

"The Role of the External Auditor (Chartered Accountant) in Improving the Quality of Environmental Auditing" : Evidence From Jordan

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Abstract

The study aimed to clarify the role of the external auditor (Chartered Accountant) in improving the quality of environmental auditing, through the study population represented by the Jordanian external auditors (Chartered Accountants) practicing the auditing profession in Jordan. The study sample consisted of 210 Jordanian external auditors (Chartered Accountants). The researcher adopted (SPSS) to analyze the data of the study. The study concluded a number of results, the most important of which is that environmental regulations, laws, standards, and play an important role in improving the quality of environmental auditing as well as the examination of operational processes plus book and documentary examination. Based on the results, the study recommends, and most importantly that the external auditor must ensure the adequacy of environmental regulations, laws and standards to verify their application by the establishments in addition to their commitment to it. Moreover, the external auditor should follow up the developments happened through the publications and reports issued by the competent authorities. The external auditor shall also perform auditing procedures for the environmental operations using the available and appropriate means and procedures to examine the operational processes to ascertain the environmental effects. Furthermore, the external auditor has to focus on the book and documentary examination, since books and documents are an essential source of information about the environmental performance of the facility in terms of measurement, treatment and disclosure of environmental aspects.

Key words: Environmental Auditing, Environmental Regulations, Laws and Standards, Examination of Operational Processes, and book and Documentary Examination.

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1. INTRODUCTION

Organizations with its different activities pursue to go ahead to achieve its various goals such as: achieving profits, increasing market share, and attracting agents and investors and other goals. In order to achieve these goals, organizations should ensure the continuity in practicing its activities and the ability to sustain its market position, so that organization should be at a high level of readiness to meet market needs while conforming to all laws and criteria that regulate the field of its work (**Omar, Ali, 2012**). Since these organizations work within the community, it by default affects the surrounding environment and influenced by it (**Mousa et al, 2012**) Consequently, the organization must stick hold to its complete responsibilities towards society and environment. The awareness and interest of the various members of society and the concerned groups the need to preserve the environment and to avoid harming it, has created a pressure to monitor the operations of these organizations to detect whether is it committed to preserving environment or not. This is resulted in the enactment of environmental laws and regulations on a frequent basis, which has made authorities concerned with the work and performance of those organizations to pay greater attention to the environmental performance of it (**Muneer et al, 2011**). The authorities that are interested in regulating the profession of Accounting are demanded to set the necessary and required criteria to ensure that all environmental issues in the organizations have been considered and investigated; this environmental auditing could be achieved through external auditing. So, It is necessary to pay attention to reviewing the environmental performance of organizations in terms of financial data and accounting treatments resulting from them and their impact on the financial reports and disclosure, to ensure that the organizations comply with their responsibilities towards the environment and to identify the reality of the environmental performance of these organizations (**Mousa, et al, 2014; Ibrahim et al, 2017**).

The preservation and maintenance of environment in Jordan has gained much concern in various ways and forms through governmental and non-governmental organizations and associations through environmental legislation, standards and reports on the damage and negative effects resulting from the activities of different organizations, as well as proposals and solutions to reduce them. Moreover, to ensure that the organizations comply with their responsibilities to preserve the environment and disclose their operations and activities and its impact on the environment as well as the activities carried out by the organizations to preserve the well-being of the environment, relying on the environmental auditing accompanying the work of the external auditor in reviewing and disclosing data and operations of these organizations, This study is intended to demonstrate the role of the external auditor in improving the quality of environmental auditing to ensure that the organizations are committed to improving their environmental performance to ensure maximum environmental protection and well-being.

2. THE PROBLEM OF THE STUDY

Environmental auditing plays a vital role in improving the environmental performance of the economic units and protecting the environment from various damages facing it or the negative effects that may result from the activities of the organizations. Environmental auditing helps to determine the extent of stress caused to the environment and resources, whether pollution or depletion due to the activities of these organizations. Environmental auditing is one of the important sources of information that serve many stakeholders interested in the results of the

organizations and their environmental performance. The stakeholders include members of the society in general, owners, shareholders and customers, as well as those concerned with the preservation of the environment and regulation authorities of the accounting profession to ensure compliance by the organizations with the laws, criteria, policies and relevant managerial programs prepared by such entities or by the organizations themselves. Environmental auditing also aims at verifying that these organizations effectively apply environmental accounting in terms of availability of financial data related to environmental activities, the accounting treatment, and the appropriate disclosure of it, by reviewing the policies, programs and activities of these organizations to verify their efficiency, effectiveness and compliance with the standards and regulations governing this performance. As well as to verify the operations of the organizations and their suitability to the well-being of environment and compliance standards, and to verify the availability and disclosure of data on environmental activities through the book and documentary analysis of these data.

There are many obstacles to the achievement of the task of environmental auditing, such as the weakness of standards, regulations issued by the authoritative bodies, both inside and outside the organizations in terms of environmental control and the obligation of internal auditors and external to use environmental auditing, and the lack of full information on the environmental activity of these establishments, because of the difficulty of measuring these operations or the difficulty of disclosing them, as well as the unavailability of the necessary resources and capabilities for the environmental auditing process, which may require special means or tools, besides the lack of expertise of the external auditors in the field of environmental auditing. Hence, this study pursues to identify the role of the external auditor in improving the quality of environmental auditing through a practical study of external auditors practicing in Jordan.

The problem can be expressed by the following questions:

- Is there a role for environmental regulations, laws and standards in improving the quality of environmental auditing?
- Is there a role for examining operational processes in improving the quality of environmental auditing?
- Is there a role for the book and documentary analysis in improving the quality of environmental auditing?

3. HYPOTHESES

- There is no role for environmental regulations, laws and standards in improving the quality of environmental auditing.
- There is no role for examining operational processes in improving the quality of environmental auditing.
- There is no role for book and documentary analysis in improving the quality of environmental auditing.

4. OBJECTIVES

- Demonstration of the role of environmental regulations, laws and standards in improving the quality of environmental auditing.

- Demonstration of the role of the examination of operational processes in improving the quality of environmental auditing.
- Demonstration of the role of book and documentary examination in improving the quality of environmental auditing.

5. THE IMPORTANCE OF THE STUDY

This study is important because it came to complete the previous studies conducted in the field of environmental auditing and because of the lack and scarcity of these studies. The importance of the study emerges from the importance of its subject, since environmental auditing is of great importance as it provides the necessary information to various entities about the environmental performance of the organizations for the purposes of planning, control and decision-making, for different stakeholders inside the organizations and outside them. Environmental auditing contributes to the provision of information to these entities by verifying the compliance of the organizations with the laws, regulations, environmental standards, policies, plans and programs set up to work in accordance with preserving the environment and limiting the negative effects of the activities of these organizations. As well as verification of compliance with the requirements of accounting and environmental accounting standards by reviewing the environmental performance of these organizations and providing data, accounting treatment and disclosure. In Jordan, there is an urgent need to improve the quality of environmental auditing in order to ensure the necessary information about the environmental performance of the organizations in order to increase the supervisory role of the concerned authorities and to draw up appropriate plans to protect the environment and to enact the necessary laws and regulations to protect the environment.

The study is also important since it examines the difficulties that may face the external auditor during the process of environmental auditing, as well as the requirements of the environmental auditing process and the role of the external auditor in improving the quality of environmental auditing by reviewing the laws, regulations and environmental standards that the organizations are committed to. Moreover, it examines the operational processes and book and document analysis of the activities of the organizations which contribute to improving the quality of environmental auditing, the researcher seeks through this study to reach to some recommendations that may contribute to improving the quality of environmental auditing, as well as to complete the study on this subject in the future.

6. PREVIOUS STUDIES

I. Arabic Studies

Ghamam Morad and DhmonFawziStudy (2015) entitled "The importance of environmental auditing in the development of environmental performance in the economic institution. A case study of the National Enterprise of Painting(ENAP) in Alkhadareeh." This study aimed at determining the importance of environmental auditing and its contribution to the development of environmental performance in economic institutions. Through a case study of the National Enterprise of Painting in Algeria, the study reached a number of results; the most important of which are the lack of specialized frameworks in the field of the environment, as well as the inability of the accounting systems to provide appropriate information about the effects on the

environment because of the activities of the different organizations. In light of these results, the study recommended that there is a need to pay attention to the environmental aspects in the organizations as well as the need to use qualified scientific and professional experts in the field of environmental pollution and environmental problems and conservation, and recommended to make the environmental review mandatory and to find the necessary standards to conduct environmental performance review.

Al-Abdallat Study (2015) entitled "Determining the Factors of Environmental Management System ISO 14001 in the Existence of Quality Culture and Cleaner Production as Mediator Variables on Environmental Performance- A Case Study of Methaliyah Company for Chemical Industries." This study aimed to assess the standard ISO 14001 in Methaliyah company for Chemical Industries and to demonstrate the extent of its impact on the environmental performance of the organization, and to develop the concept of sustainability through the application of environmental quality concepts and cleaner production policy, and aims to provide and develop a set of recommendations that will increase the clarify the study concepts relating to the application 14001 standards ISO and the environmental performance and application requirements for these concepts in the chemical industry sector, and the deployment of a general awareness and interest in supporting cleaner production and dissemination of a culture of quality, and to identify the level of environmental awareness among workers in the plant and its impact on environmental performance. The sample was selected randomly, consisting of 70 employees include all employees in Methaliyah company for Chemical Industries, and to achieve the objectives of the study were to rely on descriptive analytical method, using statistical methods of Social Sciences and SPSS. The results showed Methaliyah Company for Chemical Industries has an environmental policy, where the company required all employees to apply their own environmental policy. The researcher recommended the need for regulatory and legislative in Jordan to enact laws and regulations that require companies to carry out the commitment of environmental management systems.

Al-Hayek Study (2013) entitled "Internal Environmental Audit in Jordanian Manufacturing Companies - An Empirical Study." The study aims at identifying the extent to which what internal auditors in the Jordanian manufacturing companies applying the tasks of environmental audit, identify their awareness to the importance of internal audit environment and explore, determinants that face the internal auditors when applied the environmental audit. To achieve the objectives of the study, the researcher developed a questionnaire distributed to internal auditors in Jordanian manufacturing companies, and one sample t-test was used to examine the study hypotheses. The Researcher study showed that those internal auditors are not aware of the importance of environmental auditing. The researcher study also provides a number of recommendations including the importance of providing some rules and regulations by the government to all companies to compulsorily execute the internal environmental auditing.

II. Foreign Studies

The study of (Álvarez-García, del Río Rama, 2016) with the title "Sustainability and EMAS: Impact of Motivations and Barriers on the Perceived Benefits from the Adoption of Standards, "this study shows that The objective of this paper is to analyze the influence of the sources of motivation that lead companies to adopt a global standard of the Environmental Management

System and the barriers found in the process, on the perceived benefits of the implementation and certification of the standard. To achieve the objectives proposed, primary data were collected using a survey questionnaire that was administered to a representative sample of companies' certified as EMAS-Eco-Management and Audit Scheme of the Autonomous Community of Galicia (sample of 114 of the 255 companies). An extensive review of the academic literature published on ISO 14001 and EMAS about motivations, barriers and benefits was carried out in order to establish the working hypotheses that are analyzed using structural equation models as the statistical tool. The findings of this study show that the motivations positively affect the benefits derived from implementation, noting that the internal motivations (related to efficiency; improved performance, productivity and profitability) have a stronger influence on the benefits than the external motivations (related to stakeholders' social pressure). In addition, the motivations also affect the perceived barriers, and these affect the benefits negatively, i.e., the higher the barriers encountered, the lower the perceived benefits. The results obtained allow us to identify important implications for managers, which will help them establish management strategies in the field of environmental management.

The study (Lillah, Struwig, 2016) with the title "Factors Influencing Business Implementation of Environmental Management Systems" this paper aims to explore the factors that influence environmental management systems implementation. It suggests a proposed framework based on primary data obtained from a content analysis of literature. The research method proposed framework in this study shows that two sets of factors influence the implementation of environmental management systems, namely external influences and internal influences (independent variables). There are also factors that will moderate the implementation of environmental management systems. In addition the framework recognizes that the implementation of environmental management systems can take place in a number of ways namely, formal, informal, energy reduction strategies, recycling practices and environmental management programs.

The study of Feng, Cai, Wang and Zhang(2016) with the title "Environmental Management System and Financial Performance " this paper aims to explore the relationship between ISO 14001 certification and a company's financial performance to investigate whether the certification to ISO 14001 environmental management standard has benefited the company's financial performance or not. Using Malaysia as the research context, the results of a linear regression analysis show that firms with above-average performance have a greater tendency to pursue ISO 14001 certification. The findings also indicate that there is a significant relationship between ISO14001 certification and a company's financial performance in an emerging economy context. The reason is the adoption of ISO 14001 standard does offers many benefits to companies, such as greater reputation and brand awareness on one hand, and higher sales and investors' confidence on the other. The ISO 14001 certification helps to develop a better system which leads to costs reduction and revenue increase in the long run.

The study of Amiri, Noubbigh, Naoui andChoura, (2015) entitled "Environmental Management System: Environmental Impacts and Productivity " shows that's Nowadays, the environmental dimension is an important factor in the managerial decisions of polluting firms. These firms are subject to regulations which are characterized by the adoption of norms and standards to ensure a

minimally non-polluted environment. These norms have incited firms to adopt environmental management systems. In line with these ideas, our study aims to analyze whether the adoption of an environmental management system would improve the productivity of firms operating in the manufacturing sector. With a sample composed of French companies listed in the SBF 120, we measured productivity by specifying and estimating a Cobb-Douglas production function and then used panel data to test the impact of the adoption of an environmental management system on the productivity of manufacturing firms. We found a positive and significant relation between the implementation of an EMS and productivity.

The study of Radu (2012) with the title "Corporate Governance, Internal Audit and Environmental Audit - The Performance Tools in Romanian Companies" shows that Previous studies on companies listed on the Bucharest Stock Exchange (BSE) revealed that most of these entities do not meet the new corporate governance requirements about independent directors, Audit Committee members and the general recommendations of transparency. Companies that apply a lower level of corporate governance recommendations tend to have poorer performance, being less profitable and having a higher volatility. Correlation between corporate governance and internal audit is approached through the determinism relationship between turnover, assets investments and employees attraction, and positivity of this relation shows that it is beneficial of the performance of these companies. An effective internal audit function is supposed to assist management to fulfill its governance responsibilities. The environmental aspects incorporated in internal audit area will reduce the pressure from stakeholders on the environmental actions and impact of the company and their trust of the information disclosed on the overall performance will increase. The study is based on quantitative analysis using a multiple linear regression model to explain economic phenomena. The variables used are: turnover (CA), fixed assets (AI) and number of employees (SAL) reported for 2010 by the companies listed on BSE, BVB and RASDAQ sections. This paper evaluates the financial performance, measured by turnover, dependent variable relative to changes in factors that influence performance, expressed by the independent variables, fixed assets and number of employees and present behavior of companies under financial and economic crisis, inviting them to know the causes that affect reaching the performance, to change their actions and set priorities.

7. THE POPULATION AND THE SAMPLE OF THE STUDY

The study population consists of the external auditors (Jordanian legal accountants) who are practicing the auditing profession in Jordan and forming 416 auditors.

A random sample of 230 auditors was selected. The number of respondents from the sample was 210 auditors (91.3%). The following table shows the statistics of the sample of the study.

Table (1): Sample of the Study

Sample	Total	
	Number	Percentage
Distributed Questionnaires	230	100
Restored Questionnaires	217	94.3
Un restored Questionnaires	13	5.6
Statistically unsuitable Questionnaires	7	3
Statistically suitable Questionnaires	210	91.3

It is indicated from the table above that the percentage of questionnaires restored was 94.3%, while the percentage of questionnaires canceled (not valid for analysis) was only 3%, and the percentage of questionable questionnaires (valid for analysis) was 91.3%. It is suitable for conducting statistical analysis and producing realistic results for this type of study.

8. SOURCES AND METHOD OF DATA COLLECTION

I. Sources of Data Collection: Primary Sources: The questionnaire was used as a main source of information on the role of the external auditor (Legal Accountant) in improving the quality of environmental auditing by collecting information on environmental regulations, laws and standards, checking operational processes and book and document analysis applied to external auditors (Jordanian Legal Accountant) who practice auditing in Jordan.

II. Method of Data Collection: This study aimed to test the role of the external auditor (legal accountant) in improving the quality of internal auditing, a questionnaire was prepared to achieve the purpose of the study. The questionnaire consists of three parts:

1. Part 1: It included an explanatory introduction to the general objective of the questionnaire for the external auditors (Jordanian legal accountants) who are practicing the auditing profession in Jordan.

2. Part 2: It is intended to collect data on the demographic factors of the sample members of the study.

3. The third part was devoted to the questionnaire questions. The questionnaire was divided into three axes, in order to obtain the opinion of the study sample members on the following aspects:

- The first axis: This axis is concerned with obtaining the opinion of the sample members on environmental regulations, laws and standards,
- The second axis: This axis is concerned with obtaining the opinion of the sample members on the examination of operational processes, through the set of questions (8-14).
- The third axis: This axis is concerned with obtaining the opinion of the sample members on the examination of the book and documentary analysis, through the set of questions (15-20).

The following table shows the distribution of the items of the questionnaire, which consists (20) items to include all the independent variables, as follows:

Table (2): Distribution of the items of the questionnaire

No.	Variable	Items	Type of the variable
1	Environmental Regulations, Laws and Standards	1-7	Independent Variable
2	Examination of Operational Processes	14-19	Independent Variable
3	Book and document analysis	20-25	Independent Variable

The questionnaire has been prepared so that the respondent refers to each item of the axis. For each item, there are columns that reflect five levels of response or approval. Each level represents a specific weight of 1 to 5 according to the five-point Likert scale. The following is the answer and its weights:

Table (3): Weights of the answers of the questionnaire

Response	Weight
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

9. STATISTICAL METHODS USED

In order to test the hypotheses of the study, a statistical analysis was used for the data emerged from the questions of the study utilizing the Statistical Package for Social Science (SPSS). The following tests were used:

- 1. Reliability Analysis:** Cronbach's alpha coefficient was used to measure the reliability and the internal consistency of the data of the study tool. Alpha is interpreted as the internal consistency between the answers. The reliability of the tool is considered weak when the value of Alpha coefficient is less than 0.6. The resulting α coefficient of reliability ranges from 0 to 1 in providing this overall assessment of a measure's reliability.
 - 2. Measures of Central Tendency:** Central tendency is defined as "the statistical measure that identifies a single value as representative of an entire distribution. It aims to provide an accurate description of the entire data. The single value is most typical/representative of the collected data. The term "number crunching" is used to illustrate this aspect of data description. The mean, median and mode are the three commonly used measures of central tendency. In this study, the researcher adopted the Mean as the central tendency measure.
- **The Mean:** The mean of the responses of the study sample was used to test the hypotheses of the study. A default mean of 3 was used according to the Likert quintile, which is equivalent to 60% $\left(\frac{1+2+3+4+5}{5} = 3\right)$, the arithmetic means for each item in the questionnaire are compared with this imaginary mean in order whether to reject or to accept the hypothesis.

The levels of rejection were determined using the following equation:

$$\frac{5-1}{3} = 1.33, \text{ there are three levels as:}$$

- A. 1-2.33 low
- B. 2.34-1.67 neutral
- C. 3.68-5 high

- 3. Measures of Dispersion:** Measures of dispersion are descriptive statistics that describe how similar a set of scores are to each other. The more similar the scores are to each other, the lower the measure of dispersion will be. The less similar the scores are to each other, the higher the measure of dispersion will be in general. The more spread out a distribution is and the larger the measure of dispersion will be.
- **Standard deviation:** The standard deviation is used to measure and measure the extent of the dispersion of the responses of the study sample members to the arithmetic mean. The higher

the standard deviation values, the greater the dispersion of responses from the arithmetic mean and the opposite is true.

- **Percentiles:** This measure is used to divide data by a certain percentage, as it is used to summarize data on the personal aspects of sample members.
- **Frequencies:** A value that shows the frequency of the sample, i.e. how many cases have this value been achieved.

Testing the reliability of data appeared in the questionnaires according Cronbach’s Alpha:

In order to verify the validity and the reliability of data appeared in the designed questionnaire, Cronbach’s Alpha was used. This could help in whether accepting or rejecting the questionnaire. As mentioned earlier, the value of Alpha ranges between (0-1) and the statistically lowest acceptable level of the reliability coefficient equals 0.60 in this kind of studies. As Alpha value approaches 1, the degree of reliability and internal consistency increases, so the results of the studies could be generalized.

The following table illustrates the results of testing the items of the variables of the study.

Table (4): Cronbach’s Alpha values to verify the reliability of data extracted from questionnaire

Variables of the study	No. of items	Cronbach’s Alpha	Results
Environmental regulations, laws and standards (Independent variable)	7	0.756	Accepted
Analysis of operational processes (Independent variable)	7	0.824	Accepted
Book and Documentary analysis (Independent variable)	6	0.804	Accepted
All items of the independent variables	20	0.851	Accepted

From table (4) it is clear that the value of Cronbach’s Alpha to the answers of the sample’s individuals related to the hypotheses of the study, was greater than 0.60 which indicates that there is a high degree of reliability in the answers and there is internal consistency between the items of the questionnaire. So, the questionnaire was adopted as the primary sources of information of the field study, consequently the results of the study could be generalized on the population of the study that is the external auditors practicing auditing profession in Jordan.

Analyzing data related to the demographic factors of the respondents

The general information used: Gender, Age, Scientific qualification, Job title, and Experience.

Table (5): Distribution of the individuals of the study according to demographic factors

Variable	Variable Categories	Number	Percentage
Gender	Male	205	97.6
	Female	5	2.4
Age	Less than 30	6	2.8
	40 -31	77	36.7
	50 -41	102	48.5

Scientific qualification	More than 51	25	12
	Bachelors	115	54.7
	Master	80	38
	PhD	15	7.3
Job title	Manager of Auditing office	35	16.6
	Main Auditor	116	55.3
	Auditor	35	16.6
	Auditor assistant	24	11.5
Experience	5 years or less	18	8.6
	From 6 to 10 years	71	33.8
	From 11 to 15 years	67	31.9
	From 16 to 20 years	33	15.7
	More than 20 years	21	10

- Analyzing the demographic factors

- 1) **Gender:** Table 5 shows that 205 respondents (97.6%) are male, while 5 (2.4%) are female.
- 2) **Age:** Table (5) shows that the age of 41 to 50 years has reached the highest rate of 48.5%, the age of 31 to 40 years has reached the second level by 36.7%, and the age of 51 years and above has reached the third level by 12% Omar was 30 years old and less at the last level and 2.8%.
- 3) **Scientific qualification:** Table (5) shows that the bachelor's degree obtained the highest percentage of 54.7%, and the master's degree in the second level received 38%, while the doctorate received the last level and 7.3%
- 4) **Job Title:** Table (5) shows that the job title is the main auditor with the highest percentage of 55.3%. The two job titles were the director of the audit office and the second level auditor at 16.6%, while the job title of the assistant auditor was 11.5% at the last level.
- 5) **Experience:** Table (5) shows that the experience from 6 to 10 years obtained the highest percentage of 33.8% while the experience of 11 to 15 years obtained the second level by 31.9%. The experience 16 to 20 years obtained the third level by 15.7% and the experience 20 years and above occupied the fourth level by 10%, while the experience was 5 years or less at the last level and by 8.6%.

10. DESCRIPTION AND ANALYSIS OF DATA

The researcher used the arithmetic mean as a measure of the responses of the individuals of the sample, and the standard deviation as a measure of the dispersion of the responses of the individuals of the sample.

Data Analysis: In order to analyze the results of the responses to the variables examined by the questionnaire, the following responses were analyzed:

First: Environmental regulations, laws and standards: Table (6) shows that the arithmetic mean of the environmental regulations, laws and standards reached (4.6024) of the total measure of the five-dimensional Likert scale and a standard deviation of (0.3097). This indicates that the

environmental regulations and laws are higher than the standard mean of the sample of the study. The analysis of the responses of the sample's individuals for each items shows the following:

Table (6): Environmental regulations, laws and standards

No.	Items	Arithmetic Mean	S.D.	Level
1	Organizations shall abide by the application of Environmental laws, regulations and standards stipulated in the work regulations of the Organization	4.9286	0.25815	High
2	Environmental regulations, laws and standards contribute to monitoring and measuring environmental activities on a regular basis.	4.0429	0.63628	High
3	Environmental regulations, laws and standards applied by the organization contribute to the opinion of the external auditor on the environmental performance of the organization.	3.9857	0.81539	High
4	The External Auditor shall examine the extent to which the Organization complies with applicable environmental laws, regulations and standards.	4.5000	0.71384	High
5	Environmental regulations, laws and standards help the external auditor to discover the causes of environmental problems and the lack of environmental performance of the organization and try to solve them.	4.7619	0.48958	High
6	The External Auditor shall monitor any developments or amendments that may occur in environmental regulations, laws and standards.	4.7286	0.55994	High
7	Organizations shall respond effectively to any developments or amendments to environmental regulations, laws and standards issued by their respective stakeholders.	4.2762	0.57865	High
	All items together	4.6024	0.3097	High

From Table (6) above, we find that item (1) "Organizations shall abide by the application of Environmental laws, regulations and standards stipulated in the work regulations of the Organization" has got a higher mean (4.9286) with a standard deviation of (0.28815). Item (3) "Environmental regulations, laws and standards applied by the organization contribute to the opinion of the external auditor on the environmental performance of the organization" has the lowest mean according the individuals of the study sample (3.9857) with a standard deviation of (0.81539).

Second: - Analysis of Operational Processes: It is noted from Table (7) that the arithmetic mean of the analysis of operational processes reached (4.1405) of the total measure of the five-dimensional Likert scale with a standard deviation of 0.4920. This indicates that the mean of the environmental regulations, laws and standard is higher than 3, according to the individuals of the

sample of the study. The analysis of the opinions of the sample's individuals for each item shows the following:

Table (7): Analysis of operational processes

No.	Item	Arithmetic Mean	S.D.	Level
8	There are methods available to the external auditor to check and audit environmental operational processes.	4.2619	0.51110	High
9	There is sufficient information for the external auditor on materials used in: operations, manufacturing, components, degree of pollution and risk to the environment.	4.3476	0.51589	High
10	There is sufficient information for the auditor on the stages of operations, manufacturing, and any waste or debris that may have adverse effects on the environment and how they can be treated, removed or disposed of.	4.3714	0.52236	High
11	The external auditor has sufficient capacity to use the audit methods and procedures to examine the environmental processes related to the operations of the organization.	4.2857	0.58226	High
12	There is sufficient information for the external auditor about the storage mechanisms of materials used in manufacturing processes and operations, especially those with negative environmental impacts and their storage locations.	4.2238	0.54676	High
13	The auditor verifies the validity and quality of machines and equipment used in operational processes, and their suitability for the environment and whether it is free from any malfunctions that have negative effects on the environment.	3.3238	1.06259	High
14	The auditor verifies the organization's obligation to regularly inspect and maintain the machinery and equipment used in the operations and to address any malfunctions or deficiencies that may result in adverse environmental impacts.	4.0190	0.77002	High
	All items together	4.1405	0.4920	High

From Table (7) above, we find that item (10) "There is sufficient information for the auditor on the stages of operations, manufacturing, and any waste or debris that may have adverse effects on the environment and how they can be treated, removed or disposed off" has got the highest arithmetic mean (4.3714) with a standard deviation of (0.52236). Item (13) "The auditor verifies the validity and quality of machines and equipment used in operational processes, and their suitability for the environment and whether it is free from any malfunctions that have negative

effects on the environment," has got the lowest arithmetic mean according to the study sample (3.3238) with a standard deviation of (1.06259).

Third: - Book and documentary Analysis: Table (8) shows that the arithmetic mean of the book and documentary analysis was (3.9048) of the total five-dimensional Likert scale and a standard deviation of (0.5934.) This indicates that the environmental regulations, laws and standards has a higher mean than the standard of 3, according to the individuals of the sample of the study and analysis of their opinions of the sample for each item shows the following:

Table (8): Book and documentary Analysis

No.	Item	Arithmetic Mean	S.D.	Level
15	The auditor has adequate and appropriate audit procedures to review and examine various books and documents from the environmental point of view, which contributes to improving the quality of environmental auditing.	3.7429	0.79506	High
16	The external auditor examines the content of the journal accounting and the ledger of the activities that have an environmental impact on the economic unit, which contributes to improving the quality of environmental auditing.	3.9810	0.66319	High
17	The external auditor examines and analyzes the financial statements and reports of the economic unit regarding the presentation and disclosure of the various activities with environmental impact, which contributes to improving the quality of environmental auditing.	4.1857	0.58595	High
18	Environmental external auditing provides sufficient and appropriate information to contribute to the decision-making, especially with regard to the enactment and development of environmental legislation and standards as well as administrative decisions related to the protection of the environment, which contributes to improving the quality of environmental auditing.	4.0857	0.62812	High
19	In the economic unit, environmental performance is reported in the independent accounting reports and special reports, which contributes to improving the quality of environmental auditing.	4.0000	0.83006	High
20	The economic units prepare an accounting system capable of measuring and disclosing various environmental activities, which contributes to improving the quality of environmental auditing.	4.0667	0.72899	High
	All items together	3.9048	0.5934	High

From table (8) above, we find that item (17) "The external auditor examines and analyzes the financial statements and reports of the economic unit regarding the presentation and disclosure of the various activities with environmental impact, which contributes to improving the quality of environmental auditing," has got the highest arithmetic mean of 4.1857 with a standard deviation of (0.58595). Item (15) "The auditor has adequate and appropriate audit procedures to review and examine various books and documents from the environmental point of view, which contributes to improving the quality of environmental auditing," has got the lowest mean arithmetic mean of (3.7429), and the standard deviation of (0.79506).

11. HYPOTHESES TESTING

In order to test all hypotheses related to the study, (One Sample T-test), which helps to accept or reject hypotheses, based on the function and its statistical ratio for each hypothesis, which must be equal to or less than the level of significance ($\alpha=0.05$) in order to accept the hypothesis. The results for each hypothesis are as follows:

The first hypothesis: There is no role for environmental regulations, laws and standards in improving the quality of environmental auditing.

Table (9) one sample test for the first hypothesis

Variable	T	Sig.
Environmental regulations, laws and standards	215.53	0.00

Table (9) shows the testing of the first hypothesis test, which states, "There is no role for environmental regulations, laws and standards in improving the quality of environmental auditing".

In the above table, the null hypothesis that "There is no role for environmental regulations, laws and standards in improving the quality of environmental auditing" is rejected and the alternative hypothesis that "there is an impact of environmental regulations, laws and standards in improving the quality of environmental auditing" is accepted.

The second hypothesis: There is no role for examining operational processes in improving the quality of environmental auditing.

Table (10) one sample test for the second hypothesis

Variable	T	Sig.
Operational processes analysis	121.93	0.00

Table (10) shows the second hypothesis test, which states "There is no role for examining operational processes in improving the quality of environmental auditing".

In the above table, the null hypothesis that "There is no role for examining operational processes in improving the quality of environmental auditing" is rejected and the alternative hypothesis is accepted that "there is an impact on the examination of operational processes in improving the quality of environmental auditing".

The third hypothesis: There is no role for book and documentary analysis in improving the quality of environmental auditing

Table (11) one sample test for the third hypothesis

Variable	T	Sig.
Book and documentary analysis	95.35	0.00

Table (11) shows the testing of the third hypothesis that stated, "There is no role for book and documentary analysis in improving the quality of environmental auditing."

In the above table, the null hypothesis that "There is no role for book and documentary analysis in improving the quality of environmental auditing" is rejected and the alternative hypothesis is accepted that "there is an impact of the book and documentary analysis on improving the quality of environmental auditing."

12. RESULTS AND RECOMMENDATIONS

12.1 Results

- There is a role of environmental regulations, laws and standards in improving the quality of environmental auditing, and the hypothesis ranked first, where the arithmetic mean equals 4.6 with a significance of 0.00.
- There is a role to examine the operational processes in improving the quality of environmental auditing, and the hypothesis ranked second where the arithmetic mean equals 4.1 with a significance of 0.00.
- There is a role for the book and documentary analysis in improving the quality of environmental auditing, and the hypothesis ranked third, where the arithmetic mean equals 3.9 with a significance of 0.00.

12.2 Recommendations

- The external auditor shall ensure the adequacy of the environmental regulations, laws and standards, verify their application by the organizations and their compliance to them, and follow up the developments that occur through the reports and brochures issued by the authorities.
- The external auditor shall carry out audit procedures for environmental operations using available and appropriate means and procedures for the examination of operational processes to ascertain the environmental impacts thereof.
- The external auditor shall also acquire the necessary expertise regarding the nature of the operational processes by knowing the stages and components, machinery and equipment used, the materials used therein and the methods of storing these materials.
- The external auditor should focus on the book and documentary examination, considering that books and documents are a basic source of information, and evidence about the environmental performance of the organization in terms of measurement, processing and disclosure of environmental aspects.
- The external auditor shall, when developing the audit plan, ensure that it includes procedures, methods, and requirements for environmental auditing in terms of time, effort, equipment and human resources.
- Providing training courses and training programs for external auditors, which are concerned with environmental auditing in terms of environmental regulations, laws and standards, environmental auditing procedures, environmental culture in general, and industries with environmental impacts in particular, and the methods of treatment and decontamination resulting the reform.

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