audit software.

Data mining is a data searching technique which is used to deal with the complicated and sophisticated data to understand the patterns and correlations of the values which are useful in nature (John Wang & Yang, 2009). The term data mining has got its name from the searching of information from large scale databases like gigabytes (Shaw, Subramaniam, Tan, & Welge, 2001). This technique helps the managers to get the important information in the data which is normally hidden and cannot be visible normally. The approach of data mining provides the ability to researchers to search and analysis the data to get the implicit but potentially meaningful information which is hidden under multiple layers of information. Data mining also defines the progress of individuals who deals with complex data to retrieve the information either through manual or automatic methods (Berry & Linoff, 1997).

Through usage of computational approaches which are statistical in nature, data mining develops a decision tress, a neural network and some graphical visuals. It uses is to extract the pattern of data from large scale set which are an integral component of data mining. In today's environment data mining is useful in almost all types of the fields like for marketing, sales and customer support (Berry & Linoff, 1997), for the discovery of knowledge (Fayyad, Piatetsky-Shapiro, Smyth, & Uthurusamy, 1996), in health care (Koedinger, D'Mello, McLaughlin, Pardos, & Rosé, 2015; Raghupathi, 2016; Romero & Ventura, 2013; Yoo et al., 2012), in business research (Cooper, Schindler, & Sun, 2006) and specifically in the field of (Chan, Fan, Prodromidis, & Stolfo, 1999; Kirkos, Spathis, & Manolopoulos, 2007; S. Wang, 2010).

The term ratio analysis is a very useful technique to evaluate the overall



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financial performance and key risk indicators of the business over a specified period. This technique is also under observation by the researchers to detect the fraud in the business. For instance the study of (Kaminski, Sterling Wetzel, & Guan, 2004) have focused on the role of financial ratio in detecting the fraudulent activities of the business. Fraudulent activities which are conducted in the business and finally not on the record have bigger negative impact on the business firm and many cases in involve top level management of the business (Jackson, 2002).

Fraudulent financial reporting is also detected through analysis of financial statements. This method is under concern for various regulators of financial markets. For instance, in Malaysia, fraudulent financial reporting is among the major concern for the securities commission SC and for the Bursa Malaysia BM. Both regulatory authorities are working on regular basis to improve the reporting standards of listed firms in Malaysia (Dalnial, Kamaluddin, Sanusi, & Khairuddin, 2014). At the same time, by using the various financial ratios like liquidity, profitability, financial leverage and asset composition have conducted their analysis to detect the fraud in financial reporting (Zainudin, Zainudin, Hashim, & Hashim, 2016). They also explain that such approach is very useful for the investors to evaluate the present and past performance of the business firm while going for any type of investment decision.

Description of the study population and the sample

Form questionnaire was distributed to a sample of (63) researched professional accountants(external auditors) in Kurdistan Region of Iraq, and the results were as follows:

1: description of the General Information researches:

The general information of the researches is summarized in Table (1).



A Scientific Quarterly Refereed Journal Issued by Lebanese French University – Erbil, Kurdistan, Iraq Vol. (5), No (1), Winter 2020 ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

Table (1)

Description of the General Information researches

	General Information	Frequency	Percent				
1.S	1.Scientific Certificate:						
	Bachelor	59	93.6				
	Master Degree	4	6.4				
	PhD	0	0				
2.Y	ears of Experience:						
	From 1 year – 5 years	13	20.6				
	From 6 years – 10 years	20	31.7				
	From 11 years – 15 years	12	19				
	From 16 years – 20 years	8	12.7				
	21 years and more	10	16				

The data from Table (1) indicate that the sample of the study was divided in terms of scientific certificate in three categories. The category of those who have Bachelor ranked first were 59 which is (%93.6) of the study population. The groups that have Master Degree ranked second were 4 and (%6.4). The groups those have PhD ranked third were 0 and (0%). And indicate that the sample of the study was divided in terms of years of experience in five categories. The category of those who have 6 -10 years of experience ranked first were 20 which is (%31.7) of the study population. The group that have 1 to 5 years of experience ranked second were 13 and (%20.6). The group those have 11-15 years of experience ranked third were 12 and (19%). The group that have more than 21 years experience have been ranked as fourth which were 10 and (%16). Finally, the category of those have experience between (16 - 20 years) ranged as fifth place, were 8 members and covered (%12.7) of



the study population.

2: description of the research variables and diagnosis:

Will be in this analysis to the questionnaire which included (2) variables, Answers of researches were summarized her through the tables of the following:

The First variable: The effect of Forensic Accounting techniques in detection and combating corruption and financial fraud practices: The arithmetic means of each of the equation from questionnaire study evaluated by Likert scale (Totally not agree = 1, Not agree = 2, Not sure = 3, Agreed = 4, and totally agree =5). On this basis, the level question means according to the importance and the degree of agreement with the hypothesis of the research and summarized in the following table:

Table (2)

Descriptive Statistics for First variable

Questions	Minimum	Maximum	Mean	Std. Deviation
Data mining and information disclosure of ambiguous operations.	3	5	3.9244	. 65425
Continuous monitoring for evidence.	2	5	3.9165	.65364



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Vol. (5), No (1), Winter 2020

ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

Analysis of ratios using financial and accounting analysis to verify cases of financial fraud and corruption.	4	5	4.3625	.48578
Analysis of sources and uses of funds.	3	5	3.8278	.91550
Benford Law.	3	5	4.1064	.78668
Analyze the chronology and use the tracking maps by displaying details regarding manipulations from the beginning to the goal.	3	5	4.1915	.57628
And employ technology to complete the audit work.	4	5	4.1915	.39773
References series and link analysis.	4	5	4.3629	.48478
Cash flow index and company stock bulletins.	4	5	4.1915	.39765
Investigative methods through document verification and laboratory analysis.	3	5	4.1064	.66723



A Scientific Quarterly Refereed Journal Issued by Lebanese French University – Erbil, Kurdistan, Iraq Vol. (5), No (1), Winter 2020 ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

Valid N (list wise)	63		

Table (2) show that the answers to the questionnaire questions (Q2) ranged from the number two (disagree) and number five (totally agree), and questions (Q1, Q4, Q5, Q6 and Q10) ranged from the number three (Not sure) and number five (totally agree), and the rest of the questions ranged from the number four (agree) and number five (totally agree).

The Second variable: The effect of the skills required for Forensic Accountants in detection and combating the practices of corruption and financial fraud: The arithmetic means of each of the equation from questionnaire study evaluated by Likert scale, on this basis, the level question means according to the importance and the degree of agreement with the hypothesis of the research and summarized in the following table:

Table (3)

Descriptive Statistics for Second variable

Questions	Minimum	Maximum	Mean	Std. Deviation
Diversified experience in the field of accounting and auditing accounts from a scientific and professional background.	4	5	4.1925	.57728
Communication skills (oral	3	5	3.6822	.78285



A Scientific Quarterly Refereed Journal Issued by Lebanese French University – Erbil, Kurdistan, Iraq Vol. (5), No (1), Winter 2020

ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

and written).				
Scientific and practical experience and knowledge of legislation related to financial and accounting matters.	3	5	4.0218	.44215
Knowledge in the field of court proceedings and litigation in financial and commercial disputes.	3	5	3.9350	.52812
Knowledge of the judicial system and full knowledge of laws and regulations.	4	5	4.1915	.39785
Full knowledge of the accounting systems and financial controls that organize the preparation of the final accounts and the budget.	3	5	3.8512	.72212
Communication skills with the community.	3	5	4.2788	.61520
Ability to analyze and investigate beyond the numbers carried by documents submitted	3	5	4.3622	.64120



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ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

when financial and commercial disputes arise.				
The ability to monitor and control cases of fraud and manipulation and financial and administrative corruption.	3	5	4.0212	.73711
Advanced knowledge of standards, foundations, rules and the intellectual and scientific framework for accounting and auditing.	4	5	4.2788	.45310
Valid N (list wise)	63			

Table (3) show that the answers (Q2, Q3, Q4, Q6, Q7, Q8 and Q9) ranged from the number three and number five, and the rest of the questions ranged from the number four and number five.

3: Test reliability coefficient (consistency):

Of the basic elements of the validity of relying on the results of the questionnaire tested in terms of reliability coefficient, which means the stability of scale and lack of contradiction with itself (Answers stability of the respondents and not the random use in the selection of the answer), that is, it



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gives the same results if re-applied to the same sample. On this basis it will be used Cronbach's alpha coefficient. To measure the consistency with sincerity (which represents the root of the reliability coefficient) questionnaire for two variables and summarized by the following table:

Table (4)

Reliability Statistics

Variable	Cronbach's Alpha	Validity	N of Items
First	0.755	0.8689	10
Second	0.867	0.9311	10

The reliability coefficient Cronbach's alpha for two variables of questionnaire for the measurement tool has a high degree of consistency and the truth because it is greater than 60% and validity greater than 80%, since there is an internal consistency of the questions the questionnaire for two variables.



QALAAI ZANISTSCIENTIFIC JOURNAL A Scientific Quarterly Refereed Journal Issued by Lebanese French University – Erbil, Kurdistan, Iraq Vol. (5), No (1), Winter 2020 ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

4: Test hypotheses of the study:

The study covered the test two hypotheses, as follows:

First hypotheses:

- H_0 : There is no effect of Forensic Accounting techniques in detection and combating corruption and financial fraud practices.
- H_1 : There is effect of Forensic Accounting techniques in detection and combating corruption and financial fraud practices.

Will be here to test there is effect of Forensic Accounting techniques in detection and combating corruption and financial fraud practices, by testing the importance of the means to the questionnaire questions which were answered by the (63) Researched according to Likert scale depending on the extent of their agreement with the hypothesis of the research and specifically test arithmetic mean equal to the (3) of the respondents (because mean of Likert equal to 3) against the arithmetic mean is greater than the number (3), and on this basis test was used t-test to one sample under a significance level (0.05), It summarized the results in the following table:

Table (5)

One-Sample –t- test for first hypotheses

Mean test value = 3



A Scientific Quarterly Refereed Journal Issued by Lebanese French University – Erbil, Kurdistan, Iraq Vol. (5), No (1), Winter 2020

ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

Mean	P value	t tabulated	t calculated	Standard Error Mean	Mean Difference	Result
4.223	0.000	1.95	22.014	0.0504	1.101	Sig.

Table (4) show that mean of the agreement with the hypothesis equal to (4.223), the largest mean by Likert scale (1.101) while the p-value equal to (0.000) which is less than the level of significance of 5% (t-calculated was (22.014) which is greater than the t-tabulated value (1.95)) which means rejection of the null hypothesis and accept the alternative hypothesis, that's mean there is effect of Forensic Accounting techniques in detection and combating corruption and financial fraud practices, by sample opinions surveyed and tested.

Second hypotheses:

 H_0 : There is no The effect of the skills required for Forensic Accountants in detection and combating the practices of corruption and financial fraud H_1 : There is The effect of the skills required for Forensic Accountants in detection and combating the practices of corruption and financial fraud

Will be here to test there is The effect of the skills required for Forensic Accountants in detection and combating the practices of corruption and financial fraud, by testing the importance of the means to the questionnaire questions which were answered by the (63) Researched according to Likert



A Scientific Quarterly Refereed Journal Issued by Lebanese French University – Erbil, Kurdistan, Iraq Vol. (5), No (1), Winter 2020 ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

scale depending on the extent of their agreement with the hypothesis of the research and specifically test arithmetic mean equal to the (3) of the respondents against the arithmetic mean is greater than the number (3), and on this basis test was used t-test to one sample under a significance level (0.05), It summarized the results in the following table:

Table (6)

	Mean test value = 3							
	Р	t	t	Standard	Mean			
Mean	value	tabulated	calculated	Error Mean	Difference	Result		
4.0909	0.000	1.95	18.215	0.05947	1.0909	Sig.		

One-Sample –t- test for second hypotheses

Table (6) show that mean of the agreement with the hypothesis equal to (4.0909), the largest mean by Likert scale (1.0909) while the p-value equal to (0.000) which is less than the level of significance of 5% (t-calculated was (18.215) which is greater than the t-tabulated value (1.95)) which means rejection of the null hypothesis and accept the alternative hypothesis, that's mean there is effect of the skills required for Forensic Accountants in detection and combating the practices of corruption and financial fraud, by sample opinions surveyed and tested.

Conclusion (Result)

The researchers reached the following results:



- 1. Using Forensic Accounting techniques that have an impact in detecting and combating financial corruption.
- 2. There is an important role for Forensic Accounting in combating financial and administrative corruption through their investigation and accounting expertise skills, and preparing plans to monitor improper financial behavior that is in doubt whether these financial movements are for individuals or Financial institutions.
- **3.** Financial and administrative corruption leads to distortion in the country's economy of spending and consumption, which leads to the creation of a state of social instability, which requires the accountants to be more adept in facing these challenges and responding to them.

Recommendations

In light of the previous results, the following recommendations can be made:

- 1. Educating accountants and auditors in the Kurdistan Region with Forensic Accounting and the necessary skills to practice them, through holding training courses and workshops, which inform them about techniques and skills Forensic Accounting and its goals.
- 2. Activating the laws and legislations related to the duties and rights of Forensic Accounting, while strictly applying deterrent penalties to those who violate them.
- 3. Establishing an association concerned with organizing the work of Forensic Accounting in the Kurdistan Region, as well as providing guidance to them, and enhancing the public's confidence in this profession.
- 4. Coordination between academic institutions and professional organizations, in the field of developing the profession of Forensic



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Accounting, such as adding materials related to judicial accounting within the curriculum of accounting departments, or opening new majors in higher education institutions,

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A Scientific Quarterly Refereed Journal Issued by Lebanese French University – Erbil, Kurdistan, Iraq Vol. (5), No (1), Winter 2020 ISSN 2518-6566 (Online) - ISSN 2518-6558 (Print)

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پوخته:

ئامانجى ئەم توێژينەوە دەرخستنى _رۇڵى تكنيكەكانى ژميريارى قەزائى لە بەرنگاربونەوەى گەندەلى دارايى لە ھەرێمى كوردستانى عيراق ، وەبۆ بەدەستهێنانى ئامانجى توێژينەوەكە شێوازى _راپرسى پەيرەوكراوە كەوا (٢٢) پرسيارى لەخۆ گرتبوو بەسەر ووربينانى دەرەكى لە ھەرێمى كوردستانى عيراق دابەشكرا كەوا ژمارەيان (٦٣) بو، وە توێژەرەوەكان گەويشتنە كۆمەڵێك دەرئەنجام وەگرنگترينيان تكنيكەكانى ژميريارى قەزائى رۆڵيكى گرنگى ھەيە لە بەرنگاربونەوەى گەندەلى دارايى لە ھەرێمى كوردستانى عيراق. وەھەروەھا توێژەرەوەكان كۆمەڵێك پێشنياريان پێشكەشكرد كەوا زياتر ناساندنى ژميرياران و ووربينان بە ژميريارى قەزائى لە ھەرێمى كوردستانى عيراق. وەھەروەھا توێربينان بە ژميريارى قەزائى لە ھەرێمى كوردستانى عيراق. وەھەروەھا

الملخص:

تاثير تقنيات المحاسبة القضائية والمهارات المطلوبة في كشف ومكافحة الفساد المالي في اقليم كوردستان العراق

هدف هذا البحث إلى بيان دور تقنيات المحاسبة القضائية والمهارات المطلوبة من محاسب القضائي في كشف ومكافحة الفساد المالي والاداري, ولتحقيق أهداف الدراسة تم تطوير استبانة تضمنت (22) سؤا لاً وزعت على المدققين الخارجيين في اقليم كوردستان العراق والبالغ عددهم (63) ، وتوصل الباحثون إلى مجموعة من الاستنتاجات من اهمها ان تقنيان المحاسبة القضائية والمهارات المطلوبة من محاسب القضائي لها تاثير فعال في كشف ومكافحة الفساد المالي. كما قدم الباحثون مجموعة من التوصيات منها ضرورة توعية المحاسبيين والمدققيين في اقليم كوردستان بالمحاسبة القضائية، والمهارات اللازمة لممارستها، وذلك من خلال عقد الدورات التدريبية وورش العمل، التي تبصرهم بتقنيات ومهارات المحاسبة القضائية وأهدافها.