

Analytical Methods In Auditing And Their Role In Detecting Financial Fraud In Financial Statements And Their Importance From The User's Point Of View (An Analytical Study)

Mohammed Jasim Hammadi AL-Khulaifawi¹ and Aymen Ben Rejeb²

Abstract:

The study aims to apply analytical methods to financial reports (financial statements) for early detection of financial fraud in the financial statements of the two Baghdad Soft Drinks companies, shed light on recent trends in applying analytical methods, and determine the impact of analytical methods in the three audit stages on the quality of the external auditor's performance. In addition to the responsibility of the external auditor to detect financial fraud in the Iraqi environment in accordance with International Auditing Standard 240 by using analytical methods. For the purpose of achieving the objectives of the study, a sample was selected from the Iraqi industrial sector, which is (the two Baghdad Soft Drinks companies. The time limits of the study were the period (2017-2021). The results showed, through analyzing the previous turnover rate of the Baghdad Soft Drinks Company, that there was an increase in turnover rates for the years 2018 and 2019. With rates of (11% and 17%). In the year 2020, we notice a decrease in the turnover rate by (9%), and in the year 2021, the rate reached (18%) compared to the base year of 2017. This means that every dinar invested in fixed assets corresponds to (1.802).) dinars, (2,007) dinars, (2,359) dinars, (2,579) dinars, and (2,098) dinars from sales during the years (2017, 2018, 2019, 2020, 2021), respectively.

Therefore, there is an increase in net sales (293,821,963,243) dinars, (331,351,800,403) dinars, (367,746,074,612) dinars, and (415,005,789,102) dinars. And (531,822,049,007) dinars during the years (2017, 2018, 2019, 2020, 2021) respectively, and the corresponding decrease in the values of fixed assets (in book value) amounting to (163,007,390,122) dinars. (165,033,166,351) dinars, (155,881,571,429) dinars, (160,888,080,779) dinars, and (253,398,680,549) dinars during the years (2017, 2018, (2019, 2020, 2021) and it is clear that analytical methods have contributed to identifying the company's failures and positives through analyzing all paragraphs of the items of the financial position statement, the income statement (its revenues and expenses) and the cash flow statement, as the results showed the company's strength in its financial performance and the strength of its financing through... Analyzing consistency in finance, the study recommends using analytical methods with financial ratios and comparisons is one of the most important tools of analytical methods adopted by the external auditor in the process of auditing and expressing an opinion, as analytical methods help the external auditor in converting the huge amount of financial data and information contained in the financial statements into quantitative Less and more useful in the decision making process.

¹Graduate Institute of Commercial studies in Sousse, University of Sousse

²High Institute of Management of Sousse, University of Sousse, Tunisia.
LAMIDED, ISG Sousse, University of Sousse, Tunisia.

Introduction

Analytical procedures are an indicator of the financial difficulties that the company being audited may face. When the auditor uses some types of analytical procedures, he can determine the possibility of financial fraud. For example, the presence of a significant increase in the ratio of long-term debt to net worth, with a decrease in the ratio of long-term debt to net worth from the average. Profits to total assets, as the auditor appears an indicator that expresses the presence of a high risk of financial fraud occurring, (Grow, 2014: 13), which requires the auditor to verify the possibility of the company under audit continuing to continue and to make an amendment to the audit report upon completion of the audit process, as Unexpected large differences between the financial statements that have not been audited and relate to the current year and the financial data used to conduct the comparison process are called Unusual Fluctuations, which the auditor can determine using analytical procedures. Unusual fluctuations occur in the event of unexpected fundamental differences.

Or when fundamental differences were expected but they did not occur, as the reason for both cases is due to the presence of errors or violations, as the auditor must determine the reasons for the large differences and that they result from the presence of errors or violations, for example when the auditor notices a decrease in the debt provision ratio. doubtful debts to the total debtors in the current year compared to the same percentage in the previous year. At the same time, the auditor notices a decrease in the debtors' turnover rate, as the combined effect of this information may indicate a possible decrease in the provision. This type of analytical procedure is called directing attention. (Attention Directing), which results in the implementation of more detailed procedures in specific aspects during the audit process, which may lead to the discovery of errors, violations, and financial fraud (Arens and Luebke, 2006: 171).

Analytical methods are considered a basic link with practical and strategic dimensions within the company's comprehensive information system. It is considered an element of the comprehensive quality management system and constitutes the system's safety valve in the organization's audit work at all levels of management, whether related to following up on operations, producing various necessary information and preparing reports based on the necessary comparisons and analyzes or for making decisions and working on forming models to study various opportunities and planning and preparing. Budgets, as they constitute a primary internal source of information for other subsystems. (Hassan, Abbas, 2020) Analytical methods use comparisons and relationships to determine the reasonableness of an account balance or any other statement.

Analytical methods may be the only evidence required in the case of accounts that have no relative importance, and in some cases analytical methods are used to isolate accounts or financial operations that must be examined in depth to determine whether there are other steps that must be taken to verify, for example The total maintenance expense for the current period is compared with the same expense for the previous period and the difference is examined, and the reason for the increase or decrease must be identified, if any (Jarbou, 2004: 12).

This study aimed to demonstrate the role of analytical methods in detecting financial fraud in financial statement items, identify factors affecting the extent of the external auditor's reliance on analytical methods, shed light on recent trends in the application of analytical methods, and determine the impact of analytical methods in the three stages of auditing on the quality of auditors' performance. Accounts, in addition to that, adding responsibility to the external auditor in detecting financial fraud in the Iraqi environment in accordance with International Auditing Standard 240 through the use of analytical methods, and explaining the role of the correlation between analytical methods and financial fraud, and finally identifying the reality of the use of financial reports by their users and audited according to analytical methods and the extent Its credibility from the user's point of view.

The first section: study methodology

After the rapid economic changes and developments in recent years in all countries of the world and the emergence of multinational international companies that are active in different environments in the countries of the world and the emergence of many problems represented in the extent of the confidence of the owners of these international companies in the method of external auditing applied in each of the relevant countries and the extent of its efficiency. Those responsible for it, and in view of the important role played by the external audit profession in providing its services to all relevant parties that use the outputs of this profession, which is represented in giving a professional opinion that companies' financial statements include sufficient, appropriate and credible information for users of that information in making their economic and financial decisions. The primary goal of the audit process is to serve the users of the lists by expressing an opinion on the integrity and truthfulness of the representation of the financial statements prepared by management regarding the results of its work and its financial position. This leads to the use of analytical methods in performing the audit by the auditor in order to ensure that the external user of the financial statements is the It was prepared according to legal principles and is reliable in relying on, and through reviewing the previous studies presented below, and as a result it can be said that the problem of the study consists of the following questions:

- 1- The extent to which analytical methods are applied in the Iraqi auditing environment by the external auditor?
- 2- Do analytical methods contribute to early detection of financial fraud in financial statements?
- 3- How important is the financial statements audited according to analytical methods from the user's point of view?
- 4- Does the auditing process in Iraqi companies contribute to credibility?

Thus, the importance of this study stems from the importance of the quality of the external auditor's performance and what is required of following a set of sound and appropriate scientific and practical methods and procedures, including the analytical methods that the external auditor uses in the three stages of the audit because they help him predict and discover potential errors and distortions in the financial statements. It provides sufficient insight for the external auditor to use in forming his conclusions and opinion about the truthfulness and fairness of the financial statements of the company that is the subject of the audit.

The study also aims to shed light on recent trends in the application of analytical methods, and to determine the impact of analytical methods in the three stages of auditing on the quality of the external auditor's performance, in addition to the responsibility of the external auditor in detecting financial fraud in the Iraqi environment in accordance with International Auditing Standard 240 by using analytical methods. .

Study hypotheses

In light of the specific objectives of the study, the following hypotheses were developed:

- 1- There is an application of analytical methods by the external auditor at Baghdad Soft Drinks Company in identifying and detecting financial fraud in the financial statements.
- 2- Analytical methods contribute to early detection of financial fraud in the financial statements of the Baghdad Soft Drinks Company.

In order to build the structure of the study, the researcher's interest was focused on forming the theoretical and practical frameworks for the study, relying on both the deductive, inductive and analytical approaches. The information and data necessary to complete the study and its theoretical and practical aspects were collected as follows: In order to achieve an integrated theoretical framework for the study, the researcher relied on what It is

available from sources from foreign and Arab literature, and in determining the practical framework for the study, the analytical approach was used in analyzing the financial statements of industrial companies in order to prove the hypotheses of the study and achieve its objectives. In order to achieve the objectives of the study, the researcher chose a sample from the Iraqi industrial sector, which is the Baghdad Soft Drinks Company.

literature review:

By searching for studies related to the current study, we were able to collect a group of studies related to the current study, which are:

A study (Jakhyour, Faraj, 2022) entitled “Using analytical procedures to estimate the risks of audit work”: The study aimed to clarify the risks of audit work, and their impact on formulating legal and professional responsibility, and the research was built on the following hypothesis: “Indicators of analytical procedures help the auditor in assessing risks.” Its work, and choosing the methods and tools that can be used to deal with it. One of the most prominent conclusions is that there is a need for the auditor to take into account the risks of the audit work by applying a set of indicators linked to the analytical procedures. As for the most prominent recommendations, it was the necessity of taking contractual risks into account to protect the auditor from legal accountability and professional.

A study (Kindawi et al., 2022) entitled “The Role of Traditional Auditing in Detecting Financial Fraud Operations”: The research relied on a questionnaire consisting of three axes that was presented to a group of professors specialized in the field of accounting in Iraqi universities, especially the University of Baghdad and Al-Mustansiriya University. And a number of external auditors for the purpose of studying and clarifying the role of traditional auditing and its importance in detecting financial fraud operations. One of the most prominent conclusions reached by the research is that there is a major and notable role for traditional auditing in detecting and reducing financial fraud in economic units. The study recommends paying attention to auditors by providing the appropriate atmosphere that helps in detecting or reducing financial fraud.

A study (Tamah, 2021) entitled “The role of electronic management and activating internal control in reducing financial fraud, an exploratory study in the General Company for Textile Industries in Wasit”: This research focuses on identifying the extent of the need to implement electronic management and internal control in government units to reduce fraud. The research aims to explain the concept of electronic management and its importance, and several conclusions were reached, the most important of which is the lack of use of modern electronic means and the weakness of the supervisory role followed in the company sample of the study. The research came out with a set of recommendations, including that government units must pay attention to applying modern means in electronic management and training Employees use it and prepare audit reports in the required time in order to reduce financial fraud.

The second section: theoretical literature

Concepts of analytical methods in auditing

There are many definitions of the concept of "analytical methods", as they are defined according to what is stated in the International Auditing Standard (520) as an important type of audit evidence that consists of evaluating financial information through analyzing reasonable relationships between both financial and non-financial data (Amin and Hamad, 2020: 199).

Analytical methods are also intended to be a study of the relationships between data recorded in books, comparing them with data from previous periods or comparing them with expected data, detecting deviations and identifying their causes (Sahoo et al., 2018:7).

Others believe that analytical methods are procedures that allow auditors to evaluate financial information by studying the relationships between financial and non-financial data when used near the end of the audit. Analytical methods allow auditors to evaluate the conclusions reached during the audit and evaluate the overall presentation of the financial statements (Deniz et al. ,2018:4).

It is also known as one of the advanced methods adopted in the process of evaluating financial information by studying, comparing, and analyzing convincing relationships between both financial and non-financial data in order to facilitate the stages of the audit process and reach evidentiary evidence that reinforces the external auditor's opinion in his final report (Louwers et al. ,2018:109).

Based on the above, the researcher believes that all previous definitions agree that analytical methods represent a method based on comparing the balances recorded in the books with the values expected for them by the external auditor in order to identify the extent of deviations of these balances from the expected values and to investigate the reasons for the occurrence of the deviations, if any.

The importance of analytical methods in auditing:

The importance of the auditor's use of analytical procedures is because they help the auditor in the following aspects (Hamid, 2011: (34):

- ❖ Estimating the ability of the entity to be audited to continue.
- ❖ Understand the field of work of the entity to be audited for previous years.
- ❖ Reduce detailed testing.
- ❖ Pointing out potential errors in the financial statements (Nassar et al., 2008 9).

The researcher believes that the adoption of analytical methods, and their importance, increases when he wants to rely on information in the results of analytical methods. Likewise, tests of control over non-financial information can accompany the accounting control tests associated with them, as an example of this is control over sales invoices that are coupled with control over registered sold units.

Advantages of analytical methods in auditing:

(Essam, 2009) identifies the benefits resulting from using analytical review as follows:

Detecting errors in financial statements, discovering errors in balances and deletions, discovering unusual items, discovering unexpected items, increasing the effectiveness of the audit in general, predicting some financial account balances, helping to reduce the time required for the audit process, reducing the amount of effort expended in the audit process. Reducing the size of the audit sample, reducing other audit tests.

Objectives of analytical methods:

The external auditor performs analytical methods to achieve a set of objectives, which can be summarized as follows (Abdul Razzaq, 2019: 26-27):

First: Identifying possible errors and distortions in the financial statements (Arens et al., 2006:210):

Second: Reducing detailed audit tests (Abdul-Ahad and Siwan, 2021:135).

Third: Reducing the cost of performing the audit process (Abdul Razzaq, 2019: 23).

Fourth: Helping to understand the scope of work of the economic unit (Abdul Rahman and Al-Rasheed, 2007:487).

Fifth: Estimating the capacity of the economic unit (Dowling, 2012:774).

Purposes of analytical methods in auditing:

Naeem, 2013 (58-61) indicated that analytical methods can be used for the following purposes:

- a. Analytical methods as risk assessment procedures
- b. Analytical methods as fundamental procedures

Types, methods, considerations, and factors of relying on analytical methods in auditing

Analytical methods vary according to the types of data that the auditor is comparing, as there are five main types of analytical methods (Hamid, 2011: 37-40):

- 1- Comparing the data of the entity to be audited with its expectations
- 2- Comparing the data of the entity being audited with the auditor's expectations
- 3- Comparing the data of the entity being audited with the results using non-financial data:
- 4- Comparing the data of the entity being audited with the data of the activity in which it works:
- 5- Comparing the data of the entity to be audited with the corresponding data in the previous period:

Table (1) Some comparisons used in analytical methods

No.	Types of comparisons	Examples
1-	Comparing current financial information with known or predictable relationships.	Compare the commission bank of sales staff with recorded sales multiplied by the commission rate.
2-	Compare current financial information with industry information.	Comparing the customer's gross profit percentage with industry averages.
3-	Compare current financial information with current non-financial information.	Comparing workers' expenses with the number of working hours.
4-	Compare current financial information with information related to previous years.	Comparing employees' salaries for this year with their salaries in the previous year.
5-	Compare current financial information with forecast data.	Comparing the actual cost of sales with the cost of sales estimated through budgets.

Source (Al-Najm, 2012: 268)

From the table above it is clear that the comparison method is one of the most prominent tools of analytical methods that are used by the external auditor to identify the nature of the relationships between the balances that make up the financial statements of the facility subject to the audit and the possibility of predicting what the balances will be in the future in addition to knowing the position of the economic unit compared to similar ones of the same type Industry sector.

Analytical methods in auditing:

The external auditor must obtain sufficient and appropriate evidence that enables him to reach reasonable results upon which he can rely in expressing his opinion about the financial statements. This evidence can be obtained through two sets of audit procedures,

which are (Aqili, 2014: 68): Procedures for compliance with internal control systems, and basic substantive procedures.

The second level: “simple quantitative” analytical methods.

The main philosophy behind the use of these procedures in auditing is the existence of relationships between data in a certain pattern and their continuation in this pattern in the future as long as the surrounding circumstances do not change. This type of procedures is characterized by adopting quantitative information and processing it in an easy way to cover evidence in the auditing process. The most important of these procedures are the following. (Ismail, 2005:107):

Horizontal analysis and financial ratio analysis

Predictive testing, vertical analysis.

Third level: advanced (advanced) quantitative analytical methods.

First: Regression analysis, Second: Cash flow model, Third: Time series analysis

Steps, stages, and determinants of using analytical methods to achieve audit objectives

Steps of analytical methods

- 1- The first step: obtain information
- 2- Step Two: Form Expectations:
- 3- Step Three: Identify the fundamental differences
- 4- Step Four: Investigate the causes of unusual deviations (causes of variances)
- 5- Step Five: Evaluate and document the analytical methods at this stage.

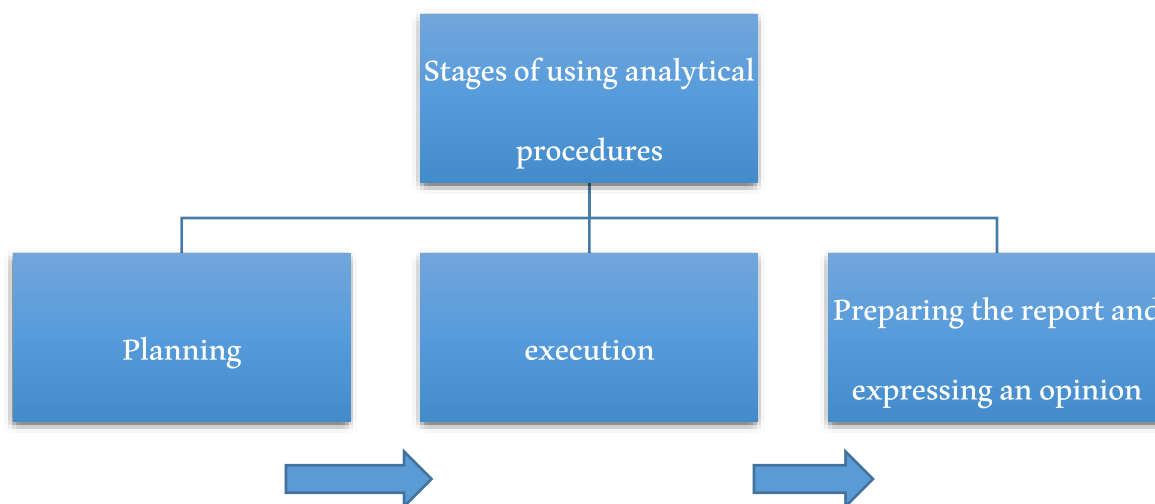
Limitations of the use of analytical methods

Table (2) Determinants of the use of analytical methods

Determinants related to the external auditor	Determinants related to the economic unit	Other parameters
The inability of some auditors to use computer programs that help in using analytical methods easily.	The lack of financial information in the required form. Its use requires a lot of information and its lack of availability in the economic unit constitutes an obstacle that prevents the use of these procedures.	There are no texts, instructions or interpretations of international auditing standards that require the external auditor to use analytical methods
Their work in individual offices is one of the most important factors that hinder the use of analytical methods as required, because this prevents the exchange of experience between auditors and others.	The inadequacy of the available information for comparison, as most economic units do not prepare estimated budgets for the purpose of comparison.	Continuous fluctuations in prices, for example, require comparisons between financial information for successive years. The economic conditions of the years in which the comparisons are made must be similar, or similar, at the very least.
The external auditor’s experience in using analytical methods, so that the external	The weakness of the internal control system is one of the important	The high cost or difficulty of obtaining information, especially from external

auditor with experience in using analytical methods will not face any problems when using them.	reasons that prevent the use of analytical methods in the required manner.	sources, constitutes a major burden for the external auditor.
---	--	---

Source: (Sumaya, 2016: 16-17)



Chapter summary:

Given the importance of analytical methods in identifying any defects or basic deviations that may leak into the financial statements, analytical processes are among the most important modern and complex methods used by the auditor in the audit process, as the auditor uses analytical measures to determine the strengths and defects in them.

Analytical methods increase when one wants to rely on information and thus in the results of analytical methods. Likewise, tests of control over non-financial information can accompany the accounting control tests associated with it. An example of this is control over sales invoices, which is associated with control over registered units sold.

The auditor prepares for the audit by taking all necessary precautions to ensure that work runs smoothly and achieves the best results with the least amount of work and expenses. The use of analytical methods depends on the auditor's professional judgment in discovering basic errors through analyzing financial indicators and ratios as a useful indicator.

The third topic: financial fraud

Concept of financial fraud:

International Auditing Standard No. (240) of 2010 refers to the term fraud as "an intentional act by one or more individuals, by management, those charged with control, employees, or other parties, using deception to obtain an unfair or illegal advantage" (Jacob And Abbas, 2014: 51).

Fraud risk factors related to fraudulent financial reporting:

These factors are related to management's capabilities, the pressures it is exposed to, its style, and its position toward internal control and the financial reporting process, and are divided into:

Ineffective supervision by management, there is an incentive for management to submit fraudulent financial reports, and there is a high turnover rate among senior management officials or legal advisors.

Reasons for financial fraud:

There are reasons for financial fraud, which are (Yacoub Abbas, 2014:52-53):

The absence or activation of the audit committee, the weakness of the company's internal control system, the lack of corporate governance, and the desire to steal some of the company's assets.

Characteristics of the crime of financial fraud:

Fraud crimes are characterized by several characteristics, the most important of which are (Shaaban, 2015: 58-60):

The crime of fraud is of a mental nature, the crime of fraud is one of the crimes of money, the crime of fraud is one of the crimes that spread in cities, and the crime of fraud is based on changing the truth and the will of the victim.

Motives for financial fraud (Kazim, 2015: 26-28):

Social pressure, driving factors, administrative factors, political pressure, and social and cultural factors.

Types of financial analysis:

There are many types of fraud, and the cases will be discussed as follows (Nasser and Ibrahim, 2022: 98):

Fraudulent schemes carried out by management, fraudulent schemes carried out by employees,

Means of combating and preventing financial fraud

There are a number of means to combat financial fraud, which are represented by a number of administrative procedures and the presence of administrative bodies specialized in combating fraud. These means can be stated as follows (Tohme, 2021: 101-102):

- ❖ Many countries have begun to establish administrative bodies to combat financial fraud.
- ❖ Granting powers to administrative leaders who are characterized by integrity and efficiency.
- ❖ Facilitating administrative and legal procedures to combat financial fraud cases.
- ❖ Preserving public money through self-monitoring.
- ❖ Activating social media, whether audio.

Chapter summary:

In this chapter, he shed light on the theoretical literature. He touched on the concept of financial fraud, the development of its history, its characteristics, and the factors affecting it. Through that, we can say that financial fraud is the intentional commission of mistakes.

Section Four: Measurement and proof of hypotheses

The study sample:

A sample was selected from the Iraqi industrial sector, which is (Baghdad Soft Drinks Company), and the time limits of the study were the period (2017-2021).

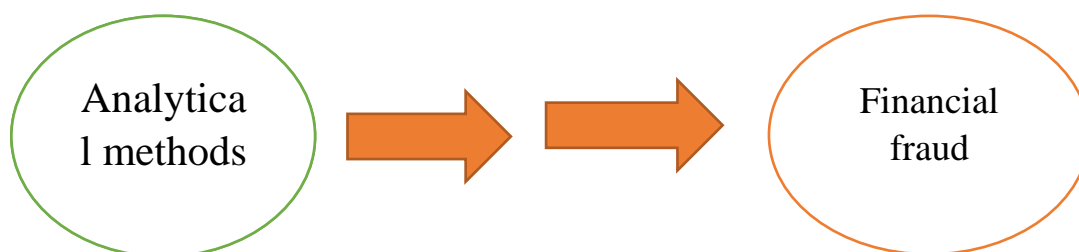
Study variables:

The independent variable of the study is considered using analytical methods, and its dependent variable is considered financial fraud. This can be shown in the following chart:

Procedural plan for the study

Independent variable

dependent variable



The figure was prepared by the researcher

Study population:

Baghdad Soft Drinks Company is a private joint stock company located in Baghdad Industrial District - Al-Zafaraniya Al-Rustamiyah. The company was established in 1989 in accordance with Companies Law No. 36 of 1983 and its amendments in effect at that time. The amount of nominal and paid-up capital at the time of establishment amounted to (70) million dinars to practice its main activity, which is Production and bottling of soft drinks. Currently, the production and bottling of Aquafina mineral water and Yumi juices have been added to it.

Practical framework for research

The first section: practical analysis

The tables were prepared by the researcher based on the company's financial reports

Table (1) fixed assets turnover index for Baghdad Soft Drinks Company for the period (2017-2021)

Details	Net sales	Net fixed assets (Book value)	Fixed assets turnover rate	Fixed assets turnover ratio	Change in book value
2017	293,821,963,243	163,007,390,122	1.802	0	---
2018	331,351,800,403	165,033,166,351	2.007	11%	2,025,776,229
2019	367,746,074,612	155,881,571,429	2.359	17%	9,151,594,922-
2020	415,005,789,102	160,888,080,779	2.579	9%	5,006,509,350
2021	531,822,049,007	253,398,680,549	2.098	18%	92,510,599,770

Table (2) Total Assets Turnover Rate Index for Baghdad Soft Drinks Company (2017-2021)

Details	Net sales	Total assets excluding H/12	The amount of sales growth value	The amount of asset growth value	Asset turnover ratio
2017	293,821,963.243	320,484,686.232	---	---	91.6
2018	331,351,800.403	339,604,915.297	37,529,837.160	19,120,229.065	97.5
2019	367,746,074.612	369,081,111.087	36,394,274.209	29,476,195.790	99.6
2020	415,005,789.102	443,957,429.051	47,259,714.490	74,876,317.964	93.4
2021	531,822,049.007	528,208,788.201	116,816,259.905	84,251,359.150	100

Table (3) Comparison of the expiration balances for the calendar years with the base year balance of the Baghdad Soft Drinks Company

Details	Depreciation balance at 12/31	Compared with the base year 2017	Decrease rate
2017	17,559,668.017	0	0
2018	20,126,106.062	2,566,438.045	12%
2019	23,624,448.000	6,064,779.983	17%
2020	18,254,640.361	694,972.344	22%
2021	19,458,562.130	1,898,894.113	7%

Table (4) Percentages of added and reduced amounts on fixed assets compared to the base year of Baghdad Beverages Company

Details	Assets transferred and purchased (added)	Assets sold and written off (subtracted)	The total change in the asset	Comparing the change in assets	Percentage change
2017	79,164,300.422	2,414,638.442	76,749,661.980	0	0
2018	21,624,851.913	1,566,080.045	20,058,771.868	56,690,890.112-	73%-
2019	14,472,403.078	0	14,472,403.078	62,277,258.902-	27%-
2020	32,419,969.712	13,228,462.398	19,191,507.314	-57,558,154.666	32%
2021	115,500,943.625	7,461,175.252	108,039,768.373	31,290,106.393	462%

Table (5): Projects under implementation for Baghdad Soft Drinks Company for the years (2017-2021)

Details	Balance of projects under implementation	Change in the balance of projects under	Percentage of change

		implementation compared to the base year 2017	
2017	1,638,870,537	0	0
2018	10,650,679,970	9,011,809,433	549%
2019	34,448,025,383	32,809,154,846	2,001%
2020	35,133,288,425	33,494,417,888	2,043%
2021	30,565,586,575	28,926,716,038	1,765%

Table (6) Inventory turnover rate of Baghdad Soft Drinks Company for the period (2017-2018)

Details	Cost of goods sold	Average inventory value	Inventory turnover rate
2017	227,796,761,190	56,638,798,925	4.02 times
2018	253,367,567,617	61,143,673,786	4.1 times
2019	280,152,750,710	57,160,145,252	4.9 times
2020	273,724,982,357	56,338,023,305	4.8 times
2021	423,290,695,493	71,920,740,674	5.8 times

The table was prepared by the researcher based on the company's financial reports

Table No. (7) Average storage period compared to Baghdad Soft Drinks Company in previous years (2017-2021)

Details	Number of days in the year	Inventory turnover rate	Average storage period (day)
2017	360	4.02 times	90
2018	360	4.1 times	88
2019	360	4.9 times	73
2020	360	4.8 times	75
2021	360	5.8 times	62

Table (8) Change in the inventory account balance of Baghdad Soft Drinks Company for the period (2017-2018)

Details	Inventory balance	The amount of change in comparison	Percentage of change in comparison
2017	213,711,645	0	0
2018	139,945,242	73,766,403-	-35%
2019	126,910,428	-86,801,217	40-%
2020	123,908,987	89,802,658-	42-%
2021	123,493,684	90,217,961-	42-%

Table (9) Changes in the balance of debtors of Baghdad Soft Drinks Company for the years (2017-2021)

Details	Change in receivables balance	Percentage change in debtors' balance	Debtors balance
2017	0	0	9,685,289,749
2018	8,215,019,395	85%	17,900,309,144
2019	-5,632,508,335	58%-	4,052,781,414
2020	5,559,324,350-	57%-	4,125,965,399

2021	2,849,061,291	29%	12,534,351,040
------	---------------	-----	----------------

Table (10) Ratio of debtors to current assets of Baghdad Soft Drinks Company for the years (2017–2021)

Details	Current assets	Ratio of debtors to current assets	Debtors
2017	95,440,108,111	10%	9,685,289,749
2018	119,011,802,550	15%	17,900,309,144
2019	164,407,099,924	2%	4,052,781,414
2020	241,449,865,338	1.7%	4,125,965,399
2021	230,313,581,518	5%	12,534,351,040

Table (11) comparison of the trading ratio index of Baghdad Soft Drinks Company for the years (2017-2021)

Details	trade rate	Trading indicator	Short-term liabilities	Current assets
2017	6.13	1: 6.13	15,567,261,290	95,440,108,111
2018	3.18	1:3.18	37,350,959,640	119,011,802,550
2019	3.16	1: 3.16	51,865,737,401	164,407,099,924
2020	4.63	1: 4.63	51,865,737,401	241,449,865,338
2021	3.92	1:3.92	58,684,705,112	230,313,581,518

Table (12) comparison of the quick liquidity ratio of Baghdad Soft Drinks Company for the years (2017-2021)

Details	Quick ratio	Short-term liabilities	Current assets after excluding inventory	Rapid Liquidity Index
2017	2.15	15,567,261,290	33,523,353,149	1:2.15
2018	1.57	37,350,959,640	58,641,209,940	1:1.57
2019	2.12	51,865,737,401	110,457,402,031	1: 2.12
2020	3.52	51,865,737,401	182,723,516,621	1: 3.52
2021	2.47	58,684,705,112	145,198,448,888	1: 2.47

Table (13) comparison of the cash balance of Baghdad Soft Drinks Company for the years (2017-2021)

Details	The value of the change in comparison	Cash balance	Percentage change compared to the base year
2017	0	23,838,063,400	0
2018	16,902,837,396	40,740,900,796	70%

2019	65,663,719,821	106,404,620,617	161%
2020	72,192,930,605	178,597,551,222	67%
2021	45,933,453,374-	132,664,097,848	25%

Table (14) Analysis of the cash account of Baghdad Soft Drinks Company for the years (2017-2021)(

Details	Checks and transfers	Cash at banks	Total
2017	0	338,872,482	338,872,482
2018	0	261,584,798	261,584,798
2019	0	1,016,581,619	1,016,581,619
2020	0	957,493,424	957,493,424
2021	0	791,291,418	791,291,418

Table (15): Comparisons that the researcher was unable to extract for the purposes of carrying out the analytical procedures for the Baghdad Soft Drinks Company

Comparison name	The reason for not comparing
Compare securities valuation allowance	The study sample unit did not use the securities valuation allowance.
Compare the balance of accrued revenue	For not using the study sample unit to calculate accrued revenues
Comparing deferred revenue expenditures and amortizing them	Because the study sample unit was not used to calculate deferred revenue expenditures
Provision for doubtful debts and written-off debts	For not using the sample, calculate the allowance for doubtful debts and written off debts.
Compare average collection period (debtors)	Due to the lack of data necessary to extract the value of the average collection period

Table (16) Comparison of the balance of creditors of Baghdad Soft Drinks Company for the years (2017-2021)

Details	Percentage of change	Comparison with the base year	Creditors balance
2017	0	0	9,919,684,257
2018	8%	824,181,429	10,743,865,686
2019	187%	20,170,219,051	30,914,084,737
2020	42%	13,199,207,615	44,113,292,352
2021	17%	7,808,534,755	51,921,827,107

Table (17) Balance of creditors of Baghdad Soft Drinks Company for the years (2017-2018)

Details	Total (creditors balance)	Credit balances to debit accounts	Dividend creditors	Deductions for the account of others	Various accounts payable	Creditors of non-current activity	Equipped
2017	9,919,684,257	0	5,822,520,290	529,358,320	2,262,891,051	2,285,216	1,302,629,380
2018	10,743,865,686	0	5,833,360,782	554,915,394	2,617,169,346	476,112,350	1,262,307,814
2019	30,914,084,373	0	6,624,641,334	603,026,014	3,152,800,906	10,618,606,80	9,915,009,319
2020	44,113,292,352	0	9,024,269,812	666,676,510	8,848,327,746	9,163,768,000	16,410,250,284
2021	51,921,827,107	0	11,338,942,856	11,884,19,845	3,769,832,134	180,668,000	33,807,299,158

Table (18) Short-term debt financing rate for Baghdad Soft Drinks Company

Details	Debt financing rate	Total assets	Short-term liabilities
2017	1:0.05	322,213,556,769	15,567,261,290
2018	1:0.05	350,225,595,267	17,175,627,542
2019	1:0.09	403,529,136,470	37,350,959,640
2020	1: 0.11	479,090,717,476	51,865,737,401
2021	1: 0.11	558,774,374,776	58,684,705,112

Table (19) Change in equity balances of Baghdad Soft Drinks Company for the years (2017-2021)

Details	Percentage change in the balance of equity	The value of the change in the balance of equity	Equity balance
2017	0	0	306,646,295,479
2018	8.6%	26,433,672,246	333,079,967,725
2019	9.9%	33,098,209,105	366,178,176,830
2020	16.6%	61,046,803,245	427,224,980,075
2021	17.1%	72,864,689,589	500,089,669,664

Table (20) comparison of the deficit to equity ratio of Baghdad Soft Drinks Company for the years (2017-2021)

Details	rate of change	Equity balance	Deficit balance
2017	0	306,646,295,479	0
2018	0	333,079,697,725	0
2019	0	366,178,176,830	0
2020	0	427,224,980,075	0
2021	0	500,089,669,664	0

Table (21) Baghdad Soft Drinks Company's debt ratio for the years (2017-2021)

Details	Debt ratio	Equity balance	Total liabilities
2017	105%	306,646,295,479	322,213,556,769
2018	106%	333,079,697,725	350,255,595,267
2019	110%	366,178,176,830	403,529,136,470
2020	%112	427,224,980,075	479,090,717,476
2021	%111	500,089,669,664	558,774,374,776

Table (22) Ratio of equity balance to total assets of Baghdad Soft Drinks Company

Details	Total assets	Property rights	Ratio of assets to equity
2017	322,213,556,769	306,646,295,479	95%
2018	350,225,595,267	333,079,697,725	95%
2019	403,529,136,470	366,178,176,830	%91
2020	479,090,717,476	427,224,980,075	89%
2021	558,774,374,776	500,089,669,664	89%

Table (23) Change in the total balance of expenses for Baghdad Soft Drinks Company (2017-2021)

Details	Change value	Total expenses	Percentage of change
2017	0	323,791,423,725	0
2018	68,752,385,489	392,543,809,214	21%
2019	29,114,094,684	421,657,903,898	7%
2020	31,759,114,329	389,898,789,569	8%
2021	122,644,883,308	512,543,672,877	%31

Table (24) Change in current activity expense balances for Baghdad Soft Drinks Company for the years (2017-2021)

Details	Change value	Total expenses of current activity	Percentage of change
2017	0	253,798,627,727	0
2018	30,866,674,284	284,665,302,011	12%
2019	24,057,599,732	308,722,901,743	8%
2020	39,411,274,086	348,134,175,829	12%
2021	126,551,820,189	474,685,996,018	36%

Table (25) Relative weight of salaries and wages for Baghdad Soft Drinks Company for the years (2017-2021)

Details	Total expenses	Salaries and wages	Relative weight
2017	323,791,423,725	19,465,266,185	6%
2018	392,543,809,214	18,374,027,236	4%
2019	421,657,903,898	20,270,059,989	5%
2020	389,898,789,569	20,651,912,315	5%
2021	512,543,672,877	24,004,782,381	5%

Table (26) Total transformational and other expenses of Baghdad Soft Drinks Company during the years (2017-2021)

Details	Other expenses ratio	the total	Total transformational and other expenses (non-current activity).	
			Other expenses	Transfer expenses
2017	60%	460,170,300	----	460,170,300
2018	70%	639,371,508	----	639,371,508
2019	80%	1,178,209,562	-----	1,178,209,562
2020	---	----	----	----
2021	---	----	----	-----

Table (27) Ratio of total expenses to net sales of Baghdad Soft Drinks Company

Details	Net sales	Total expenses	Indicator
2017	293,821,963,243	323,791,423,725	110%
2018	331,351,800,403	392,543,809,214	118%
2019	367,746,074,612	421,657,903,898	114%
2020	415,005,789,102	389,898,789,569	93%
2021	531,822,049,007	512,543,672,877	96%

Table (28) Change in revenue percentages for Baghdad Soft Drinks Company during (2017-2021)

Details	Change value	Total revenue	Percentage of change
2017	0	295.830.283.372	0
2018	37.812.456.577	333.642.739.949	% 13
2019	32.367.981.055	366.010.361.004	% 10
2020	48.652.824.049	414.663.185.053	% 13
2021	117.882.815.255	532.546.000.308	% 28

Table (29) Conversion and other revenues (non-current activity) of Baghdad Soft Drinks Company for the years (2017-2021)

Details	Other revenues	Transfer revenues (compensations and fines).	Interest and land rents	Total
2017	3.848.121	12.463.568	----	16.311.689
2018	39.536.145	2440.000	----	41.976.145
2019	326.619.342	550.000	200.350	327.369.692
2020	1.483.979.725	897.633.706	----	2.381.613.431
2021	2.177.157.321	77.309.546	----	2.254.466.867

Table (45) Relative weight of expense components (investment structure) for Baghdad Soft Drinks Company for the years (2017-2021)

Details	Relative weight of expenses (investment structure)							Total
	Money	Debtors	Inventory	Long-term financial investments	Projects under implementation	Deferred revenue expenditure	fixed assets	
2017	7%	3%	19%	1%	1%	% 19	50%	100%
2018	% 11	% 5	% 17	% 1	% 3	16%	% 47	% 100
2019	% 25	% 1	% 13	% 1	% 9	12%	% 39	% 100
2020	% 37	% 1	% 12	% 1	% 7	9%	% 33	% 100
2021	% 24	% 2	% 15	% 2	% 6	6%	% 45	% 100

The second section: conclusions, recommendations and future visions

Study conclusions.

1. Analytical procedures are one of the important auditing methods used by the auditor in the three stages of the audit, as their implementation methods vary from using simple comparisons to using advanced statistical methods, with the aim of assisting the auditor in making the necessary decisions.

2. There is no local guide or professional organizations in Iraq that refers to the analytical procedures with the aim of the auditor resorting to them when performing the audit process.
3. It is clear from the results that there is a fluctuation in the amounts of fixed asset balances of Baghdad Soft Drinks Company compared to the base year 2017, which amounted to (20,058,771,868), (34,531,174,946), and (53,722,682,260) And (161,762,450,633) dinars for the years (2018, 2019, 2020, 2021) respectively, as the value of the assets is the result of a group of assets transferred and added, minus the assets sold and written off during the period.
4. It was noted through the analysis of Baghdad Soft Drinks Company that the value of the change in assets reached (76,749,661,980), ((20,058,771,868,14,472,403,078)), (19,191,507). (314) (108,039,768,373) for the years 2017, 2018, 2019, 2020, 2021, respectively. The percentages extracted for this change compared to the base year 2017 showed the following (73%, -27%, 32%, 462%) for the years (2018-2021) respectively. The fluctuation in the value of change in assets for the years (2018-2021) explains the reason for the decrease and increase in the percentage of change in fixed asset balances, amounting to (7%), (13%), (20%), and (61%), which requires the auditor to verify that Purchase orders for fixed assets, changes and modifications have been made in accordance with the authorities and instructions, and verification of additions recorded in the general ledger, fixed assets register and invoices.
5. An increase in the trading index of Baghdad Soft Drinks Company for the year 2017 is evident, as it reached (6.13), and a decrease in the trading index in the years 2018, 2019, 2020, and 2021, as it reached (3.18), (3.16), (4.63), and (3.92), respectively. It was found that there was a noticeable decrease in the trading ratio compared to the standard ratio of the trading index, which was (1:2). The standard ratio, which measures the extent to which current assets cover short-term liabilities, is based on the assumption that every dinar of short-term liabilities is matched by at least two dinars of current assets. The decrease in the turnover rate indicates that trading in the study sample unit represents a problem, which gives the observer the idea that There is a problem with the company in the study sample because current assets do not cover current liabilities, and it makes it necessary to consider the accounts responsible for the failure of the trading ratio index to achieve balance and meet the standard ratio.
6. By analyzing the total revenues of the Baghdad Soft Drinks Company appearing in the financial statements of the unit sample of the study, which is represented by collecting current activity revenues with transfer revenues (non-current activity revenues), it became clear that there was an increase in revenues amounting to (295,830,283,372) dinars and (333,642, 739,949) dinars, (366,010,361,004) dinars, (414,663,185,053) dinars, and (532,546,000,308) dinars for the years 2017, 2018, 2019, 2020, and 2021, respectively, as the rates of increase They appear in the period between 2018 and 2021, which amounted to (13%), (10%), (13%), and (28%), respectively.

Study recommendations:

1. The necessity of continuing the use of analytical methods by the external auditor contributes to increasing the efficiency and effectiveness of the audit process because it helps the external auditor identify errors, distortions, and possible unusual paragraphs (items), which results in reducing the risks of discovery.
2. It is necessary to improve the control system and develop the skills of workers in this system in accordance with the laws, regulations and instructions in order for this system to be improved.

3. The use of analytical methods is more effective and economical in time and cost than detailed tests by providing evidence about the activity trends of the companies under audit.
4. The use of analytical methods in financial ratios and comparisons is one of the most important tools of analytical methods adopted by the external auditor in the process of auditing and expressing an opinion, as analytical methods help the external auditor in transforming the huge amount of financial data and information contained in the financial statements into a smaller and more useful amount in the decision-making process.

Conclusion of the general study

The importance of this study stems from the importance of the quality of the external auditor's performance and what is required of following a set of sound and appropriate scientific and practical methods and procedures, including the analytical methods that the external auditor uses in the three stages of the audit, because they help him predict and discover potential errors and distortions in the financial statements, and give a visual It is sufficient for the external auditor to use it in forming his conclusions and his opinion about the truthfulness and fairness of the financial statements of the company that is the subject of the audit.

In addition, the importance of the study is in presenting some suggestions that could contribute to the development of these rules in the direction that supports the independence and impartiality of the auditor, with the aim of enhancing public confidence in the auditing aspects of the financial statements, and to the extent that these data gain more reliability that qualifies them to become a major source of information that Users of financial statements rely on it to make rational decisions.

References

1. Arens, Alvin and Lubeck, James (2005) "Reviewing is an Integrated Approach," translated by Dr. Muhammad Abdul Qadir Al-Desti, Al-Marikh Publishing House, Riyadh - Saudi Arabia.
2. Ismail, Salem (2005). financial lists analysis. National Office for Research and Development.
3. Amin, Othman and Mohamed Kollala (2020). The impact of analytical methods on reducing the expectations gap in the audit environment, an exploratory study of the opinions of a sample of academics and external auditors in the Kurdistan Region/Iraq, Scientific Journal of Cihan University - Sulaymaniyah, Issue 2, Volume 4.
4. Jakhyur, Zaraq Qais, Faraj, Suhad Sobeih, (2022), "Using analytical procedures to estimate the risks of audit work," Journal of the University of Baghdad College of Economic Sciences, No. 68.
5. Jarbou, Youssef Mahmoud (2004) "The role of the external auditor in evaluating evidentiary evidence in the audit process, even though most of it is convincing and not decisive evidence," Department of Accounting - Faculty of Commerce, Islamic University - Gaza.
6. Jarro, Sabah Hassan, (2014), "The impact of analytical procedures in auditing on the quality of auditors' performance (applied research on a sample of auditors)" Research submitted to the Board of Trustees at the Arab Institute of Certified Public Accountants, which is part of the requirements for obtaining the Chartered Accounting Certificate.
7. Hamed, Sari (2011). The importance of using analytical methods in the auditing stages by financial auditors. Middle East University, College of Business, Master's thesis.
8. Somaya, Ebrahimi (2016). The contribution of analytical methods in making investment decisions for the economic institution. University of Biskra, Faculty of Economic, Commercial and Management Sciences, Doctoral thesis.
9. Shaaban, Inaam Othman (2015). The availability of the elements for applying forensic accounting to detect cases of financial fraud in economic units. Islamic University, Faculty of Commerce, Master's Thesis.
10. Tohme, Marwa Jumaa, (2021), "The role of electronic management and activating internal control in reducing financial fraud, an exploratory study in the General Company for Textile Industries in Wasit," Al-Muthanna Journal of Administrative and Economic Sciences, Volume 10, Issue 4.

11. Tohme, Marwa Jumaa, (2021), "The role of electronic management and activating internal control in reducing financial fraud, an exploratory study in the General Company for Textile Industries in Wasit," *Al-Muthanna Journal of Administrative and Economic Sciences*, Volume 10, Issue 4.
12. Aqili, Abeer (2014). Analytical methods in external auditing in accordance with international auditing standards. Mohamed Khaidr University of Biskra, Faculty of Economics and Commercial Sciences, Management Sciences, Master's Thesis.
13. Abdel-Ahad, Alaa and Siwan, Walid (2021). The role of analytical methods in revealing creative accounting practices, applied research in the South Refineries Company. A periodical magazine issued by the College of Administration and Economics/University of Basra, Issue 29, Volume 14.
14. Abdel Rahman, Al-Makhadamma and Al-Rasheed, Hakim (2007). The importance of applying analytical review procedures in raising the efficiency of performing the audit process. A field study. *Jordanian Journal of Business Administration*, Issue 4, Volume 3.
15. Abdel Razzaq, Diana (2019). Analytical methods and their importance in discovering potential errors and distortions in financial statements. An analytical study in the Warka Investment Bank for the period 2006-2008. *Journal of the College of Administration and Economics for Economic, Administrative and Financial Studies*, Issue 3, Volume 11.
16. Issam, Qurayt (2009). The extent of the use of analytical review procedures in the Syrian Arab Republic. *Damascus University Journal of Economic and Legal Sciences*, Volume 25, Issue 1.
17. Kazem, Yahya Ali, (2015), "Assessing audit risks and their role in enhancing the external auditor's ability to detect fraud in financial statements," a letter submitted to the Council of the College of Management and Economics / University of Baghdad, which is part of the requirements for obtaining a master's degree in accounting sciences.
18. Kindawi, Imad Muhammad, Muhammad Salah Hadi, Jawad, Karar Karim, (2022), "The role of traditional auditing in detecting financial fraud," *Journal of Business Economics*, Issue 1, Volume 2.
19. Nasser, Mead and Ibrahim, Hoda (2022). Forensic accounting as a mechanism to control and discover financial fraud practices. *Journal of Economic, Administrative and Legal Sciences*, Volume 6, Issue 20.
20. Star, Pan (2012). The extent to which the external auditor relies on analytical methods in auditing accounts in Iraq. *Gulf Economics Journal*, Issue 2, Volume 12.
21. Nassar, Magdy Muhammad and Bahrami, Maryam (2008). Analytical methods used by the auditor of the State Audit Bureau based on the reality of the general audit manual. A research submitted to the ninth research competition at the level of all sectors of the Audit Bureau.
22. Naeem, Lounis (2013). The importance of using analytical methods in the stages of accounting auditing: an applied study in the public economic institution. Muhammad Khudair University, Faculty of Economic, Commercial and Management Sciences, Master's thesis.
23. Yaqoub, Fayhaa and Abbas, Muhammad (2014). A proposed model for the work of audit committees in the public sector and its interaction with the Federal Office of Financial Supervision to reduce fraud cases. *Journal of Accounting and Financial Studies*, Volume 9, Issue 29.
24. Arens Alvin A., Elder, Randal J., & Beasley, Marks (2012). *Auditing and Assurance Services. An integrated Approach*, pearson prentice Hall, 14 Edition.
25. Deniz A. Appelbaum, Alex Kogan, Miklos A. Vasarhelyi, (2018). "Analytical Procedures in External Auditing: A Comprehensive Literature Survey and Framework for External Audit Analytics", *Academic Accountancy Journal*, <https://doi.org/10.1016/j.acclit.2018.01.001>.
26. Dowling, Carlin (2009). Appropriate Audit Support System Use: The Influence of Auditor, Audit Team, and Firm Factors. *THE ACCOUNTING REVIEW American Accounting*, pp. 771–810.
27. Keshari, Chinmaya, Sahoo, Muvvala, Sudhakar, Venkata, Ramana, Satyanarayana, Kanhu, Charan, Panda (2018). Validation of Analytical Procedures- A Review.
27. Louwers Timothy J., Allen D. Blay, David H. Sinason, (2018). *Auditing & Assurance Services*. 7th edition New York.