

# The role of the Judicial Accountant in Curbing the Money Laundering Process (Applied research in Rafidain Bank)

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**Abstract:** The aim of the research is to show the role of the judicial accountant in curbing money laundering operations and countering fraudulent methods used by money launderers by transferring the revenues and gains they obtain from illegal sources into legitimate assets and properties. It also shows the extent to which the Rafidain Bank benefits from its expertise. The research adopted statistical analysis through data collection Necessary and analyzed. The research reached a number of conclusions and recommendations, and the most important conclusions were that the spread of money laundering crime at the local, regional, and international levels led to the emergence of judicial accountability, and the need for professional experts in the field of accounting and auditing, and those who possess skills that would enable them to make their opinion before the courts. The most important recommendations were that judicial accountability has great importance in curbing money laundering operations and the importance of the role that the judicial accountant plays, especially in cases of examination and investigation, because of his skills and experience in the accounting, auditing, and legal fields. It is necessary that he be part of the audit work team to uncover money laundering practices.

**Key words:** judicial accountant, money laundering operations, Rafidain bank

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## Introduction

The world is witnessing an outbreak of fraud and fraud and an increase in money laundering crimes, which are considered crimes that threaten the world's economic growth as one of the economic crimes that are more serious due to their association with organized crime, because they have negative effects on the economic cycle of any country. Hence, the role of the forensic accountant appears due to his qualifications, experience and scientific knowledge of accounting, auditing, law and other sciences and using these skills as a tool in research, investigation, verification and gathering evidence to confront and detect money laundering and other crimes.

## 1. Methodology

### 1.1 Research problem

The research problem can be formulated with the following questions:

- Who are the judicial accountant and the bank's readiness to take advantage from him?
- How responsive and the awareness to the sample researched of the importance of the judicial accountant and its effect on curbing the money laundering process?
- Is there an awareness of the important role that the judicial accountant plays in curbing the money laundering process?
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## 1.2 Research importance

The research derives its importance from:

1. The role of the judicial accountant in curbing the money laundering process, especially that Rafidain Bank is one of the important banks in the country.
2. Study the effect of the new variables on the role of the judicial accountant and his effect in curbing the money laundering process.
3. Study and analyze the nature of the relationship between the judicial accountant and its effect on limiting the money laundering process to the research sample.

## 1.3 Research objectives

The research seeks to achieve the following goals:

- Knowing the important role that the judicial accountant plays in curbing the money laundering process.
- The extent to which Rafidain Bank understands the research sample and the importance of the judicial accountant
- Knowing, and learning the role of the judicial accountant in curbing the money laundering process in Rafidain Bank. (This research)

## 1.4 Research hypothesis

The research is based on the following hypotheses:

1. There is a statistically significant correlation between the judicial accountant and the money laundering process.
2. There is a statistically significant effect for the judicial accountant in limiting the money laundering process.

## 1.5 Domain and research data

**1.5.1 Time boundaries:** The research was completed during the year 2020.

**1.5.2 Location Borders:** Al-Rafidain Bank.

## 1.6 Methodolgy of the study

The research adopted statistical analysis through the collection and analysis of the necessary data; the fact that this approach focuses on polling the opinions of the research sample and its orientations, and the use of the descriptive method, and to describe the reality of the studied variables, as for the analytical method, it is used in the analysis of the results of statistical treatments of the research variables, and to set conclusions on the basis of which recommendations are adopted.

## 1.7 Analysis tools

The questionnaire, which represented the main tool for collecting information related to the research, was distributed for the period from (7/25/2020) to (10/8/2020). The questionnaire was divided into two main parts, the first of which was the general information of the characteristics of the research sample, and the second of them consisted of (20) paragraphs that were divided into two axes: The first axis consisted of (10) paragraphs related to the measurement of the judicial accountant, and the second axis consisted of (10) paragraphs related to measuring money laundering.

### 1.8 Research model

Based on the opinions of a number of researchers in previous studies that review the independent variable (the judicial accountant), and its effect on the dependent variable (money laundering), is shown in Figure (1).

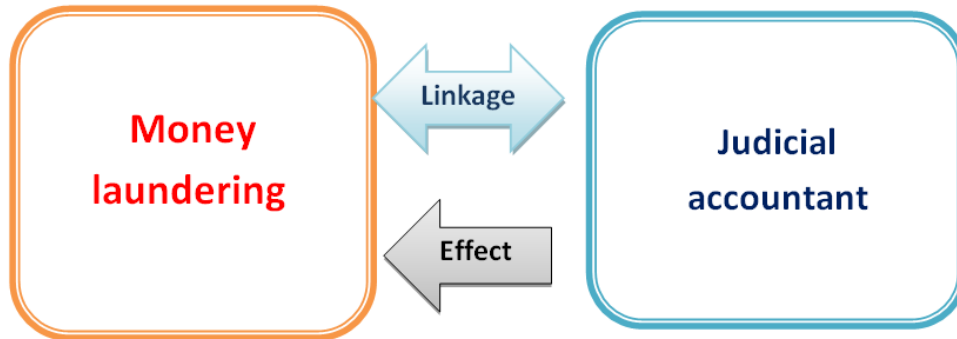


Figure 1: the hypothetical outline of the research

Source: Prepared by the researcher

### 1.9 Community and the sample research

The researcher selected the sample (probability samples) from the study population in the Rafidain Bank that is being researched and represented by holders of degrees (Bachelor, Higher Diploma, Master, other mention), this is because they are closest to the subject of the study, as well as because of the variation in the study sample, and for the accuracy and reliability of the results. The size of the community, according to the bank's statistics, reached (120) individuals, and the sample was chosen from this community according to the (D. Morgan) model, the size of the sample according to this model reached (92) individuals, or (77%) of the total population of the study, and (92) questionnaire forms were distributed to the sample, and in return the number of forms received, which meet the conditions for the analysis and study of the sample, and which were answered had been reached (92) questionnaire forms. As shown in Table 1.

Table 1: Determination of the study sample

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	370
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

"N" is population size Note

"S" is sample size

(Krejcie and Morgan, 1970)

And the five-point Likert scale was used in the answers of the sample members, and the level of the answer will be from (1-5) and five levels and according to the categories. The length of the category in this scale was determined by calculating the range between the degrees of the scale ( $5 - 1 = 4$ ), and then divide it by the largest value in the scale to obtain the length of the category i.e. ( $4/5 = 0.80$ ), and then this value was added to the lowest value in the scale i.e. from the beginning of the scale, which is a correct one, in order to determine the upper limit for this category.

Table 2: Likert scale adopted in the study

Class length	Degree of agree
1.79 – 1	Strongly disagree
2.59 – 1.8	Disagree
3.39 – 2.6	Neutral
4.19 – 3.4	Agree
5 – 4.2	Strongly agree

#### 1.10 Measure honesty and constancy

**First - The honesty test:** The researcher presented the questionnaire form to a group of arbitrators with specialization in the field of research, and the researcher responded to the opinions of the referees and made the necessary changes in light of the proposals submitted, and produced the questionnaire form in its final form.

**Second: The constancy test:** that the research used the five-point Likert scale to measure the items of the questionnaire, so this requires a test of stability, and that the stability test here is under the Cronbach's alpha equation in the case of the test in which the scores are on the grade (not one or zero), It can take different values (1, 2, 3, 4, ...), as in the case of tests that use Likert scale, as mentioned above to answer the paragraphs, this equation is also used in tests of the type of objective or essay questions (Al-Jadiri and Abu Helou, 2009: 171). Table 3 shows the stability test for the study variables.

Table 3: Stability test of search variables using the Cronbach's alpha coefficient

No.	Variables	Cronbach's alpha coefficient
1.	Judicial accountant	0.972
2.	Money laundering	0.906
3.	Total	0.925

It is clear from the above table 5 that the value of the Cronbach alpha coefficient is high for the research, and the total value of the research variables for the alpha coefficient reached (0.925), which is a high constancy value, and this result confirms the validity and reliability of the study questionnaire and its validity for application to the basic study sample.

#### 1.11 The statistical programs used in data processing and analysis

The researcher relied on data analysis and processing on a number of statistical programs, as follows:

- ❖ The ready-made statistical program package (Spss - Ver - 19): used to extract the results.
- ❖ Microsoft Excel 2010 for data analysis.

## 2. Theoraticle review

### Theoretical framework for judicial accountability

#### 2.1 Definition of Judicial Accounting

Judicial accounting can be defined as an accounting and professional service that looks beyond the numbers in order to help detect fraud in the financial statements and fight corruption in companies (Ghoneim, 2013: 32).

Judicial accounting is the integration between accounting, auditing and investigation skills, and simply, judicial accounting is the appropriate accounting from the legal point of view because it provides the highest level of assurance (Al-Khalidi, 2014: 32). That is, it helps judges in a fair and rational judgment during disputes and financial issues under scrutiny by providing information and reports that help them in that. (Al-Jalili, 2012: 12).

It is also known as an application of accounting concepts and methods to solve judicial problems, and it discloses the persons responsible for fraud and manipulation (Hassan and Abdel-Rahman, 2015: 128).

It is also known that it is a field of accounting that uses the knowledge and skills of accounting and verification to uncover economic damage and prepare opinions in legal investigations to support litigation processes (Al-Kubaisi, 2016: 3).

That is, judicial accountability consists of two basic components:

- A. **Legal services:** by which it recognize the role of the judicial accountant as an expert or advisor.
- B. Investigation services: by which it which depend on utilizing the skills of the judiacial accountant in the courtroom.

From the foregoing, it is clear that judicial accounting is a profession that combines experience and high skill in various fields, and it is a branch of modern accounting branches based on the application of accounting principles and theories and is based on providing legal services and support to judicial authorities and economic units, such as detecting financial irregularities of all kinds and making decisions regarding them.

#### 2.2 Judicial accountability procedures

Judicial accountability procedures include (Al-Kubaisi, previous source: 5):-

1. **Meeting with the client:** Because defining the problem is a basic stage that cannot be preceded by anything, the resolution of any dispute is based at the outset on this stage by knowing what the problem is, determining its dimensions and its impact, as well as the motives that led to the occurrence of the problem, whether they were procedural personal motives or unintended mistakes that led to their appearance.
2. Audit the conflict to identify the parties involved and the main players in it.
3. Initial investigation and before developing a detailed, and more completed action plan.
4. Developing an action plan for the objectives and methodology that will be used to solve the problem
5. Gathering and evaluating evidence to ensure the correctness of the information in order to take note of the issue subject to arbitration and before giving an opinion.
6. Analysis of damages, their current value, sensitivity analysis, use of computers, maps, etc. to explain the results

7. Preparing the final report indicating the scope of the investigation, the method used, the restrictions imposed on the scope, results, and opinions of the forensic accountant in addition to the tables, drawings and evidences he collected, without neglecting any facts so as not to allow the validity of the report to be challenged.

### **2.3 Areas of application of judicial accounting**

The most important main areas for applying judicial accounting can be identified as follows (Saad Eldeen, 2010: 255)

1. Investigate fraud and manipulation in financial reports.
2. Examining and evaluating the internal control system and investigating gaps or weaknesses that are used in fraud and manipulation.
3. An assessment of losses in the event of a claim for compensation from the insurance company.
4. Combating money laundering
5. Settlement of tax disputes
6. Investigation of white-collar crimes (administrative and financial corruption).

### **2.4 The judicial accountant**

#### **1. Definition of the judicial accountant**

There are several definitions of the judicial accountant, including:

He is the person who applies financial, accounting, tax and review knowledge in the analysis, investigation, inquiry, testing and examination of issues related to civil law, criminal law and legislation in an attempt to reach the truth and present an opinion as an expert (Bhasin, 2007: 10).

The judicial accountant is the one who works within a legal framework to discover fraud, corruption and fraud that occur in financial transactions and provide evidence for them ([http://en.wikipedia.org/wiki/Judicial\\_review](http://en.wikipedia.org/wiki/Judicial_review)).

He was also known as a person who has personal skills that enable him to look at what is behind the numbers and the ability to perceive and track details in addition to possessing the license that gives him the right to work as a chartered accountant and to provide services involved in this field (Al-Abbousi Nafla for Kranacher, 2020: 37).

#### **2. Skills of the judicial accountant**

From the previous definitions, it is clear that the judicial accountant has many skills and knowledge in the field of accounting, tax and law, which helps him in research and investigation in collecting and analyzing supporting evidence to reach conclusions. There are many skills and characteristics that are necessary for accountants in the jurisdiction of judicial accounting, including: (Grippe 2003: 7):

- Education and advanced training.
- Diverse experiences in accounting and auditing.
- Continuing education in the appropriate disciplines.
- Oral and written communication skills.
- Commercial practical experience.
- Diverse audit experience in the areas of the judicial accounting.
- Experience in auditing.
- The ability to interact with his team as the judicial accountant works with a team of accountants and investigators.
- People communication skills and flexibility.

However, the most important skills and experience are the experience gained through natural maturity in this profession, that is, the judicial accountant must acquire skills in the field of accounting, auditing, taxes, commercial operations and their management, internal controls, personal relationships, communications, people and knowing how businessmen work. It is also necessary for a judicial accountant, who wants to become a financial expert in law enforcement agencies or courts, through this, the qualifications of the forensic accountant can be determined as follows:

- ✓ A scientific, practical and professional background in accounting, auditing, understanding the basics of the legal environment, communication and investigation skills, and how to manage risks and control fraud.
- ✓ Creativity and confidence through high performance, understanding, insistence and perseverance to perform work and controversy in lawsuits.
- ✓ Advanced knowledge in international accounting standards, foundations, rules, and the intellectual and scientific framework for accounting and auditing issued by international and local associations, organizations and centers.
- ✓ Familiarity with legislation related to financial and accounting matters such as commercial and corporate laws and the bookkeeping system.
- ✓ Academic and professional qualification and obtaining a certificate of experience in the field of specialization.

There is also a set of qualifications and qualities that a judicial accountant must possess in order to practice his work, including (Fillmer, 2012: 27):

- I. **A professional certificate called CFE:** granted after passing the prescribed exams.
- II. **Understanding the law and the rules of evidence:** A judicial accountant must be able to understand criminal and civil law laws, understand courtroom procedures, and provide conclusive evidence.
- III. **Acquiring investigation and analysis skills:** The auditor is considered in his work like a guard dog, while the judicial accountant is considered in his work like a police dog in the sense that the judicial accountant must be suspicious and an investigator is looking for the truth.
- IV. **Understanding fraud theories, methods and models:** The judicial accountant must be creative to understand the fraud procedures that can be followed, meaning that the judicial accountant should think like an accountant who wants to manipulate numbers and records.
- V. **The judicial accountant must have communication skills:** where the judicial accountant comes into contact with different parties, including those who have no knowledge in accounting and auditing, and here he has to innovate in communication skills and so on in the court.
- VI. **Development of computer applications:** It is necessary for the judicial accountant to develop computer applications to assist him in analyzing and presenting evidence evidence.
- VII. **Acquiring superior organizational skills:** The judicial accountant must have a high capacity to organize and analyze a very large amount of financial data and documents as the ability of the judicial accountant to manage his work is very necessary for the workflow.

The American Institute of Certified Public Accountants (CPA) stressed the importance of the judicial accountant obtaining sufficient professional qualifications to practice his work, which include the CPA Certificate, the Certificate of Legal Fraud Examiner (CFE), and the CISA Experience Certificate in addition to the Certificate Internal Auditor (CIA). (Al-Khalidi, 2014: 34)

### 3. Conditions for obtaining a judicial accountant license

In order to practice his work, a forensic accountant is required to obtain a professional certificate, as there is a professional organization called NACFE, National Association of Certified Fraud Examiners. This organization was established in response to an increase in focus on fraud issues in for-profit companies and the government sector, as the primary goal of this professional organization is to reduce

the occurrence of fraud and help members to discover and prevent fraud. This organization also gives a professional certificate called CFE Certified Fraud Examiners, as the persons who hold this certificate are qualified to perform the following tasks (Dergham, 2012: 7):

- Fraud Auditors
- Investigators
- Judicial Accountant
- Public Accountant
- Enforcement Personnel Law
- Loss-Prevention
- Academicians

The CEF is granted through a standardized examination, as the holders of this certificate possess expertise in resolving disputes related to the field of fraud, by searching and investigating evidence, conducting investigations, writing reports and testimony to help prevent and discover fraud.

#### **4. The services provided by the judicial accountant**

The judicial accountant provides several services in various fields, the most important of which are (Fillmer, 2003: 27), (Al Fakhry, 2011: 43)

- 1- Providing advice to resolve disputes.
- 2- Providing advice in litigation.
- 3- An expert in financial affairs.
- 4- Financial settlements and evaluation of the partnership business.
- 5- Consultation on assessing damages (cause of loss).

### **2.5 Money Laundering**

#### **1 - Definition of money laundering:**

The term money laundering has been known by most countries of the world and there is a consensus on its definition as:

Every action or procedure aimed at concealing, transacting, transferring, or changing the nature, ownership, quality and identity of funds obtained from illegal criminal activities or acts, this is in order to cover or camouflage and conceal the original illegal source of these funds so that they appear at the end as a clean money and legitimate assets while in the original, it is not (Al-Rabei, 2005: 19).

The European Committee for Combating Money Laundering defined it as the process of transferring funds obtained from criminal activities with the aim of denying or concealing the original illegal source of these funds, or helping anyone who has committed a crime to avoid legal liability for keeping the proceeds of this crime (Al-Qouss, 2002: 13).

In addition, Article -2- of Chapter Two of Iraqi Law No. 39 of 2015 Concerning Combating Money Laundering and Combating Terrorist Financing You have committed the crime of money laundering of anyone who commits one of the following acts:

**First** - Transactioning, transferring, or exchanging funds from a person who knows or should have known that they are the proceeds of a crime, for the purpose of concealing or disguising its unlawful source or assisting the perpetrator or the perpetrator of the predicate crime or who contributed to its commission or the commission of the predicate crime to evade responsibility for it.

**Second** - Concealment of funds or disguise their reality, source, location, condition, method of disposition, transfer, ownership, or rights related to them, from a person who knows or should have known that they are proceeds of a crime.



**Third** - The acquisition, possession, or use of funds from a person who knows or should have known at the time of receiving them that they are the proceeds of a crime.

From the above definitions, money laundering can be defined as the process of transferring money obtained from illegal methods after concealing its original nature or its original source and giving it a legal and legitimate character to evade the legal consequences of its perpetrators.

## 2. Stages of money laundering

The money laundering process goes through three main stages, and each stage includes the following steps:

- 1- **Substitution stage:** It is intended to attempt for a money launderer to introduce money derived from illegal activity into the banking system. This process begins with choosing the location of the operation, whereby the funds resulting from illegal or legitimate operations are deposited within the commercial financial system, or transferred outside the country in which the illegal actions took place, so that these funds are transferred to countries with less stringent banking laws, which give special importance to what is known as the secret of the banking profession, or the secrecy of customer accounts with the banking system, and these funds are transferred to countries that are characterized by weak supervisory and supervisory financial institutions compared to developed countries (Al-Khudairi, 2003: 55). Illegal funds are disposed of in a number of ways, including depositing them in the bank, purchasing high-priced real estate and cars, or converting them into other currencies.
- 2- **The camouflaging and covering stage:** In this stage, a series of successive financial operations are carried out, to conceal the illicit asset. This stage is of great importance for money launderers who intend to create complex and multiply layers of commercial deals and financial transfers, which guarantees the concealment of illicit proceeds, camouflaging their nature and completely severing their link to their criminal source to avoid being traced by law enforcement agencies and allowing full opportunity to use them freely for various purposes (Taher, without a year: 11,10).
- 3- **The merger stage:** It is the last stage in which illegitimate funds are granted a legitimate character, so that it is difficult to distinguish them or separate them from the financial returns of legitimate businesses. In other words, the money that was laundered is re-injected into the economy again, as normal, healthy money, where it acquires a legal appearance accordingly. This is usually done through investing in the purchase of various financial instruments, such as stocks, bonds, and investment certificates in real estate activities, the tourism sector, and other legitimate businesses (Al-Erian, 2005: 44).

## 3. Money Laundering Characteristics

The money laundering crime has several characteristics, including (Ajil, without his age: 41, 40 and with self acting):

- Money laundering is considered a global crime. The development of modern technological means in the banking operations system contributed to the exacerbation of this crime, which exceeded the borders of countries, and needed intensified international efforts to confront it.
- Money laundering is an organized crime, that is, it depends on the multiplicity of criminals and the moral and material criminal units, as each of the criminals is keen to implement one or more of the special elements in the crime.
- Money laundering uses modern technologies, through the Internet and all its component technologies, and those connected with it that have relied on the use of electronic money transfers, which led to the development of the means used to conceal money laundering, especially when applying this crime by relying on international networks with organized planning.

#### 4. Methods of committing the crime of money laundering

The money laundering crime has several methods that used by the perpetrators of the crime to transfer the revenues and proceeds of crimes into assets and properties that appear in a legitimate form, and these methods are divided into traditional methods in which modern technical means are used, as follows:

##### 1. Traditional methods include:

- **Establishing a fake company:** where a group of fictitious companies is created as a cover to hide the illegal source of dirty money, and some of them are created in a specific country whose tax, financial and regulatory legislation is characterized by leniency and lack of complexity, and those companies are considered the front for dirty money (Al-Sisi, 2004: 152).

**Methods of washing in the banking sector:** and be by:

- **Deposit and transfer through banks:** where the drug dealer or the perpetrator of any other serious crime, such as trafficking in human organs or human trafficking, deposits the money obtained from the crimes in one of the bank accounts or several accounts in different banks, then transfer it later to other accounts, so that the bank has carried out the laundering process, and the money appears in a legitimate appearance. Here, some bank employees may collude with the perpetrator, and this is the most common method (Sisi, 2004, 155).
- **Re-lending:** it is done by depositing dirty money with one of the banks in a country in which there is no control over the banks or weak and its banking and financial system is not complicated, easy to establish companies and the availability of modern and fast technology means using high technology, then the perpetrator requests a loan from a local bank in another country with the guarantee of the dirty money deposited in the first bank and thus gets clean money from the loan, then he buys property with these clean money that he obtained with the guarantee of the dirty money to appear completely legitimate.

**Washing methods in the non-banking sector:** It is by:

- **Monetary transactions (deals):** It is done by converting the national currency to a foreigner through ordinary individuals to not keep the weak national currency obtained from drug trafficking or other crimes by converting it into dollars or sterling or into gold bars, high-value jewelry, artifacts or artifacts that hold high-priced and internationally known luxury cars.
- **Forged invoices:** It is carried out through the import and export of goods and services from another. It is confirmed in two ways:
  1. Raising the value of goods and services mentioned in the invoice, and the difference is the stolen money.
  2. Sending false invoices, so the money paid is the money that was laundered.
- **Manipulation of customs declarations:** It is done by investing dirty money in the country that represents the place of investment and which encourages it to attract capital, as the owners of these funds exploit the customs and credit facilities provided by the state and do not impose restrictions on these funds or examine the extent of their legitimacy.
- **Smuggling money abroad:** and this is done as a result of political and administrative corruption, the spread of crimes harmful to the public interest, the multiplicity of sources of illegal income, weakness of control agencies, with the presence of economic depression and widespread unemployment (Taher, previous reference, 21)

##### 2. Modern technical means: it includes:

- **Magnetic card:** It is a magnetic credit card issued by the bank to the account holder.

- **Virtual and electronic banks:** give an attractive field for money laundering due to the ease of transferring capital outside the borders of countries, and these banks provide on the Internet all banking services in addition to the programs that the customer can download to the computer so that the customer can complete all his banking transactions remotely and this type is called (personal computer banking) and it is the most widespread among electronic banks that facilitate the process of money laundering and penetration of the bank's network through piracy gangs. (Badie, 1997: 28)

### 3. Using the Automated Teller Machine ATM

It is done through the use of cash withdrawal machines to deposit and withdraw dirty money. These machines can be used to deposit illegal cash and they are scattered in multiple locations and can be used to conceal the source of these funds and are also used to fulfill laundered funds, as there are special machines for cash withdrawal. It can be used to withdraw money from it by legitimate clients after it is filled with illegal money (Al-Badi'ah, previous source: 30).

### 2.6 Effects of money laundering operations

Money laundering operations have many effects, and these effects differ from one country to another and according to the circumstances of these countries. Among these effects are:

#### **First: Economic Impacts**

This is through influencing the banking system, where funds are concentrated in the hands of gangs seeking to control banks in order to cooperate with them in the future in money laundering operations. Hence, the bank that has been controlled will not serve the economic development of the country. Among the economic effects is that it harms banks and financial institutions because money launderers make a sudden withdrawal of funds, which leads to an imbalance in the cash available in the bank. It works to corrupt the banking system as a result of bribery of bank leaders to ensure the implementation of the instructions of the corrupt gangs that carry out laundering operations, and also lead to increased penalties imposed on the bank as a result of its use and exploitation in laundering operations, loss of security and undermining confidence in the banking staff which leads to the collapse of the bank completely, as well as contributing to inflation through super-rich or lavishly spending without rationalization, so that money increases in society without being matched by production, so demand for goods increases with the lack of supply and production in society, so prices rise without justification, the purchasing value of money deteriorates and inflation occurs. Also, the value of the national currency deteriorates as a result of the reliance of laundering operations on foreign exchange and the ease of moving it from one country to another. There is a deficit in the balance of payments, and there is also a crisis in foreign exchange liquidity, which threatens the state's needs at the central bank of saved foreign currencies (Soliman, without publishing: 21).

#### **Second: the social impacts**

Money laundering operations lead to a set of negative effects that affect the individual, society, and public order locally and internationally, as they lead to the spread of corruption and crimes of all kinds and the spread of chaos in society without being able to reach the hidden fingers behind them. It also leads to a depletion of state resources in dealing with crime, detecting criminals, rehabilitating and treating their victims, as well as a continuous drain on human effort that is supposed to go to development, progress and development instead of falling victim to business and society (unemployment, addiction, family disintegration ... etc.). It also leads to a disorder of values, an upset of social balances, and a demolition of the cultural and ideological heritage of society, as a result of the rise of crime bosses and illegal income owners to the top of the social and political pyramid, especially in capitalist societies, given the great wealth they have that they have created through drug trafficking, after

that, they are able to change the laws, customs and regulations in force in a direction that serves their interests (Al-Sheikh, 2004: 101).

### **Third: the political impact**

Money laundering operations play a very dangerous role in fueling political and military conflicts and the creation of hotbeds of conflict and armed conflict as an open market and a source of sources for reaping dirty money and using it to perpetuate the conflict again, and also lead to the spread of financial and administrative corruption. Decision-makers become a circle of concealment of the legitimacy of these funds and the rates of crimes and assassinations increase, which leads to the weakness of the state apparatus and makes it difficult for it to play its role in combating crime, and this money may be used to support and finance the activities of terrorist organizations that aim to change the regime by force (Sheikh, previous source: 101).

### **2.7 Reasons for resorting to judicial accountability to reduce money laundering operations**

There are several reasons for resorting to judicial accountability to limit money laundering practices, including:

- 1- The relationship between money laundering crime and the accounting profession, as the accounting profession records and analyzes financial operations in economic units that may result in suspicious financial activities and transactions as a result of the money laundering crime (Jamil, 2012: 92).
- 2- 2- The failure of the internal control system in some banks and other financial institutions in discovering and combating fraud and administrative corruption operations has led to the continued occurrence of money laundering operations, especially in light of the spread of modern technology and its use by money launderers who have experience, skill and knowledge that enable them to commit money laundering crimes in a manner that hard to be discovered, this increases the need for judicial accountability due to its unique methods and skills that make it the most efficient and worthy of combating money laundering operations (Agent, without a year: 41).
- 3- Cases of default and bankruptcy faced by major companies and banks in the world at the beginning of 2001, which affected the reputation of the external audit. As this led to many stakeholders who were affected by the damage to question why the external auditors did not give warning signals until the matters in these facilities reached bankruptcy (Hamdan, 2009: 210). Also, one study indicated that external auditors may have a negative role in money laundering operations, as money launderers may obtain from them some recommendations that help them launder their money in a way that is difficult to discover, taking advantage of their experiences gained from their audit of financial institutions and others (Aslani, et. 2011: 151). In addition, the local and international auditing standards did not include nor directly address the external auditor's responsibility for combating money laundering operations (Al-Wakeel, quoting Ibrahim, 2013: 40). Here, the need for judicial accountability to emerge to reassure stakeholders to avoid fraud and manipulation of financial statements.
- 4- Article 5-First of Law No. 39 of 2015 stipulates the establishment of the Council for Combating Money Laundering and Financing of Terrorism in the Central Bank of Iraq headed by the Governor and with the membership of representatives from different entities, each of whom is no less than Director General, this leads to an increased need for the services of the judicial accountant as an expert to express his opinion in all disputes and lawsuits related to money and business.

Judicial accountability contributes to the provision of judicial advice and the provision of financial information that is evidence among the credit evidence for those accused in financial cases.

### 3. Empirical analysis and test

#### 3.1 Empirical analysis

This topic seeks to clarify the most important characteristics of the members of the research sample of workers at Al-Rafidain Bank, through the information included in the questionnaire form that was distributed to them, and what follows is a brief description of the individuals of the research sample.

1. **Gender:** Table 4 shows that the number of males reached (50) individuals, or (54.3%) of the total study sample of (92). As for the percentage of females, the number of its individuals reached (42), with percentage of (45.7%) of the total study sample.
2. **Age:** Table 4 shows that the age group (51 - and over) has a (30) individuals, with (32.6%) of the total study sample, which is (92), which is the highest percentage. This is followed by the age group (31-40), constitutes (27) individuals, or (29.3%), followed by the age group (41-50), (26) individuals, with (28.3%), finally, the group (21-30) constituted (9) individuals, which represent only (9.8%).
3. **Academic degree:** Table 4 shows that the vast majority of the sample members have a bachelor's degree, so their number reached (66) from the total study sample, which is (92), meaning (71.7%), which is the highest percentage. While the number of holders of a higher diploma (Post Graduated Diploma) reached (5) individuals, or (5.4%), and the number of holders of a master's degree or its equivalent reached (12) individuals, or (13.0%), while the number of holders of a higher diploma reached (5) individuals, or (5.4%), and the number of holders of a master's degree or its equivalent reached (12) individuals, or (13.0%),
4. **Years of service:** Table 4 shows that the service period from (20-and more) achieved the highest percentage, as the number of its members reached (36) individuals, or (39.1%) of the total study sample, which is (92), followed by service from (10- and less), and the service is from (15-and less) respectively, as it reached for each of them (21) individuals, i.e., (22.8%), and finally the service falling from (20-and less), the number of its members reached (14), i.e., (15.2%) of the total sample. It is clear that the researched sample is characterized by intellectual maturity, and skill integration between all levels, and this creates strength for the study, especially in the sample's response to the paragraphs of the questionnaire, in terms of understanding and comprehension.

**Table 4: Characteristics of Sample Members**

No.	Variables	Categories	Repetition	Percent %
1	Gender	Male	50	54.3
		Female	42	45.7
		<b>Total</b>	<b>92</b>	<b>100.0</b>
2	Age	21-30	9	9.8
		31-40 years	27	29.3
		41-50 years	26	28.3
		51 years and over	30	32.6
		<b>Total</b>	<b>92</b>	<b>100.0</b>
3	Educational Degree	Bachelor	66	71.7
		Post Graduate Diploma	5	5.4
		Master	12	13.0
		Others	9	9.8
		<b>Total</b>	<b>92</b>	<b>100.0</b>
4	Years of Experience	10 years and less	21	22.8
		11-20 years	21	22.8
		21-30 years	14	15.2
		31 years and more	36	39.1
		<b>Total</b>	<b>92</b>	<b>100.0</b>

### 3.2 Presentation and analysis of the questionnaire results

To complete the practical side of the research, to reach the required data, and to prove the validity of the research hypotheses, a questionnaire form was designed, which included two topics, according to the research variables, which are represented in two axes, the first which includes questions related to the judicial accountant, and the second topic, which includes questions related to money laundering.

This topic seeks to present the sample answers represented by (workers in Al-Rafidain Bank) for each axis and each paragraph of the study, related to the legal accountant, money laundering, as the arithmetic mean and standard deviations, the variation coefficient, and the relative importance of the sub and general level were used.

**1. The judicial accountant:** This axis was measured through ten questions (1-10), and as shown in Table 5, the results about it were distributed among the highest level of an answer that was achieved by the tenth question, which states: *(The judicial accountant possesses knowledge of the relationship of the departments to each other and the duties and responsibilities of these departments)*, as its mean value reached (3.98), which indicates an option (agreed), and with good consistency in the answers, and confirmed by the value of the standard deviation and the coefficient of variation, then its value reached (0.59), (14.79) respectively. This result indicates that this paragraph has a high level of importance among the sample surveyed, while the relative importance was (79.60), which confirms the degree of interest of the research sample about this paragraph.

As for the ninth question, this states: *(The judicial accountant, listens carefully to the proposals of those working in the field of judicial accounting work)*, it achieved the lowest level of the answer, as its mean value reached (3.12), which indicates an option (neutral), with an average consistency in the answers, which is confirmed by the value of the standard deviation and the coefficient of variation, this value reached (0.85), (27.20), respectively.

This result indicates that this paragraph has a medium level of importance for the studied sample, while the relative importance was (62.40), it confirms the degree of interest of the research sample about this paragraph, and this result indicates that there is almost no agreement on the part of the sample members for this paragraph.

In general, it can be said that the arithmetic mean of all the paragraphs of the forensic accountant axis is equal to (3.79), which refers to the option (agree), which is a positive value, and this result indicates that the majority of the sample members agree that the judicial accountant has a positive effect in limiting the process of money laundering

**Table 5: The arithmetic mean, standard deviation, coefficient of variation, and the relative importance of the variables at the sub and total level of the judicial accountant**

No.	Paragraphs	Mean	St. diviation	Variation coeff.	Relative importance
1.	A judicial accountant possesses a scientific and professional background in accounting, auditing, taxation, and business operations	3.82	0.66	17.29	76.40
2.	The judicial accountant applies effective technical methods to detect weaknesses and deficiencies in financial performance that help in reducing fraud and manipulation.	3.80	0.57	15.04	76.00

3.	A judicial accountant has the ability to recognize indicators of fraud, manipulation and manipulation in financial records and statements	3.88	0.59	15.31	77.60
4.	The judicial accountant has the ability to provide legal, judicial, investigative, and inspection advisory services to prevent fraud and manipulation.	3.90	0.81	20.88	78.00
5.	Has the ability to examine and evaluate the internal control system and investigate weaknesses that are used in fraud and manipulation	3.82	0.69	18.08	76.40
6.	The judicial accountant is familiar with the changes that occur in the law and relevant legislation and updating them from time to period	3.62	0.88	24.26	72.40
7.	Has the ability to estimate losses in the event of a claim for compensation from the insurance company	3.74	0.83	22.15	74.80
8.	The judicial accountant adopts transparency when following up on bank members in the field of auditing work	3.72	0.93	24.91	74.40
9.	The judicial accountant listens carefully to the proposals of those working in the field of judicial accounting work	3.12	0.85	27.20	62.40
10	The judicial accountant has knowledge of the relationship between departments and the duties and responsibilities of these departments	3.98	0.59	14.79	79.60
<b>The judicial accountant</b>		<b>3.79</b>	<b>0.41</b>	<b>10.92</b>	<b>75.75</b>

## 2. Money Laundering

This topic was measured through ten questions (11-20), and as shown in Table6, the results about it were distributed among the highest level of answers that were achieved by the nineteenth question, which states (*The bank uses information technology to detect money laundering operations*). The mean value for it was (4.38), which indicates an option (strongly agree), and with high consistency in the answers, and it is confirmed by the value of the standard deviation and the coefficient of variation therein, respectively, this value reached (0.67), (15.22). This result indicates that this paragraph has a high level of importance among the sample studied, while the relative importance was (87.60), which confirms the degree of interest of the research sample about this paragraph. As for the thirteenth question, which states (the bank conducts training courses for workers on combating money laundering), it achieved the lowest level of answer, as its mean value reached (3.28), which refers to the option (neutral), with

average consistency in the answers, and is confirmed by the value of the standard deviation and the coefficient of variation therein, respectively, so its value reached (0.61), (18.52), and this result indicates that this paragraph has a medium level of importance for the sample studied, while the relative importance was (65.60), which confirms the degree of interest of the research sample about this paragraph, and this result indicates that there is almost no agreement by the sample members on this paragraph. In general, it can be said that the arithmetic mean for all the paragraphs of the money laundering axis is equal to (3.74), which refers to the option (agree), which is a positive value, and this result indicates that the majority of the sample members positively agree on the importance of the money laundering items in the bank.

**Table 6: The arithmetic mean, standard deviation, coefficient of variation, and the relative importance of the variables at the sub and total level for money laundering**

No.	Paragraphs	Mean	St. diviation	Variation coeff.	Relative importance
11.	The bank reports suspicious transactions to the Monetary Authority with the appropriate speed.	3.62	0.75	20.80	72.40
12.	The bank is working on developing electronic information systems to fulfill its anti-money laundering obligations.	3.66	0.63	17.11	73.20
13.	The bank holds training courses for workers on combating money laundering.	3.28	0.61	18.52	65.60
14.	The bank places restrictions on withdrawals and deposits of large amounts by customers.	3.86	0.76	19.59	77.20
15.	Large sums are deposited into the account by the account holder exclusively to prevent dirty money from entering.	3.86	0.70	18.14	77.20
16.	The bank refused to receive funds from unknown source to protect against collapse.	3.88	0.52	13.42	77.60
17.	The bank cancels money transfers through the names of people without an account.	3.62	0.83	22.94	72.40
18.	There is an understanding among customers of the measures taken by the bank in combating money laundering.	3.56	0.67	18.96	71.20
19.	The bank uses information technology to detect money laundering operations.	4.38	0.67	15.22	87.60
20.	The bank has many methods by which it is possible to prevent illegal funds from being circulated by shell companies.	3.70	0.84	22.68	74.00
<b>Money laundering</b>		<b>3.74</b>	<b>0.33</b>	<b>8.76</b>	<b>74.84</b>



### 3.3 Correlation and Impact

#### 3.3.1: Analyzing the correlation between the forensic accountant and money laundering

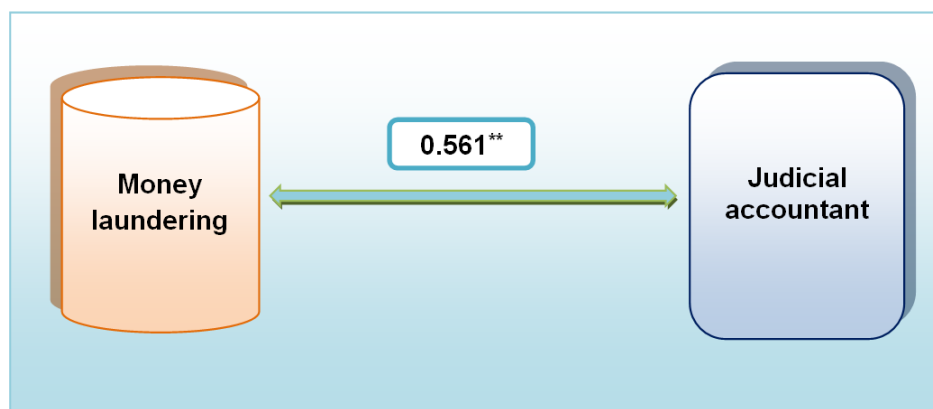
This topic seeks to determine the nature of the relationship between the study variables, and to know the extent of acceptance or rejection of the first main hypothesis that: There is a statistical correlation relationship with positive significant significance for the judicial accountant in money laundering, using the simple correlation coefficient (Pearson Correlation Coefficient), which is one of the statistical methods used to measure the strength and direction of the linear relationship between two quantitative variables at the level of the researched sample.

It is evident from Table 7 and figure 2 that there is a positive correlation with a positive (direct) significant significance between the judicial accountant and money laundering, at the macro level, and the correlation relationship had a value of (0.561\*\*), at a level of significance (0.01). The number of moral relations was (1), which constitutes (100%), and from here we infer the acceptance of the first main hypothesis that there is a statistical correlation with positive moral significance for the judicial accountant in money laundering, as shown in Table 7 and figure 2.

**Table 7: The correlation relationship between the forensic accountant and money laundering**

Judicial Accountant Money Laundering	Judicial account X		Moral relationships	
			Number	Percentage (%)
Money laundering	Correlation coefficient	0.561**	1	100
	Level of morale	0.000		
	The Decision	Function		

(\*\*) A significant correlation at (0.01) level, (\*) A significant correlation at (0.05)



**Figure 2: The correlation relationship between the forensic accountant in money laundering**

#### 3.3.2 Hypothesis regression analysis

The present study developed the second main hypothesis, which is the simple regression analysis.

## 1. Simple regression analysis

It is clear from Table 8, that the calculated value of (F) reached (22.051), which is greater than the tabular value of (F) of (6.85) at the level of significance (0.01), and with significance (0.000), with a degree of freedom (1.90), this result means that there is a statistically significant effect of the responding variable (operations of the judicial accountant) on the dependent variable (money laundering), in the research sample. As for the value of the coefficient of determination ( $R^2$ ), which is a descriptive measure used to explain the usefulness of the regression equation in estimating the values and it represents the percentage of decrease in errors when using the regression equation, it was (0.315). This means that (the forensic accountant) explains (31.5%) of the variance in (money laundering), and (68.5%) is a variance explained by factors that did not enter the regression model. Accordingly, these results provide sufficient support to accept the regression hypothesis of the second main research, which states (*There is a significant effect for the judicial accountant in money laundering*).

Through Table 6, we notice that the value of the constant term ( $a = 1.980$ ) is statistically significant, as the value of  $t$  calculated for it is (5.250), which is greater than the tabular  $t$  at the level of significance of 1% and the degree of freedom (90) which is (2.36), as for the value of the marginal slope ( $b = 0.469$ ), it is statistically significant because the calculated value of  $t$  of 4.696 is greater than the tabular  $t$  at the level of significance 1% and the degree of freedom (90) which is (2.36), these results confirm the existence of a strong influence of the judicial accountant in the money laundering process in the bank.

Table 8: the impact of the judicial accountant in the money laundering process

<div style="text-align: center;">                     Dependent variable Independent variable                 </div>	Money laundering							
	Fixed Limit A	Calculated Value of T	Marginal inclination B	Calculated Value of T	Selection coefficient $R^2$	Calculated Value of F	Morality	Decision
Judicial accountant	1.980	5.250	.0469	4.696	.0315	22.051	0.000	There is an effect

\*The value (f) of the table at a significant level 0.05 and the degrees of freedom (1.90) = (3.92),

\*\* The value (f) of the table at a significant level 0.01 and the degrees of freedom (1.90) = (6.85)

\* Value (t) tabular at a significant level 0.05 and degrees of freedom (90) = (1.66)

\*\* Value (t) tabular at a significant level 0.01 and two degrees freedom (90) = (2.36)

## 4. Conclusions and recommendations

### 4.1 Conclusions

1. The spread of the crime of money laundering at the local, regional and international levels led to the emergence of judicial accountability, and the need for professional experts in the field of accounting and auditing, and those who possess skills that would enable them to make their opinion before the courts.

2. In order for the judicial accountant to be able to prevent or limit money laundering operations, he needs a set of characteristics, knowledge and skills, including: creativity, confidence, knowledge of accounting standards, communication skills with people, and flexibility, in addition to the various experiences in the field of accounting, auditing, communication, investigation and preparing plans to monitor suspicious movements that are under suspicion and prepare the necessary reports and submit them to the relevant authorities.
3. There is no role for judicial accountability in Iraqi courts, despite the urgency needed for it, to settle the many cases they have.
4. Financial institutions in general and banks in particular are considered the most targeted institutions for money laundering operations.
5. There is a positive and moral relationship between the judicial accountant and curbing the money laundering process.
6. The presence of a positive and moral influence for the judicial accountant in limiting the money laundering process.
7. The judicial accountant does not listen to the proposals of those working in the field of judicial accounting work.
8. The lack of training courses held by the bank for workers on the anti-money laundering process

#### 4.2 Recommendations

In light of the results reached, the following recommendations can be taken:

- 1) Judicial accounting has great importance in reducing money laundering operations and the importance of the role that the judicial accountant plays, especially in cases of examination and investigation, because of his skills and experiences in the accounting, auditing and legal fields. It is necessary that he be within the audit work team to uncover money laundering practices.
- 2) The need to pay attention to training programs that aim to develop the expertise and skills of employees of the regulatory agencies as judicial accountants.
- 3) Establishing specialized judicial accounting units within each of the Iraqi court departments to provide an appropriate environment for the judicial accountant.
- 4) Preparing training programs for bank employees to help them detect money laundering operations and assist the judicial accountant in performing his work efficiently.
- 5) The judicial accountant listens to the proposals of those working in the field of the judicial accounting work.
- 6) Holding adequate training courses for workers in the anti-money laundering process.
- 7) Developing training programs in the process of reducing money laundering in line with its development with developed countries.
- 8) Setting standards for the judicial accountant to limit the money laundering process at all levels from time to time according to various standards, and are approved to discover deviations and errors, and to address them immediately.

#### 5. References

##### 5.1 Arabic references

1. Anti-laundering and financing of terrorism law No. 39 of 2015.
2. Al Fakhry, Bashar A working paper presented to the scientific symposium on (Judicial Accountability in the State of Qatar), Doha, Qatar May 4, 2011
3. Al-Jalili, Miqdad Ahmad, Judicial Accounting and its Possibility of Application in Iraq/Al-Rafidain Development Journal/College of Administration and Economics - University of Mosul Issue/107 volumes/34: 2012.

4. Jamil, Ravi, The Role of the Forensic Accountant in Detecting and Addressing Money Laundering Operations/A Case Study in the FBI, Journal of Management and Economics-Al-Mustansiriya University, Volume 2, Issue 93.
5. Hassan, Adel, Abdul Rahman / The role of judicial accounting in reducing the practices of creative accounting methods / field research from the viewpoint of auditors in audit offices, AMRAC - Journal of the American Arab Academy of Sciences / 2015: 128.
6. Al-Khalidi, Nahedh Nimer Muhammad / The role of judicial accounting in confronting creative accounting practices and reducing their effects on financial statements (an applied study) Journal of Palestine University for Research and Studies Issue / 6-2014: 32.
7. Al-Khudairi, Mohsen Muhammad, Money Laundering, Cairo, The Nile Arab Group, 2003.
8. Dergham, Dr. Maher Moussa / Forensic Accountancy / The Palestinian Accountant Journal - a periodic magazine issued by the Palestinian Accountants and Auditors Association, Issue 19/2012.
9. Al-Rubaie, Zuhair-Saeed, Money Laundering, the Scourge of the Age and the Mother of Crimes, Al-Falah Library, Kuwait 1<sup>st</sup> Edition, 2005.
10. Al-Wakeel, quoting Ibrahim, Ashraf Mohamed, proposed entry to reduce the obstacles to activating the role of external auditors to contribute to combating money laundering in Egyptian banks, a field theoretical study, - Institute of Public Administration, Volume 53, Issue 4, August, 2013.
11. Al-Wakeel, Hossam Said, a proposed introduction to the use of judicial accounting in combating money laundering operations in the Egyptian environment, Cairo field study, Faculty of Commerce and Business Administration, Accounting Department, Helwan.
12. Saad El-deen, Iman Mohamed / Analytical study of creative accounting and the role of the forensic accountant in confronting it with application to the Egyptian communications and technology sector, Cairo, Cairo University, Faculty of Commerce, Journal of Accountability, Management and Insurance Issue 75, year 2010.
13. Suleiman, Abdel-Fattah, Combating Money Laundering, without publication.
14. Al-Sisi, Salah El-Din Hassan, money laundering, the crime that threatens the stability of the international economy, Arab Thought House, Cairo, 2004.
15. Sheikh, Babiker, Implications of Globalization on the Legal and Legislative Aspects of Countries, Khartoum, Sudan Currency Limited Press 2004.
16. Taher, Mustafa, Legislative Confrontation with the Phenomenon of Money Laundering from Drug Crimes, Cairo, Technical Supplies for Printing, 2004.
17. Al-Qusous, Ramzi Naguib, Money Laundering, the Crime of the Age, Wael Publishing House, 1<sup>st</sup> Edition, Jordan, 2002.
18. Al-Kubaisi, Abd Al-Sattar / A field survey on judicial accountability from the viewpoints of the judiciary and the judicial accountant in Jordan - The Jordanian Journal of Business Administration / Volume 12 Issue 1/ 2016: 3.
19. Al-Abusi, Amer Obaid, quoted by Kranacher, The Role of the Forensic Accountant in Achieving Integration of Accounting and Legal Performance / Applied Research for Selected Cases from the Realities of Iraqi Courts, 2020.
20. Abd al-Badi ', Ahmad Abbas, International Efforts to Combat Money Laundering, 1<sup>st</sup> Edition, 1997.
21. Abdul-Saheb, Najm and Hamdan, Khawla Hussain, Procedures of Financial and Supervisory Institutions in Combating Money Laundering, A Study in Iraqi Legislation, Al-Qadisiyah Journal of Administrative and Economic Sciences, College of Administration and Economics, Volume 11, Issue 2.
22. Ajil: Tariq, The crime of money laundering is a study of its nature and the penalties prescribed for it, Journal of Integrity and Transparency for Research and Studies, without a year.
23. Al-Erian, Muhammad Ali, Money Laundering Operations and Mechanisms to Combat It, Alexandria, New University Publishing House, 2005.

24. Ghoneim, Mahmoud Rajab Yas, An Integrated Framework for Using Judicial Review to Prevent and Detect Fraud in the Egyptian Environment / Faculty of Commerce, Benha University, 2013.

## 5.2 Internet

[https://en.wikipedia.org/wiki/Judicial\\_review](https://en.wikipedia.org/wiki/Judicial_review)

## 5.3 Forigen references

1. Aslani M, Lotfaliyan F, Shafieipour V, and Ghasemi M. (2011), "The Role of Auditing Profession in Fighting against Economic and Financial Crimes", International Conference on E-business, Management and Economics, Vol.25, pp.151-157
2. Bhasin, Madan. (2013). Survey of skills required by the forensic accountants: evidence from a developing country. International journal of contemporary business studies, vol 4, No. 2, 2013.
3. Fillmer Scott, Forensic Accounting Defined, (2003).
4. Grippio, Frank. "Introduction to Forensic Accounting". The National Public Accounting June, 2003
5. Krejcie RV, Morgan DW. "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970 .