

THE IMPACT OF APPLYING ANALYTICAL PROCEDURES BY EXTERNAL AUDITOR IN ACCORDANCE WITH ISA 520 ON AUDIT PERFORMANCE IMPROVEMENT: AN EXPLORATORY STUDY IN THE IRAQI AUDIT FIRMS AND COMPANIES

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ABSTRACT

The accounting and auditing profession has faced serious challenges in distorting the financial statements it presents, contrary to the reality of events or economic events related thereto. Data can be manipulated to achieve different objectives. To ensure the fairness and clarity of the financial statements, there must be an effective internal control system that ensures the preservation of the material resources of the economic unit and the accuracy of the financial statements. Therefore, the management and other beneficiaries must be persuaded to rationalize and maintain the resources. Errors, manipulation, detection and treatment when they occur. In addition, there should be an external independent control body that checks and examines the various activities according to predefined criteria and bases. The outcome of these bodies, in cooperation and coordination with the internal control bodies, should be to verify the correctness of the accounting information provided and ensure they are free of material errors and thus reflect the fairness and clarity of the results of the activity within a specified period of time and the financial position at the end of that period. The study has reached some conclusions, the most important of which are: (1) the use of analytical auditing procedures helps the auditor in the planning and timing of the audit because of its significant impact in detecting manipulation and misrepresentation of financial statements, and (2) the lack of conducting training courses represents an obstacle that prevents the Iraqi auditor from using the analytical auditing procedures. Finally, the study ended up with some important recommendations the most important of which are: (1) Certified Public Accountants Association should organize workshops, courses and seminars for Iraqi chartered accountant on the use of analytical procedures, (2) Supervising audit firms, including the Iraqi Association of Certified Public Accountants, must require audit offices to develop performance control procedures.

Keywords: International Standards of Auditing (ISA), International Auditing and Assurance Standards Board (IAASB), International Accounting Federation (IFAC).

INTRODUCTION

Analytical procedures are the most widely used tools by the auditor in performing his work. The importance of analytical procedures is highlighted through the work of the examination and audit in different stages due to what results from these procedures from results and analysis of the relationships and important ratios and trends between the items of financial and non-financial data derived from the same period or between comparative information for different periods or different projects. The analytical procedures also help in identifying and diagnosing potential and relatively important problems at the lowest costs and thus the auditor can achieve the efficiency of the audit performance and future expectations thereon. The International Standards on Auditing issued by the International Federation of Accountants (IFAC) have been concerned with this concept, as the International Standard on Auditing (ISA) No.520 stipulates: *“The auditor should apply analytical procedures as risk assessment procedures to obtain an understanding of the entity and its environment and in the overall review at the end of the audit. Analytical procedures may also be applied as substantive procedures.”*

THEORETICAL FRAMEWORK

Literature Review

Sinon (2017) conducted a study entitled *“The extent to which Egyptian auditors use analytical auditing procedures”* in which he stated the extent of the auditors’ use of the analytical auditing procedures in the Egyptian audit firms. The study found that the majority of auditors in Egypt use the analytical procedures in auditing by 70%. The most common methods used are the comparison method, the method of using the relative weights, the financial ratios method and the method of determining the trends. The analytical procedures are effective in detecting errors and speed in the audit process.

Al-Hamood & Al-Samaraay (1998) conducted a study entitled *“The extent of Libyan auditors' commitment to apply analytical procedures: Field study”* which aimed to identify the extent to which the auditors in the Republic of Libya are concerned with the analytical procedures and the extent of their use, the obstacles and the barriers to their application. In addition, the study aimed to highlight the interest of the auditors in guiding the standards and the international audit evidence. A questionnaire was adopted as a study tool. It included 87 auditors distributed over the geographical area of Libya. 54 questionnaires (62%) were retrieved from distributed questionnaires. The study has found several results, the most important of which include that a large number of auditors do not use analytical procedures to audit, as well as many of the auditors believe that the use of analytical procedures in the stages of audit and a small proportion of auditors are guided by evidence of auditing and international accounting standards. Moreover, the study revealed that there are many obstacles, which limit the use of analytical auditing procedures such as weak accounting systems, weak internal control systems, and the effect on the auditor’s independence.

Al-Mutairy (2011) conducted a study entitled *“The extent to which the audit firms in Kuwait comply with the analytical procedures stipulated in ISA 520.”*, which aimed to identify the most prominent financial ratios used in the analysis by the auditors in the State of Kuwait following a questionnaire distributed to a sample of Kuwaiti auditors. The study found that there are statistically significant differences between the views of the sample of the study due to the

personal variables, the most important of which are the career status, experience, age, professional certificate holders, and the liaison-auditing firm in Kuwait with a foreign auditing firm. The study recommended that the use of analytical audit procedures in the State of Kuwait should be used to increase the level of awareness of analytical problems through all stages of audit at the auditing firms operating in Kuwait.

Moussa (2013) conducted study entitled “*Audit procedures and their role in rationalizing the auditor's personal judgment*”, which aimed at finding out the relationship between analytical audit procedures and the personal judgment of the auditor. This interconnection has a great significance in sense that the weakness of this interdependence leads to the issuance of unreal data reports to the company under auditing and thus leads to the issuance of invalid decisions by the users of the auditor’s reports. Moreover, the study aimed at shedding light on the role of analytical auditing procedures in rationalizing the auditor's personal judgment. The study concluded that the auditor should adhere to the auditing standards and should take the necessary professional care and diligence during the examination and the necessity of using the mathematical, statistical and financial methods in the audit process to help him rationalize his personal judgment.

Abu-Mayaleh & Zbayneh (2012) conducted a research entitled “*The role of audit procedures in reducing audit risk in accordance with ISA*”, which basically aimed to identify the role of analytical procedures in reducing audit risk in accordance with International Standard No. 520 from the point of view of the auditors. In order to achieve the objectives of the study, a special questionnaire was prepared which included (35) paragraphs distributed over four areas, distributed to a random sample of 83 practicing auditors in the West Bank and the arithmetical averages and the standard deviations were extracted. The study reached the auditor's understanding of the company's field of activity, the activity practiced and the company's ability to continue, and the absence of material differences in the application of analytical procedures. The study reached a number of recommendations the most important of which are that the auditor should apply the analytical procedures at the planning stage of the audit to help him understand the business, identify the areas of potential risk, and to utilize proper explanations and evidence when analytical procedures reveal significant fluctuations or disclosures of deviations from amounts predicted.

Cho & Lew (2000) conducted a study entitled “*Analytical review applications among large audit firms in Hong Kong*” which aimed at verifying the use of analytical procedures in the audit stages, the work stage and the final stages of the audit, as well as at determining the proportion of the use of analytical procedures in different categories of auditors and in different stages of audit. The study found that the analytical procedures in Hong Kong were not affected by local and international standards. The study also indicated that the analytical procedures varied from the extent of application and the stages in which they were applied in a large manner, and were used extensively in the final stages of the audit.

Glover et al. (2000) conducted a research entitled “*Analytical procedures and audit-planning decision*” which aimed to test the decisions of the auditors to amend the initial audit plan after the analytical procedures during the testing period, which revealed unexpected strong fluctuations and also tested the effect of two variables on the decision of the amendment which are:

- There is a motive for management to misrepresent the financial statements.

- The degree to which the management clarifies the unexplained errors of the significant fluctuations that the auditor has proved independently of the management on the assumption that there is interaction between the two variables.

The study found that the auditors were more likely to change their plans when there were justified confirmations of unusual fluctuations and the apparent motivation of the administration to manipulate financial statements. The study also found that a high percentage of auditors did not modify their plans.

Cohen et al. (2000) also conducted a study entitled “*Evidence on the effect of financial and non-financial trends on analytical review*” in 78 American auditors involved as a sample of study. The research aimed at exploring the financial and non-financial trends in assessing the level and scope of audit in analytical procedures, and discovering the nature of available sources of financial and non-financial information that refer to verified assumptions. The study ended up with some recommendations, the most important of which are that the need for auditors to focus on financial and non-financial trends in evaluating the level of auditing, and the need for auditors' reliance on financial and non-financial information. The study results indicated that many hypotheses were created based on financial information.

Fraser & Lin (2003) conducted a study entitled “*The use of analytical procedures by external auditors in Canada*”, which aimed to demonstrate the use of analytical procedures by the external auditors in Canada as a result of the scandals followed Enron Corporation for Energy. The issue of whether traditional audit entrances were more appropriate than core tests was highlighted. The study explored the use of analytical procedures by Canadian external auditors and increased the understanding of the impact of international standards of auditing in professional practice. The results of the study found that the analytical procedures are widely applied, especially by the large audit firms that dominate the audit, regardless of the size of the company. While no significant impact is found on international standards, small audit firms do not use these procedures, although auditors rely heavily on analytical procedures to reduce detailed tests, and increase the use of analytical procedures by auditors with expectations of high efficiency gains.

The Concept of Analytical Procedures

The great economic changes in the world, such as the financial scandals of giant companies and the failures and collapses of these large economic systems have led to destabilize the confidence of society, investors and others. Consequently, a number of studies and researches have been conducted to determine the reasons for these economic changes. The result of these studies is the absence of proper practices and procedures for management, regulation and supervision, effective supervision of companies and failure to achieve the required objectives for which these departments worked. Hence, the need to take care of the control, as there have been many researches for the purpose of developing control systems. International auditing organizations have set up audit standards to achieve high quality audit performance and measure effectiveness in organizations. These standards cover such topics as independence, objectivity, powers and responsibilities of the auditor, technical competence, professional care and quality assurance. The International Auditing and Assurance Standards Board (IAASB) referred to the criteria that would enable the auditor to disclose weaknesses, strengths and indicators to audit organizations. Among these standards is the International Accounting Federation (IFAC) Standard (520), paragraph 3, which is the standard of analytical procedures that contributes to the

auditor's ability to provide evidence and evidence about the balances and values that create uncertainty about the auditor's validity on his professional experience. Basic procedures are performed to detect material errors at the level of evidence. These include tests of details of transaction classes, account balances, disclosures and key analytical procedures. The auditor also plans and performs the key procedures to respond to the assessment of the risks of material misstatement (Jumah, 2009).

Several definitions of analytical procedures were received in international audit statements and standards. According to IFAC (2001), ISA defines these procedures as the analysis of important ratios and indicators and the examination of relationships and fluctuations that are in conflict with other relevant information or that deviate from the amounts predicted. Moreover, they include the study of relationships between elements of financial information and relevant non-financial information.

Reasons for Using Analytical Procedures

The main reasons for using the analytical procedures are:

1. To assist in understanding the nature of the client's business and identify possible areas of risk.
2. To assist in estimating the company ability to continue.
3. To identify potential errors or distortions in the financial statements.
4. To reduce the detailed tests.
5. To reduce the cost of audit performance.

Timing of Analytical Procedures

The performance of analytical procedures lies in three stages of the audit process:

1. Some of the analytical procedures should be undertaken at the planning stage to assist the auditor in determining the nature, extent and timing of the work to be performed. This helps the auditor identify important matters that require special attention during the audit.
2. Analytical procedures are normally performed during the testing phase with other control procedures.
3. Analytical procedures must be performed during the completion phase of the audit. This is useful at the point at which the final examination of large deviations or financial problems is done and the auditor helps to obtain a final objective view of the audited financial statements (Arens et al., 2000:2010).

Factors Affecting the Extent to Which the Auditor Approves the Analytical Audit Procedures

According to Al-Naghi (2000), the ISA No. 520 clarifies the factors affecting the auditor's reliance on the audit results in accordance with the analytical procedures as follows:

1. The relative importance of items examined and audited compared with financial information as a whole. For example, when inventory stock is important for financial statements, the auditor does not normally perform analytical audits to derive audit results. On the other hand, the auditor may rely heavily on auditing certain expenditure items if neither of them is important for the financial statements as a whole and did not induce unexpected fluctuations.
2. Other audit procedures for the same purpose. For example, other procedures performed by the auditor when examining the extent to which accounts receivable can be collected and the post-balance sheet receipts are audited, these procedures may confirm or deny the questions raised when applying the analytical audit procedures to the balances of client accounts.
3. Precise forecasting of the expected results of the analytical audit procedures For example, the auditor usually expects a greater degree of consistency when comparing the percentage of total profit from one

period to another and when comparing research or advertising expenses that may vary from period to period according to management policy.

4. Assess the inherent risks of control. For example, if the auditor is found to have weak internal control over the execution of the sale orders, then his biggest reliance should be on the tests of operations and balances rather than analytical procedures.

Auditor Reliance Limits to the Analytical Procedures

Al-Qadhi (2008) points out that the extent of reliance on analytical procedures at different stages of audits depends on the auditor's assessment of the degree of confidence in the data used in the various statistical comparisons and analyzes and the degree of confidence affected by the following factors:

1. Data source: The degree of confidence in the entities obtained by the auditor from independent sources outside the audited entity is higher than the data obtained from sources within the entity. The degree of the auditor's confidence in the data obtained from sources within the entity subject to the independence of the issuer differs from those responsible for the amounts or balances in question. The auditor's access to the same data from more than one source increases the auditor's degree of confidence and approval.
2. Data preparation conditions: The auditor's reliance on analytical procedures using internally controlled data of a high degree of quality is increased.
3. Data Testing: The auditor's confidence and reliance on the data used in the analytical procedures depend on the extent to which these data are audited. Data that the auditor has tested in previous years or periods during audit has a higher degree of confidence in data that has not been audited.

Analytical Procedures Types

The most important aspect is the use of analytical procedures to test the most appropriate type, and there are five main types of analytical procedures:

1. Comparison of customer data with activity data: The main benefits of comparison with activity are that it helps to understand customer negligence and provides an indication of the possibility of financial failure. The main drawback is to use activity ratios to audit the difference between the nature of the customer's financial information and that information, which constitute the total activity.
2. Comparison of the customer's data with the corresponding data in the previous periods: The images of the analytical procedures in which the client's data is compared to the corresponding number in a previous period or periods vary.
3. Comparison of customer's data with client's expectations: Most companies prepare budgets for operating and financial results. Some budgets represent the client's expectations for the accounting period. The examination of most important aspects that have differences between the budget and the actual results may indicate the possibility of deviations.
4. Comparison of the client's data with the auditor's expectations: The client's data can be compared with the auditor's when the auditor performs calculations to arrive at the expected values of the balances of the financial statements. The auditor's expectations are the value on which the accounts balances should be based on the relationship of each balance with other balances in the budget or income statement or by visualizing the value of the balance based on some historical trends.
5. Comparison of customer's data with the expectations using non-financial data: The main purpose of using non-financial data is to determine the accuracy of the data. This type of procedure is used to verify the balances of certain accounts or to estimate some balances. The auditor cannot rely on this type of analytical procedure unless he is sure of the accuracy of the non-financial data.

Strategy of Analytical Procedures

The strategy of analytical procedures depends on inclusiveness, which encompasses:

Risk and profitability study

Economic units have become open systems that affect and are affected by the environment and that any activity is subject to two types of risks:

1. Economic risk.
2. Financial risk.

The first type of risk (economic risk) is influenced by the following factors:

- Lack of certainty due to lack of full information among economic decision makers.
- Nature of economic activity.
- Economic, political, and legal environment. This factor is influenced by the geographical location of the unit and the political and economic system of the State as well as the laws in force.

The second type of risk (financial risk) is influenced by the unit's financing structure, i.e. the ratio of loans to equity or third party rights (short- and long-term) to total equity. Therefore, it can be said that the administration cannot control the economic risks, but it can control the financial risks because they are linked to factors related to the economic unity itself.

Comparison of the Accounting Information Contained in the Financial Statements for a Number of Years

When comparing the time series approach, the auditor adopts the use of this method when accounting information is available for a number of years to perform the following actions:

1. Studying the direction of accounting information to determine the variables of positive and negative by selecting the base year, which should be from the years of financial and economic stability and then measuring the elements of financial reports (intrinsic), which are subject to internal control is not sound and ineffective and these elements (sales, the cost of goods sold).
2. Comparison of the size of the accounting information contained in the financial reports. Each component of the financial reporting groups should be attributed to the total of these groups as follows:
 - The ratio of each component of costs to total costs.
 - The ratio of each component of administrative and general expenses to the total.
 - Ratio of each component of income to total revenue.
 - Ratio of each component of asset-to-asset inventory (with a distinction between fixed and current assets).
 - The ratio of each element of liabilities (long-term and short-term) to total liabilities. When the auditor makes this comparison for more than one year, he can determine any positive or negative changes in the elements of the financial reports.

Comparison of Accounting Information Contained In Reports with Other Similar Economic Units

In order to judge the credibility of the financial reports, the auditor should use analytical procedures using time series as they reflect a historical study of the financial statements. The financial ratios can be used to compare the unit and other similar units of activity. These ratios can also be used to compare economic and financial risks with the consideration of the financing structures of each economic unit.

RESEARCH METHODOLOGY

Research Problem

The research problem is represented in the following questions:

1. Is the analytical procedure provided for in ISA (520) applied by Iraqi auditors when performing the audit?
This question three sub-questions:
 - Do the Iraqi audit firms implement audit procedures at the planning stage of the audit?
 - Do the Iraqi audit firms apply the analytical audit procedures provided for in ISA 520 in the detailed testing phase?
2. Are the analytical audit procedures provided by the Iraqi audit firms applied at the completion stage of the audit?
3. What are the most frequently used financial ratios by Iraqi auditors when they perform the audit?
4. Are there any impediments to the application of analytical procedures in the Iraqi audit firms?

Research Importance

The importance of the study is to highlight the role of analytical audit in the planning and performance of the audit process, which leads to the development and increase the efficiency of the audit. Analytical audit procedures help shorten the time of the audit process and thus reduce its cost by assisting the auditor in selecting the statistical sample including the most important and necessary items representing the true society. The importance of the study stems from its investigation to the extent to which Iraqi audit firms and companies comply with the analytical procedures stipulated in ISA No.520 in the auditing process due to the great impact that these procedures have on the effectiveness of the audit offices (Glover, 2009). In this study, the researchers will focus on the most important factor that helps auditors to accept the implementation of ISA No.520 analytical procedures in accordance with the regulations and instructions in force in Iraq.

Research Objectives

1. Stating the compliance extent of Iraq's audit firms with the application of procedures set out in ISA No. 520.
2. Identifying the effect of the use of analytical procedures by the Iraqi auditor in detecting fraud and fundamental errors.
3. Identify the most prominent financial ratios used in the analytical procedures included in the ISA No.520.

Research Hypotheses

The research was built on two major hypotheses with a number of subsidiary hypotheses.

H₁: There is statistically significant relationship between the availability of proficiency and scientific experience among the Iraqi auditors and between their good performances in using analytical procedures in the audit process.

- *The difficulties that the auditor may encounter in obtaining the data necessary to perform the analytical procedures affect the efficiency and effectiveness of the audit process in the audit offices of the Republic of Iraq.*

H₂: There is a statistically significant relationship between the importance of applying analytical procedures and increasing the efficiency and effectiveness of the audit process.

- *Restricting auditors to audit offices affects the timing of analytical procedures before and after or during the audit period on the efficiency and effectiveness of the audit process in the Iraqi audit firms.*
- *The shortfall of the auditors of the Iraqi audit firms affects the use of analytical procedures due to their lack of awareness of the requirements of Standard No. 520.*

Practical Perspective

The practical part of the present study aims at clarifying the use of analytical procedures by audit firms in the Republic of Iraq to improve the performance of the audit process and the extent to which Iraqi auditors comply with the requirements of ISA (520).

Sample of the Study

The study sample consists of a number of audit firms operating in the Republic of Iraq distributed in different Iraqi cities. The categories that carry the specialty of accounting science have been tested only in varying degrees to ensure objectively answering the questions that have been developed. A total of (48) audit firms were randomly selected and 196 questionnaires were distributed directly to the employees in these offices (accounting specialization). The number of questionnaires retrieved was (187), which represents 95% of the total number of questionnaires distributed and 12 others were excluded because they were not valid for analysis. The remaining (175) questionnaires were identified for study and analysis, representing (93.5%) of the number of questionnaires retrieved.

RESULTS

Personal Characteristics of the Study Sample

Table 1 below shows the frequency and percentage of the sample of the study.

Gender	Frequency	Percentage
Male	149	85%
Female	26	15%
Total	175	100%

According to the data of Table 1, most of the study respondents are males with a percentage of 85% among the rest of the study sample.

The Study Sample Occupation Title

Table 2 represents the distribution of the study sample based on their occupational titles.

Occupational Title	Frequency	Percentage
Junior Auditor	17	9.7

Occupational Title	Frequency	Percentage
Moderately Experienced Auditor	28	16
Senior Auditor	71	40.6
Audit Manager	48	27.4
associate auditor	11	6.3
Total	175	100%

Table 2 shows that most of the sample members are highly experienced (40.6%), some are auditor managers (firms owners) (27.4%). Thus, most of the respondents have sufficient experience in judging and showing the opinion with high objectivity and professionalism regarding the questionnaire items.

The Scientific Qualification of the Study Sample

Table 3 below illustrates the scientific qualification of the research study sample.

Scientific Qualification	Frequency	Percentage
Doctorate	49	28%
External Auditor	31	17.7%
Master	38	21.7%
Bachelors	57	32.6%

The rest of the study sample respondents are distributed among external with a frequency of 31 and a percentage of 17.7%, master degree holders with frequency of 38 and a percentage of 21.5%, and bachelor's degree holders with frequency of 57 and a percentage of 32.6%. The study sample was randomly selected that consequently enhances the validity of the sample's responses to the questionnaire items.

As for the study sample's age, Table 4 demonstrates the age, frequency, and percentage

Age	Frequency	Percentage
30-35	25	14.3%
36-40	23	13.1%
41-45	28	16%
46-50	46	26.3%
51-55	53	30.3%
Total	175	100%

From Table 4, it is clear that the largest age group is (51-55) with frequency (53) and a percentage of (30.3%). Next, the age group comes with an age range between (46-50) years and a frequency of (46) with a percentage of (26.3%). The selected sample did not include age groups above (60) years.

Years of Experience	Frequency	Percentage %
Less than 10 years	25	14.30%
From 10-less than 20 years	81	46.30%
From 20 years and above	69	39.40%
Total	175	100%

From Table 5, the frequency of sample members with more than 10 years and less than 20 years was (81) and (46.3%). The frequency of the sample with more than 20 years-experience was (69) (39.4%). The selected sample with appropriate experience ensures that they answer their questions objectively and professionally.

Table 6 use the five-point Likert Scale method to measure the responses of the study sample to the questionnaire items prepared for measuring the degree of sample approval on the questionnaire items as follows.

Response	Strongly agree	Agree	Moderate	Disagree	Strongly Disagree
Level	1	2	3	4	5

Using the SPSS statistical program, the arithmetic mean and the standard deviation of the sample responses were obtained. The degree or level of approval of the responses was adopted as very high (strongly agree) on each questionnaires item, noting that the arithmetic mean is ranged between (4.21-5.0) and the approval score is high (agree) as the arithmetic mean is ranged between (3.41-4.20).

Testing the Hypotheses of the Study

First Axis (First Hypothesis)

H₁: There is statistically significant relationship between the availability of proficiency and scientific experience among the Iraqi auditors and between their good performances in using analytical procedures in the audit process.

The first axis of the study represents the arithmetic means, standard deviations of the sample of the study sample (professional experience, and scientific qualification of auditors working in audit firms in the Republic of Iraq). Table 7 below represents the first axis of the study.

Item	Agreement Degree					Mean	SD	Agreement Level
	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree			
Professional and scientific qualification of the auditor assists the	90	84	1	0	-	4.502	0566	Strong Agreement
	51.4	48	0.57	0	-			

external auditor in applying analytical audit procedures.								
Planning the audit and supervision of the assistants leads to the use of analytical procedures with high efficiency in the audit process.	86	82	5	2	-	4.44	0.611	Strong Agreement
	49	47	2.8	1.16	-			
The study and evaluation of the internal control system determines the tests to be carried out and the use of audit procedures in the audit process.	84	81	8	2	-	4.417	0.636	Strong Agreement
	48	46.3	4.6	1.1	-			
Analytical audit procedures assist the external auditor in minimizing the risk of discovery.	51.4	47.4	1.1	-	-	4.502	0.523	Strong Agreement
	54.3	45.7	-	-	-			
The ability and efficiency of the external auditor assists in the application of analytical audit procedures at any stage of the audit process.	95	80	-	-	-	4.542	0.499	Strong Agreement
	54.3	45.7	-	-	-			
The auditor usually asks the management about the availability of information about the reliable information needed in the analytical audit.	92	83	-	-	-	4.525	0.500	Strong Agreement
	52.6	47.4	00	00	00			
The existence of laws and regulations that affect the auditor's role when performing analytical audits.	85	75	10	5	-	4.371	0.722	Strong Agreement
	48.6	42.9	5.7	2.8	-			
The interest of the professional associations to oblige the audit offices in Iraq to apply the quality control system positively affect the application of analytical auditing procedures.	91	84	-	-	-	4.52	0.501	Strong Agreement
	52	48	-	-	-			
The use of analytical procedures when planning an audit helps identify items under scrutiny.	87	80	5	3	-	4.434	0.638	Strong Agreement
	49.7	45.7	2.8	1.7	-			
The analytical procedures used by the auditor help him obtain proof of evidence in addition to forming the auditor's opinion.	82	85	4	2	2	4.702	0.818	Agreement
	47	48.6	2.2	1.1	1.1			
Supervisors of the audit firms, including the Council of the profession and the Iraqi Accountants Association, are developing procedures for monitoring performance.	75	78	16	4	2	4.674	0.701	Agreement
	42.9	44.6	9.1	2.2	1.1			
Professional experience and scientific qualification of Iraqi auditors.						4.484	0.105	Strong Agreement

Table 7 shows that the arithmetic means of the sample responses were high (strongly agree) to the questions asked about the need for scientific and professional qualification of the auditor to perform the analytical procedures. The arithmetic mean in the use of analytical procedures was ranged from (4.371-4.702). Item (10) that shows that the analytical procedures help the auditor obtain additional evidence to support his technical opinion on the financial statements has reached the highest arithmetic mean showing with (4.484) for the axis

(professional experience and scientific qualification) and the standard deviation was (0.105). This means that there is a need for scientific and professional qualification for the employees of the Iraqi audit firms along with the need for the performance control procedures availability, which is reflected positively on the efficiency and effectiveness of the audit. Thus, the first hypothesis of the study has been validated and approved.

Second Axis (First Subsidiary Hypothesis)

The difficulties that the auditor may encounter in obtaining the data necessary to perform the analytical procedures affect the efficiency and effectiveness of the audit process in the audit offices of the Republic of Iraq.

Table 8 below demonstrates the arithmetic means and standard deviations of the sample of the study concerning the difficulties faced by Iraqi auditors when applying analytical auditing procedures that represents the second axis of the study.

Item	Agreement Degree					Mean	SD	Agreement Level
	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree			
Some errors are caused when using analytical procedures.	72	88	7	4	4	4.257	0.828	Agreement
	41.1	50.3	4	2.2	2.2			
The difficulty of using analytical procedures leads to reduced visibility of important details and overall vision of the audit process.	80	84	6	3	2	4.354	0.735	Agreement
	45.7	48	3.4	1.7	1.1			
The weakness of analytical procedures is due to errors in the audit program.	72	84	10	6	3	4.714	0.629	Agreement
	41.1	48	5.7	3.4	1.7			
It is difficult to examine and collect evidence on the audit when applying analytical auditing procedures.	85	80	7	3	0	4.428	0.856	Agreement
	48.6	45.7	4	1.7	0			
The difficulty of using analytical procedures reduces the chances of detecting irregularities in financial statements.	90	81	4	-	-	4.491	0.545	Strong Agreement
	51.4	46.3	2.2	0	0			
The difficulty of using analytical procedures reduces the efficiency and effectiveness of auditing.	88	79	5	3	-	4.44	0.639	Strong Agreement
	50.3	45	2.8	1.7	0			
The difficulty of using analytical procedures leads to the lack of reliability and credibility of the outputs of the audit.	83	80	5	4	3	4.348	0.794	Strong Agreement
	47.4	45.7	2.8	2.2	1.7			
The difficulty of using analytical procedures leads to the result that the results of the audit process do not have the appropriate and timely characteristics.	81	80	9	5	-	4.354	0.711	Strong Agreement
	46.3	45.7	5.1	2.8	0			
The results of the audit provide broad scope for monitoring	85	78	7	5	-	4.388	0.701	Strong Agreement

operations, improving service performance and providing information to support decision processes.	48.6	44.6	4	2.8	0			
The results of the analytical audit process reduce the chances of committing error and fraud in the financial statements provided by the client.	90	80	5	-	-	4.485	0.555	Strong Agreement
	51.4	45.7	2.8	0	0			
Difficulties faced by Iraqi auditors when applying analytical auditing procedures.						4.426	0.107	Strong Agreement

Table 8 shows that the arithmetic means of the study sample responses were high (strongly agree) to the questions asked about the difficulties faced by the auditor so that he can perform the analytical procedures. The arithmetic means in the use of analytical procedures ranged between (4.257) to (4.714). However, the difficulty of implementing the analytical procedures indicates that there was an error in the audit program, while the average was high (4.426) and a standard deviation of (0.107) for the axis (difficulties faced by Iraqi auditors when applying analytical auditing procedures). The population of the study emphasized that the results of the audit process, after the application of analytical procedures, provide a broad horizon for the control of operations and improve the performance of services and information to support the decision processes and to reducing the chances of committing error and fraud in the data provided by the client, which is in return reflected positively on the efficiency and effectiveness of the audit. Hence, the first subsidiary hypothesis is validated and approved.

Third Axis (Second Hypothesis)

H₂: There is a statistically significant relationship between the importance of applying analytical procedures and increasing the efficiency and effectiveness of the audit process.

Table 9 below demonstrates the arithmetic means and standard deviations of the sample of the study regarding the relationship between the importance of applying analytical procedures and increasing the efficiency and effectiveness of the audit process that represents the third axis of the study:

Item	Agreement Degree					Mean	SD	Agreement Level
	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree			
Using analytical procedures reduces the time and effort of the audit process.	86	82	7	-	-	4.451	0.574	Strong Agreement
	49	47	4	0	0			
Using analytical auditing procedures can increase the efficiency of the audit process compared to other procedures.	88	82	5	-	-	4.474	0.555	Strong Agreement
	50.3	46.8	2.8	0	0			
The use of analytical auditing procedures is highly effective in	90	83	2	-	-	4.502	0.523	Strong Agreement
	51.4	47.4	1.1	0	0			

detecting errors in customer financial statements.								
The results of the audit process using the analytical audit procedures lead to a reduction of the commission of the error and the detection of cases of fraud and manipulation of the financial statements of the client.	89	81	5	-	-	4.514	0.523	Strong Agreement
	50.8	46.3	2.8	0	0			
When applying analytical procedures, it helps to overcome the risk of unreasonableness of the figures in the customer's financial statements.	88	78	6	3	-	4.434	0.647	Strong Agreement
	50.3	44.6	3.4	1.7	00			
The use of advanced statistical methods increases the effectiveness of analytical auditing procedures.	86	80	6	3	-	4.422	0.646	Strong Agreement
	49	45.7	3.4	1.7	00			
The results of the audit can contribute to the improvement of the company's performance under examination and auditing using analytical auditing procedures.	90	76	5	4	-	4.44	0.665	Strong Agreement
	51.4	43.4	2.8	2.8	0			
Audit procedures can be applied at all stages of the audit.	90	80	5	-	-	4.485	0.555	Strong Agreement
	51.4	45.7	2.8	0	0			
Weaknesses and strengths should be identified when using audit procedures in the audit process.	88	76	6	5	-	4.411	0.696	Strong Agreement
	50.3	43.4	3.4	2.8	0			
In the course of analytical procedures, the effectiveness of the internal control system can be verified.	90	81	4	-	-	4.491	0.545	Strong Agreement
	88	76	6	5	-	4.411	0.696	
Inappropriate information available Analysis affects analyzes and comparisons of the audit process.	88	82	5	-	-	4.474	0.555	Strong Agreement
	50.3	47	2.8	0	0			
The relationship between the importance of applying analytical procedures and increasing the efficiency and effectiveness of the audit process.						4.463	0.180	Strong Agreement

Table 9 shows that the arithmetic means of the study sample responses were high (strongly agree) to the questions asked about the relationship between the importance of applying analytical procedures and increasing the efficiency and effectiveness of the audit process. The members of the study sample stressed that the use of analytical procedures has a high efficiency in detecting errors and deviations. In addition, the results of the audit lead to minimizing the error (4.463) and a standard deviation of (0.180). The sample members also stressed that the results of the audit process when applying the analytical procedures provide wide horizons to identify weaknesses and strengths in customer data. Moreover, of the study sample confirmed that the results of the audit process when applying the analytical procedures provide wide horizons to identify weaknesses and strengths in the client's data. The results of the audit process can contribute to improving the performance of the company in the place of examination and

auditing, which reflects positively on the efficiency and effectiveness of the audit, which in return validates and approves the second main hypothesis of the study.

Fourth Axis (The first sub-hypothesis of the second hypothesis)

Restricting auditors to audit offices affects the timing of analytical procedures before and after or during the audit period on the efficiency and effectiveness of the audit process in the Iraqi audit firms.

Table 10 below illustrates the arithmetic means and standard deviations of the sample of the study regarding the first subsidiary hypothesis of the second main hypothesis of the study regarding restricting auditors to audit offices affects the timing of analytical procedures before and after or during the audit period on the efficiency and effectiveness of the audit process in the Iraqi audit firms that represents the fourth axis of the study.

Item	Agreement Degree					Mean	SD	Agreement Level
	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree			
The balances or financial ratios derived from the client's financial statements are compared with those of previous years for the same customer.	85	78	7	5	-	4.388	0.701	Strong Agreement
	48.6	44.6	4	2.8	0			
The balances or financial ratios derived from the customer's financial statements are compared with the client's pre-prepared expectations (for example, planning budgets).	86	78	8	3	-	4.411	0.662	Strong Agreement
	49	44.6	4.5	1.7	0			
Analytical procedures are used to estimate the risk of non-continuity of the business in the near future.	90	80	5	-	-	4.485	0.555	Strong Agreement
	51.4	45.7	2.8	0	0			
Analytical procedures are used to design the audit program, determine the type, quantity and timing of the audit procedures and who are the members of the task force responsible for implementing the process.	88	82	5	-	-	4.474	0.555	Strong Agreement
	50.3	47	2.8	0	0			
Client management is held accountable for unexpected amounts and figures that arise as a result of the analytical procedures and evidence collection to assess customer management responses.	90	78	7	-	-	4.474	0.575	Strong Agreement
	51.4	44.6	4	0	0			
Analytical procedures are used to estimate the risk of unintentional errors in the financial statements and to plan the audit accordingly.	87	80	8	-	-	4.451	0.583	Strong Agreement
	49.7	45.7	4.5	0	0			
Analytical procedures are used to detect unusual events and events in the figures in the financial statements and to plan the audit accordingly.	88	80	5	2	-	4.451	0.612	Strong Agreement
	50.3	45.7	2.8	1.1	0			
Analytical procedures are used to help understand the nature of the client's	90	81	4	-	-	4.491	0.545	Strong Agreement
	51.4	46.3	2.2	0	0			

business and to plan the audit accordingly.								
Analytical procedures are used to estimate the risk of financial fraud intended for the financial statements and to plan the audit accordingly.	87	79	6	3	-	4.428	0.647	Strong Agreement
	49.7	45.1	3.4	1.7	0			
Analytical procedures are used to estimate the risk that the customer will not achieve declared objectives that have been legitimately established to achieve them.	90	78	4	3	-	4.457	0.631	Strong Agreement
	51.4	44.6	2.2	1.7	0			
The balances or financial ratios derived from the client's lists are compared to the financial market forecasts and the economic releases. We will not expect these figures to be present.	83	80	7	5	-	4.377	0.699	Strong Agreement
	47.4	45.7			0			
Derivative financial balances or ratios are compared to the financial statements of the customer with non-financial data that are relevant to what the figures are expected to be high.	88	81	6	-	-	4.417	0.663	Strong Agreement
	50.3	46.3	3.4	0	0			
Analytical procedures are used to estimate the risk of unintentional errors in the financial statements and to plan the audit accordingly.	86	80	5	4	-	4.468	0.565	Strong Agreement
	49	45.7	2.8	2.2	00			
Restricting auditors to audit offices affects the timing of analytical procedures before and after or during the audit period on the efficiency and effectiveness of the audit process in the Iraqi audit firms.						4.444	0.055	Strong Agreement

Table 10 shows that the arithmetic means of the study sample responses are high (strongly agree) to the questions asked about the timing of analytical procedures before and after or during the audit period on the efficiency and effectiveness of the audit process in the Iraqi audit firms. The members of the sample of the study confirmed that the timing of the use of analytical audit procedures before or after or during the audit period is to assess the risk of non-continuity of the client in the near future, as well as to detect events and unusual phenomena in the figures contained in the financial statements of the client and planning the audit process accordingly. The total arithmetic mean of the axis of the timing of the analytical procedures has reached to (4.444) and the total deviation of the axis has reached to (0.055). The population of the study also confirmed that the results of the audit process, when applying the analytical procedures in which the balances or financial ratios derived from the client's financial statements, are compared with those of the client's competitors within the same commercial field as well as comparison of financial statements with non-financial evidence related to what these figures are expected to be and thus increase the efficiency and effectiveness of the audit using analytical procedures, which in return proves the validity of the first subsidiary hypothesis of the second main hypothesis of the study.

Fifth Axis (Second Subsidiary Hypothesis of the Second Main Hypothesis)

The shortfall of the auditors of the Iraqi audit firms affects the use of analytical procedures due to their lack of awareness of the requirements of Standard No. 520.

Table 11 below illustrates the arithmetic means and standard deviations of the sample of the study regarding the second subsidiary hypothesis of the second main hypothesis of the study regarding The shortfall of the auditors of the Iraqi audit firms affects the use of analytical procedures due to their lack of awareness of the requirements of Standard No.520 which represents the fifth axis of the study.

Table 11								
THE FIFTH AXIS OF THE STUDY								
Item	Agreement Degree					Mean	SD	Agreement Level
	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree			
The application of the concept of analytical procedures by the auditor in Iraq requires familiarity with the requirements of International Standard No. 520.	90	82	3	-	-	4.497	0.534	Strong Agreement
	51.4	47	1.7	00	00			
Is the auditor's insufficient knowledge of the accounting standards to affect his professional performance and lead to the failure of the analytical audit?	90	75	7	3	-	4.44	0.657	Strong Agreement
	51.4	42.9	4	1.7	0			
Is the intense competition between accountants to attract customers and fee pressures affect their independence and affects their professional performance and the failure of the process of the audit process?	86	77	7	5	-	4.394	0.702	Strong Agreement
	49	44	4	2.8	0			
The use of analytical procedures helps to mitigate shortcomings in the audit process.	90	82	3	-	-	4.497	0.5347	Strong Agreement
	51.4	47	1.7	0	0			
The use of analytical procedures increases the accuracy and clarity of data and information related to the audit process.	92	78	3	2	-	4.485	0.595	Strong Agreement
	52.6	44.6	1.7	1.1	0			
The use of analytical procedures helps to provide financial statements and reports that are able to provide information relevant to the audit.	88	82	5	-	-	4.474	0.555	Strong Agreement
	50.3	47	2.8	0	0			
The use of analytical procedures helps to prevent the recording of any illegal transactions.	84	80	8	3	-	4.4	0.660	Strong Agreement
	48	45.7	4.6	1.7	0			
Do you think that the fact that auditors are competing with each other to obtain new audits or not to lose current processes affects their professional performance and leads to the failure of the analytical audit?	90	77	4	4	--	4.445	0.657	Strong Agreement
	51.4	44	2.2	2.2	00			
Do the auditors perform other services to their clients with a small fee in order to ensure the renewal of their appointment annually affects their professional performance and leads to the failure of the analytical audit?	86	81	5	3	-	4.428	0.638	Strong Agreement
	49	46.3	2.8	1.7	0			
Is the increased merger between the offices and the large audit firms to obtain large audits that put a lot of pressure on the audit profession affect the professional	85	80	5	5	-	4.417	0.688	Strong Agreement
	48.6	45.7	2.8	2.8	0			

Table 11 THE FIFTH AXIS OF THE STUDY								
performance, and lead to the failure of the analytical audit procedures and thus the failure of the audit?								
The shortfall of the auditors of the Iraqi audit firms affects the use of analytical procedures due to their lack of awareness of the requirements of Standard No.520.						4.448	0.063	Strong Agreement

Table 11 shows that the arithmetic means of the study sample responses are high (strongly agree) to the questions regarding The shortfall of the auditors of the Iraqi audit firms affects the use of analytical procedures due to their lack of awareness of the requirements of standard No. 520. The arithmetic means in the use of analytical procedures ranged between (4.428) to (4.448). The sample of the study confirmed that the application of the concept of analytical procedures by the auditor in Iraq requires familiarity with the requirements of ISA No. 520. Moreover; the study sample confirmed that the use of analytical procedures also helps to mitigate shortcomings in the audit process. The overall mean of the "*analytical timing*" axis was high (4.448) and the total deviation of the axis (0.063). The study also showed that the results of the audit process when applying the analytical procedures contribute to increasing the accuracy and clarity in the data and information related to the audit process. Finally, the population of the study confirmed that the merger process in order to obtain large checks in addition to providing services at reduced rates adversely affect the performance of the audit process and therefore should keep Iraqi auditors from all deficiencies that affect the credibility and integrity of the audit.

DISCUSSION

This study is a continuation of previous Arab and foreign studies which took place in an environment other than Iraq. What distinguishes this study from previous ones is that it combines the relationship between analytical procedures and performance improvement if the provisions of Standard 520 are applied when conducting the audit. This study is the first to be applied in the environment of Iraq, according to the researcher's knowledge, represented by audit firms and companies. With regard to previous studies applied in Iraq, they have been applied in government institutions and specifically to a number of employees working as accountants in those institutions. Moreover, the previous studies adopted were limited to two variables only and did not take into account the international standard 520. Below are some of the Arab and foreign studies that preceded this study, which differ in their content from this study, as they touched on other variables and in another environment, for example:

Abu-Mayaleh & Zbayneh (2012) conducted a study entitled "*The Role of Analytical Procedures in Reducing Audit Risks in accordance with International Auditing Standard No. 520.*" This study took into account the role of analytical procedures in reducing audit risk. This study was applied to a sample of auditors in the West Bank in Palestine.

Saqa (2013) conducted a study entitled "*The extent of the contribution of analytical procedures in the review of the inventory*" applied to AKPITRA company in Syria. This study dealt with the role of analytical procedures in inventory audit.

The study of Abdali (2013) entitled "*The importance of using analytical procedures in the audit stages*" by the auditors, was applied in the Ministry of Finance in the State of Kuwait. The study concluded that the use of analytical procedures affects the efficiency and effectiveness of control in the State of Kuwait.

Imoniana et al. (2012) conducted a study entitled "*Analytical Procedures in Auditing*" An Exploratory Study. This study was applied in Brazil. The study has reached several results, the most important of which is that the satisfaction of the auditor is based on a set of accounts to give the relative importance of the existence of risks or errors for each account and thus enables the auditor to collect additional information supporting the technical banner of the financial statements.

Fraser et al. (1997) conducted a study entitled "*The use of analytical procedures by external auditors in Canada: Exploratory Study*", which concluded that analytical procedures are widely applied, Great scrutiny.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In the light of previous data analyzes and testing of the hypotheses of the study, the following results were reached:

1. Although the Iraqi auditors were not aware of the importance of using analytical procedures, the overall level of recognition of the importance of the analytical audit procedures and the requirements of ISA 520 was good.
2. The obstacles to the use of analytical auditing procedures by Iraqi auditors are the low level of training courses.
3. Audit procedures are used to assist the auditor in the planning and timing of the audit and its material impact on the detection of misstatements and misstatement of the financial statements.
4. The beneficiaries of the audit services emphasize the availability of experience and the scientific qualification of the auditor, which facilitates the use of analytical procedures.

Recommendations

1. The need for the Association of Certified Accountants in Iraq to organize workshops, courses and seminars for Iraqi accountants on the use of analytical procedures.
2. Generalizing the use of analytical auditing procedures in the audit offices in Iraq and work to raise the level of awareness of the analytical procedures at all stages of the audit.
3. The supervisors of the audit firms shall require audit firms to develop performance control procedures.
4. The need for restricting Iraqi auditors' attention to the analytical auditing procedures as a good and important way to complete the audit process with the least effort and reduce time and cost.

REFERENCES

- Abdali, S.H. (2013). *The importance of analytical procedures in the stages of auditing*. Unpublished Master Thesis. The American University of the Middle East, Kuwait.
- Abu-Mayaleh., & Zbayneh, D. (2012). The role of audit procedures in reducing audit risk in accordance with ISA. *Journal of Al-Quds Open University for Administrative & Economic Research*, 2(31), 279-314.
- Al-Hamood, T., & Al-Samaraay, A. (1998). The extent of Libyan auditors' commitment to apply analytical procedures: Field study. *The Industrial Cooperation in the Arabian Gulf Journal*, 8(12).
- Al-Mutairy, M.A. (2011). *The extent to which the audit firms in Kuwait comply with the analytical procedures stipulated in ISA 520*. Unpublished PhD desecration. The American University of the Middle East, Kuwait.
- Al-Qadhi, H.K. (2008). *Audit and procedures*. University of Damascus Publications. Faculty of Economics.
- Arens, A.A., Loebbecke, J.K., Elder, R.J., & Beasley, M.S. (2000). *Auditing: An integrated approach*. Upper Saddle River, NJ: Prentice Hall.
- Arens, A.A., Loebbecke, J.K., Lemon, W.M., & Splettsloesser, I.B. (2010). *Auditing and other assurance services Canadian (Eighth Edition)*. Scarborough, Ontario: Prentice Hall Canada.

- Cho, S., & Lew, A.Y. (2000). Analytical review applications among large audit firms in Hong Kong. *Managerial Auditing Journal*, 15(8), 431-438.
- Cohen, J.R., Krishnamoorthy, G., & Wright, A.M. (2000). Evidence on the effect of financial and nonfinancial trends on analytical review. *Auditing*, 19(1), 27-48.
- Fraser, I.A.M., Hatherly, D.J., & Lin, K.Z. (1997). An empirical investigation of the use of analytical review by external auditors. *The British Accounting Review*, 29(1), 35-47.
- Glover, A.H. (2009). *The entry to auditing and modern confirmation*. Dar al-Safa for Publishing, distribution & printing. Amman, Jordan.
- Glover, S.M., Jiambalvo, J., & Kennedy, J. (2000). Analytical procedures and audit-planning decisions. *Auditing: A Journal of Practice & Theory*, 19(2), 27-46.
- Imoniana, J.O., Antunes, M.T.P., Mattos, S.M., Maciel, E. (2012). The analytical review procedures in audit: An exploratory study. *Advances in Scientific and Applied Accounting*, 5(2), 282-303.
- International Federation of Accountants (2001). *International federation of accountants' guide: Review and ethical conduct publications-translation of the international society of chartered accountants*. Amman-Jordan.
- Lin, K.Z., & Fraser, I.A.M. (2003). The use of analytical procedures by external auditors in Canada. *Journal of International Accounting Auditing & Taxation*, 12(2), 153-168.
- Moussa, A.M. (2013). *Audit procedures and their role in rationalizing the auditor's personal judgment*. Dar Wael Publishing, Amman.
- Naghi, M.E. (2000). *Studies in international standards of auditing, (First Edition)*. Egypt, Modern Library for Publishing and Distribution.
- Saqa, A. (2013). The extent of the contribution of analytical procedures in inventory review: An applied study on AKPITRA company. *Damascus University Journal of Economic and Legal Sciences*, 29(2), 433-461.
- Sinon, A.S. (2017). The extent to which Egyptian auditors use analytical auditing procedures. *Journal of New Horizons*, 4(2), 156-168.