المجلة الليبية للدراسات الأكاديمية المعاصرة (Libyan Journal of Contemporary Academic Studies)
LJCAS, eISSN: 5970-3005
Volume 4, Issue 2, 2026, Pages: 700-717

The Integration of Environmental Auditing and Sustainability Reporting in Economic Units: An Applied Study of the Libyan Oil Sector

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التكامل بين المراجعة البيئية وتقارير التنمية المستدامة في الوحدات الاقتصادية: دراسة تطبيقية على قطاع النفط الليبي

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Received: 10-08-2026; **Accepted:** 16-10-2026; **Published:** 01-11-2026

Abstract
In this research we have tried to show how does the combining of environmental audit and sustainability reporting help improve the quality and reliability of sustainability information in the economic unit. We focused on Libya's oil industry as our case. This study follows a descriptive-analytical methodology. A questionnaire was used to gather the needed data. The collected data has been tabulated and described using frequency, percentage, the arithmetic mean, the standard deviation and Cronbach's alpha coefficient and used the suitable tests to test the hypothesis. From the results we found out that there is a relation between combining environmental audit with sustainability reporting to enhance the quality and reliability of sustainability information with P= 0.000. The integration can also help in achieving the goals of sustainable development and will increase the trust of the stakeholders in sustainability reports. It will also make sure that the environmental information is accurate. All the sub hypothesis has been accepted therefore the main hypothesis is accepted. Combining Environmental Audit with Sustainability Reporting can help improve the quality and reliability of information. Increase transparency and trust from the stakeholders as well as achieve the goals of sustainability.

Keywords: Environmental Auditing; Sustainability Reporting; Environmental Disclosure; Sustainable Development; Libyan Oil Sector.

الملخص
سعت هذه الدراسة إلى بيان كيفية إسهام التكامل بين المراجعة البيئية وتقارير التنمية المستدامة في تحسين جودة وموثوقية المعلومات المتعلقة بالاستدامة في الوحدات الاقتصادية، مع التركيز على قطاع النفط الليبي بوصفه مجالًا للتطبيق. واعتمدت الدراسة على المنهج الوصفي التحليلي، كما تم استخدام الاستبانة لجمع البيانات اللازمة للدراسة. وقد جرى تبويب البيانات المجمعة وتحليلها باستخدام التكرارات والنسب المئوية والمتوسط الحسابي والانحراف المعياري ومعامل ألفا كرونباخ، بالإضافة إلى استخدام الاختبارات الإحصائية المناسبة لاختبار فرضيات الدراسة. وأظهرت النتائج وجود علاقة بين التكامل بين المراجعة البيئية وتقارير التنمية المستدامة وبين تحسين جودة وموثوقية المعلومات المتعلقة بالاستدامة، حيث بلغت قيمة P = 0.000. كما أظهرت النتائج أن هذا التكامل يمكن أن يسهم في تحقيق أهداف التنمية المستدامة، وزيادة ثقة أصحاب المصلحة في تقارير التنمية المستدامة، وضمان دقة المعلومات البيئية وموثوقيتها. وقد تم قبول جميع الفرضيات الفرعية، ومن ثم قبول الفرضية الرئيسية للدراسة. وتوصلت الدراسة إلى أن التكامل بين المراجعة البيئية وتقارير التنمية المستدامة يسهم في تحسين جودة وموثوقية المعلومات، وتعزيز الشفافية وزيادة ثقة أصحاب المصلحة، فضلًا عن دعم تحقيق أهداف التنمية المستدامة.

الكلمات المفتاحية :المراجعة البيئية؛ تقارير التنمية المستدامة؛ الإفصاح البيئي؛ التنمية المستدامة؛ قطاع النفط الليبي.

1. Interdiction

Many researches were focused on the topic of environment sustainability and sustainable development in the past years. The concern over environment and social issues that are affected from our economic activities have increased day by day. Many organizations need to focus on the sustainability of their economic activities along with the environment and society they are operating in and provide reliable information about their sustainability efforts. Reporting on the sustainability has emerged as one method that organizations use to disclose their financial and non-financial performance. As mentioned before sustainability reports will be useful if they provide quality information to their users. Auditing environment is a tool that could help increase the reliability of environmental

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information through measuring environmental performance, verifying if organization is abiding by environmental laws and requirements, detecting any environmental risks and improving environmental management. So, if we could combine both the tools of environmental audit with sustainability reporting we would be providing more reliable information to users and would help increase transparency and accountability. The oil and gas sector has many negative effects on the environment which makes combining these two tools necessary. In Libya the oil sector plays a big role in the country economy but also faces many environmental issues. This study will try to look at the combination between environmental audit and sustainability reporting in Libyan economic units and how it could help increase reliability of sustainability information, transparency and accountability and achieve sustainability performance.

2. Research problem

Many companies have started to adopt sustainability reporting and publish their sustainability reports. The quality of the environmental information reported may not be reliable. This problem may be due to the lack of common requirements for environmental reporting, the various reporting frameworks used by companies and the lack of use of appropriate assurance techniques over environmental information. Companies may choose to only disclose positive information about their environmental practices which may affect the users view on sustainability information. The lack of proper controls over environmental issues and lack of experts who can audit environmental information may also lead to unreliable sustainability information. Based on this issue this study will try to find out how integrating environmental auditing and sustainability reporting can increase the reliability of sustainability information and improve stakeholder confidence in the information disclosed by the company. As the oil sector plays a big role in Libya's economy, we believe that this issue should be looked at within the Libyan oil sector. Therefore, our research question is how does the integration of environmental auditing and sustainability reporting help improve the reliability of sustainability information and increase stakeholder confidence within the Libyan oil sector.

3. Objectives of the study

This study aims to study the relationship between environmental auditing and sustainability reporting and the impact they have on sustainability information in economic units especially in Libya Oil Sector. So this study aims to achieve the following:

1. To identify how environmental auditing and sustainability reporting can be linked together to improve the quality of sustainability information. By providing accurate transparent and reliable information.
2. To determine the effect that linking these two together will have on sustainable development. This could include helping plan for decisions that allow us to make better use of resources we have available and reduce our impact on the environment.
3. To find out if environmental auditing can help increase trust from stakeholders in sustainability reports. By ensuring that the information provided is credible and reliable and meets all requirements when it comes to the environment.

4. Importance of the Study

There has been a recent need for sustainable development which has led companies to report on their environmental social and economic performance. Therefore, this study is important for:

• The importance of this study scientifically is that it adds to the knowledge of environmental auditing and sustainability reporting and how linking the two together can increase the quality and reliability of sustainability information.
• It can also be useful for economic units that want to learn more about environmental auditing and how it can benefit their sustainability reporting.
• It can help decision makers understand the link between environmental auditing and sustainability reporting. And allow them to create practices that will benefit companies. As well as increasing transparency and allowing stakeholders to trust in the information provided.

Therefore, this study can benefit scientists who want to learn more about this topic and accountants and auditors that can apply this to their work. As well as companies and decision makers that can use this information to help their organizations become more sustainable.

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4. Research Hypotheses

Main Hypothesis

In light of the study problem and objectives, and to examine the effect of integrating environmental auditing with sustainability reporting in the economic units under study, the following main hypothesis was formulated:

There is a statistically significant relationship between the integration of environmental auditing and sustainability reporting and the improvement of the quality and reliability of sustainability-related information in the economic units under study.

Sub-Hypotheses

From the main hypothesis above we can form the following sub-hypothesis's that align with our objective of this study.

1. There is a statistically significant relationship between the integration of environmental auditing and sustainability reporting and achieving sustainable development objectives.
2. There is a statistically significant relationship between the integration of environmental auditing and sustainability reporting and enhancing stakeholders' confidence in sustainability reports.
3. There is a statistically significant relationship between the integration of environmental auditing and sustainability reporting and improving the accuracy and reliability of environmental information disclosed in sustainability reports.

5. Previous Studies and Their Discussion

In recent years, the accounting and auditing literature has witnessed growing interest in environmental disclosure, sustainability reporting, and environmental auditing, as economic units have increasingly faced pressures to disclose information about the economic, environmental, and social impacts of their activities. Some studies have focused on the importance of environmental information disclosure, while others have examined the role of environmental auditing in evaluating environmental performance and compliance with environmental requirements. Other studies have addressed the assurance and independence of information presented in sustainability reports. Despite this diversity, studies that directly address the integration of environmental auditing and sustainability reporting, particularly in the Libyan oil sector, remain limited. In this context, Park and Brorson (2005) is considered one of the early studies to address third-party assurance of environmental and sustainability reports. The study focused on the role of external assurance in enhancing the credibility of non-financial information and improving reporting systems. It found that third-party assurance could contribute to the development of information and reporting systems and enhance confidence in disclosed information. However, the study also identified challenges related to the cost of assurance and uncertainty regarding the benefits that such assurance could provide to some economic units. This is consistent with the present study's perspective that environmental auditing can serve as a mechanism for enhancing the reliability of information contained in sustainability reports. However, the present study goes beyond the general concept of external assurance by focusing more specifically on the integration of environmental auditing procedures with the information disclosed in sustainability reports within the Libyan oil sector. Similarly, Hodge et al. (2009) examined the effect of independent assurance of sustainability information on users' confidence in sustainability reporting. The study concluded that the presence, nature, and level of independent assurance, as well as the type of assurance provider, can influence users' perceptions of the credibility of disclosed information. The significance of this study for the present research lies in its demonstration that simply disclosing sustainability information may not be sufficient to establish confidence in such information; rather, disclosed information requires an appropriate verification or assurance mechanism. Accordingly, environmental auditing can represent a professional mechanism that contributes to enhancing the reliability of environmental information presented in sustainability reports. Regarding studies conducted in the Libyan context, some have primarily focused on environmental disclosure in oil companies. Aldrugi (2013) examined environmental disclosure in the Libyan oil and gas sector and emphasized the importance of environmental information for users of financial and non-financial reports. Similarly, Aldrugi and Abdo (2016) examined social and environmental disclosure in Libyan oil and gas companies. Their study indicated that companies showed some level of interest in disclosing environmental and social information; however, the level and nature of disclosure were influenced by weaknesses in legal requirements and reporting standards, as well as the level of awareness of the importance of environmental disclosure. These two studies demonstrate the need to improve the institutional and regulatory environment for environmental disclosure in the Libyan oil sector. However, they primarily focused on disclosure itself and did not examine environmental auditing as a mechanism for verifying disclosed environmental information. Also in the Libyan context, Al-Fadli and Ben Murad (2020) examined the possibility of adopting integrated business reporting as a tool for accounting disclosure of environmental activities in subsidiaries of the National Oil Corporation. The study indicated limited disclosure of environmental aspects and identified challenges associated with insufficient legal requirements and limited knowledge of relevant international standards. This study is particularly relevant to the present research because of its direct focus on the Libyan oil sector and integrated reporting. However, its focus was on the possibility of using integrated reporting as a means of disclosure, whereas the present study focuses on the subsequent stage,

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namely the verification of environmental and sustainability information through environmental auditing and the extent to which environmental auditing can be integrated with sustainability reporting.

Many research papers have looked into environmental audit and its relation to sustainable development. Enofe et al. (2013) looked at how environmental audit can help achieve sustainable development in Nigeria. They concluded that there should be more focus on improving environmental auditing to test compliance with environmental regulations and increase environmental awareness. Another study by Abu Hafs Rawani (2014) discussed environmental audit as a technique to reach sustainable development by testing the environmental impact of organizations' activities and help reduce any negative effects on the environment. Moreover, Choudhary (2015) discussed environmental audit in the mining sector and its impact on sustainable development through following the environment regulations, using resources wisely and dealing with waste and pollution and any risk that might harm the environment. All these studies support the idea that environmental auditing can be used for more than just finding violations. It can be included in a system to improve the environmental performance of an organization and reach the goals of sustainable development. But they did not look at sustainable reports as an information that should be tested. Which will be covered in this research. One study that is similar to this research is the one by Al-Shaabani (2018). Where the author researched the role of environmental auditing in supporting sustainability reports. By conducting an exploratory study in business organizations in Egypt. They found that there is a correlation between environmental audit and sustainability reporting. And how the result of an environmental audit may improve the quality of information provided in sustainability reports. Like this study our research tries to combine the concept of environmental auditing and sustainability reports. But our study looks at the oil sector in Libya as it's one of the main sectors in the country and we believe there is an effect on the environment when drilling for oil and producing oil. Al-Deebani (2020) researched on how auditors can test the environmental performance in Libyan economic units to support sustainable development at the Libyan Audit Bureau. He found out that there is an importance for environmental auditing to test the environmental performance but the lack of knowledge and skills that may help measure and report the environmental information. Al-Arifi (2020) studied on environmental auditing in supporting sustainability reports of Libyan Industrial Companies from the viewpoint of external auditors. Found that there is awareness about environmental auditing and some experience with it. But also found some issues that stand in the way of doing environmental auditing. Our study is very close to this research but we focus on the oil sector and how we can integrate both concepts of environmental auditing and sustainability reports to create a system that tests and discloses information. Some researchers looked into sustainability-report assurance. Boiral and Saizarbitoria (2020) stated that if there is an assurance statement over a sustainability report it does not mean that every piece of information in the report was assured. Therefore, when looking at the assurance of sustainability reports you need to look at what is being assured and how deep they went when testing the information. Which agrees with our study that we think auditing can not only exist but that it needs to cover topics that are related to the sustainability report.

Furthermore, Hazaea et al. (2021) conducted a systematic review of the literature on sustainability assurance practices. The review demonstrated the growing academic interest in this field and highlighted the relationship between external assurance and information credibility, reputation, accountability, and decision-making. It also identified gaps in research concerning developing countries and certain institutional environments. These findings support the importance of conducting applied studies in developing and Arab countries while taking into account the specific institutional and regulatory characteristics of each country. In the area of environmental governance and performance, Alnajar and Algarbawi (2022) examined the relationship between environmental auditing, governance, and sustainable performance and emphasized the importance of environmental auditing in supporting transparency, accountability, and environmental compliance. Similarly, Al-Kusher (2022) examined the barriers facing environmental auditing in Libya from the perspective of auditors at the Libyan Audit Bureau. The study identified several challenges, including weak penalties, inadequate environmental records and data, and insufficient environmental accounting information. These findings are particularly relevant to the present study because they indicate that successful integration between environmental auditing and sustainability reporting depends not only on the existence of reports, but also on the availability of appropriate environmental data and information and on a regulatory and professional framework capable of supporting the auditing process. Hichri (2023) examined the relationship between audit quality and integrated reporting using a sample of 300 companies during the period 2010–2019 and reported a positive relationship between audit quality and integrated reporting. This finding supports the general premise underlying the present study, namely that the quality of the auditing process can contribute to the quality of the reports through which economic units communicate information to stakeholders. However, the study focused on audit quality and integrated reporting in general and did not specifically examine environmental auditing and sustainability reporting in the Libyan oil sector. Similarly, Al-Harwi and Sujud (2023) examined the effect of environmental auditing on voluntary disclosure of sustainability information in industrial companies. The study reported a significant relationship between environmental auditing and the disclosure of economic, social, environmental, and other sustainability-related information. This finding is directly relevant to the present study because it indicates that environmental auditing may be associated with the level of sustainability disclosure. Nevertheless, the study focused on voluntary disclosure and industrial companies, whereas the present study focuses on the integration between environmental auditing and sustainability

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reporting in the Libyan oil sector. The study by Flayyih, Jawad, and Al-Abedi (2024) examined environmental auditing and sustainable development, with management systems considered as a mediating factor, using the Al-Doura Refinery in Baghdad as the empirical setting. The findings indicated a relationship between environmental auditing and sustainable development, reinforcing the importance of environmental auditing in industrial and oil-related sectors with significant environmental impacts. However, sustainability reporting was not the primary reporting outcome examined in that study, which represents an important distinction from the present research. In addition, the bibliometric study conducted by Siregar et al. (2024) demonstrated the growing body of research concerning environmental auditing and sustainability in developing countries, with particular attention to environmental impacts, environmental management, transparency, accountability, and stakeholder trust. This study is useful in demonstrating the increasing development of research in this field. However, its bibliometric nature means that it does not provide an empirical examination of the integration between environmental auditing and sustainability reporting within a specific oil-sector context.

Boukarras (2024) investigated the use of environmental audit in ensuring the verification of environmental information presented in the sustainability reports. This study highlights that verification will help to improve the quality of environmental information by improving accuracy, reliability, transparency and accountability of environmental information. This study is similar to our study in its conceptual approach but due to different institutions and rules in place there is room to investigate this relationship in Libya's oil sector. In Libya Ammar and Hamed (2025) looked at how accounting disclosure of the sustainability dimensions affects the quality of financial reporting in Libya's commercial banks. Their findings showed that there is a significant effect between sustainability disclosure and the quality of financial reporting. Which backs up the idea that sustainability disclosure has a positive effect on the quality of information. However, this study differs from our study in that it looks at a different sector and does not look into environmental auditing as a means of verifying sustainability information. Isaac and Jimoh (2025) also looked at green accounting and its relation to profitability in Nigeria's oil and gas industry. Using financial reports and sustainability reports and some variables associated with environmental auditing and reporting. This study can relate to our study as it looks at the oil and gas sector and environmental accounting and disclosure. But their main focus was on profitability and financial performance and did not look at the linkage between environmental auditing and sustainability reporting. When looking at sustainability assurance quality Krasodomska et al. (2025) investigated what affects the quality of sustainability assurance in European companies. Looking at characteristics of the company, assurance provider and the type and extent of assurance given. They found that the quality of assurance can be linked to these professional aspects. But again, these studies were done in Europe where institutions and rules differ to Libya so there is still room to investigate this in Libya's oil sector. With more recent studies being conducted on this topic. Alayat et al. (2026) studied corporate governance, sustainability disclosure, problems and opportunities facing Libya's oil sector. Covering regulations and professional bodies in place, disclosure of financial and non-financial information and improvements that have been made regarding sustainability disclosure. As this study is about Libya's oil sector it is very relevant to our study. Although they mainly look at the problems that arise from governance and disclosure. While our study looks at the linkage between environmental auditing and sustainability reporting. Khoirotunnisa and Sari (2026) studied what determines the level of assurance given to sustainability reports in Asia's energy sector. They found that assurance providers, media pressure, governance and financial performance all have an effect on the level of assurance given to a sustainability report. This can also be used to show that there are factors that affect the level of assurance given to a sustainability report. However, this study is in a different location and looks at different factors that affect sustainability assurance. Xu, et al (2026) carried out a literature review on the quality of sustainability assurance from 2004-2024. Creating an analytical framework of inputs, processes, outputs, context and outcome. Emphasizing how the expertise of the assurance provider, specialism of the sector, governance, engagement of stakeholders, materiality and quality of the report all affect the quality of assurance. Again, this study is helpful in providing us with more background knowledge on what affects the quality of sustainability assurance. But does not look at the linkage between environmental auditing and sustainability reporting. Ibrahim (2026) investigated whether there are suitable international standards and guidelines that can be used to audit environmental activities in Libyan industrial companies. Concluding that more local standards and laws should be created. And that more training should be provided to auditors to ensure they are well informed on environmental auditing. Showing that the professional aspects that affect environmental auditing should also be taken into consideration when studying the linkage between auditing and reporting. At last Bakir and Abusatala (2026) studied environmental accounting disclosure and its impact on sustainable development at the Libyan National Oil Corporation. Results indicated that there is a significant positive effect of environmental accounting disclosure on sustainable development and they recommended to create environmental accounting department and follow GRI. The difference with Bakir and Abusatala (2026) study is in the title objectives and hypothesis. The previous study aimed at studying the impact of disclosing environmental accounting on achieving sustainable development through the study of the National Oil Corporation (NOC) of Libya. But in our study, we will focus on the combining environmental auditing with sustainability reporting in the economic unit in Libya oil field and its role on increasing the quality of sustainability information. The previous study had the objective of knowing the impact of environmental accounting disclosure on sustainable development. While our study aims at studying

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the combining of environmental auditing with sustainability reporting in order to increase the accuracy transparency and trustworthiness of sustainability information. As well as the effect of that on achieving sustainable development objectives, better using the resources that are available in the environment and reduce the harmful effects on the environment and increasing trust of the stakeholder in the sustainability report. The previous study had hypothesis about the effect of disclosing environmental accounting on achieving sustainable development. Our study has hypothesis about the combining environmental auditing with sustainability reporting on increasing the quality and trustworthiness of the sustainability information. Also, about the role of combining both on achieving sustainable development objectives and increasing trust of the stakeholders and the truthfulness of the disclosed environmental information. So our study differs from others studies because we focus on how combining both can help each other to increase the quality of the information and improve the transparency and trustworthiness of the information that is being disclosed.

6. Discussion of the Previous Studies Analysis

From analyzing the previous studies, we can conclude that most of them agree that environmental information and sustainability information are important to increase transparency and responsibility and to help stakeholders make decisions and improve sustainable performance. Some agreed on the importance of environmental auditing to measure environmental performance and ensure that companies comply with environmental laws and regulations. Other studies stated that assurance should be done by independent auditors to give more trust on the sustainability report. Many studies were done in Libya and showed that there is an increasing interest in disclosing environmental information and sustainability information but there are many problems such as lack of legislation and standards, environmental data and information and shortage of expertise and knowledge and environmental auditing. Nevertheless, previous studies differ when it comes to the effect of some variables. There are studies that only discussed about environmental disclosure and didn't mention anything about how to assure the disclosed information. Others discussed about environmental auditing and how it can help to improve environmental performance and comply with laws and regulations. Some studies talked about sustainability assurance or discussed about the effect of audit quality on integrated reporting. There are studies that talked about Libyan banks and industrial companies and Libyan Audit Bureau and some discussed about the oil company and its environmental disclosure and environmental accounting and governance.

Research Gap

There are many studies that have been done on environmental auditing and environmental disclosure and also studies about sustainable development and sustainability reporting but what's lacking is studies that bring together environmental auditing and sustainability reporting as one mechanism to increase the quality of environmental information that is being disclosed. Not many studies combine environmental auditing and sustainability reporting within the Arab world and when it comes to the Libya region its very clear that there is a gap. Many studies have looked at environmental disclosure in Libya oil sector some looked at environmental accounting and others have looked at the role of the Libyan audit bureau and the impediments to environmental auditing some have researched into business reporting integrated reporting or environmental auditing and sustainability disclosure within industrial companies. None of these studies went into depth about the relationship that exists between environmental auditing and the information reported within a sustainability report. The lack of studying how environmental auditing can help improve the information that is being disclosed in sustainability reports in the Libya oil sector. Therefore, the gap that this study will be looking at is that there is no study that goes into further depth on how we can integrate environmental auditing and sustainability reporting within economic units. And how we can use this to increase the quality of information being disclosed and help us reach our goal of sustainable development and allow stake holders to feel more confident about the information that is being reported in a sustainability report. This study builds off past research and fills a gap by studying how auditing can be used to verify and support information that is being disclosed in sustainability reports.

7. Methods and Procedures

In this chapter we will explain what procedures have been followed while doing our research. It will cover how our questionnaire was developed and tested for validity, reliability and item consistency. It will also identify the population and sample size that were chosen and finally state the statistical measures and tests that were applied.

7.1 Research Instrument and Population

Our research used the questionnaire to collect primary data. We have built the questionnaire based on the problem of our research and our objectives. The population for this study is all employees who work within Libya's oil sector. From that population we chose our sample and gave them out the questionnaires according to our procedure.

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7.2 Statistical Measures and Tests Used

There are many statistical measures that can be used to analyze our data. Depending on our type of data we have decided to use the following measures and tests:

1. Frequencies and Percentages. This was used to describe and analyze our data and see what our respondents have answered.
2. Cronbach's Alpha Coefficient. We used this to test if our questionnaire is reliable.
3. Spearmans coefficient. This will test if the questions in our questionnaire are consistent with their dimension.
4. Kolmogorov-Smirnov Test. To test if our data follows a normal distribution.
5. Wilcoxon Signed-Rank Test. To test if our levels of contributions are significant when our data does not follow a normal distribution.

7.3 Testing for Validity, Reliability and Item Consistency

When creating your questionnaire, you must make sure it is valid. It can be tested for face validity, reliability and item consistency. When testing for validity you want to make sure that all the questions on your questionnaire will answer your research problem and is broad enough to represent all aspects of the variable. Reliability means that the questionnaire is reliable and can give you similar results if you administer the questionnaire more than once. Item consistency means that each question will correlate with their dimension.

7.3.1 Testing for Validity

We showed our questionnaire to a panel of expert academics. We wanted them to look over the questionnaire and see if the questions were relevant and will help us obtain the answers to our questions. They were able to give us their opinion on any questions they thought should be modified or deleted (Salima Shehata, 2011, p. 167). We then made the necessary changes to our questionnaire and it was ready to be applied.

7.3.2 Reliability of the Questionnaire

The reliability of the questionnaire can be measured by how reliable the results are. If the questionnaire was applied multiple times, would you get similar results. We will be using Cronbach's Alpha Coefficient to find out if our questionnaire is reliable. We can see our results in Table (1).

Table (1): Results of the Questionnaire Reliability Analysis

Dimension	Number of Items	Cronbach's Alpha Coefficient	Decision
The integration between environmental auditing and sustainability reporting in enhancing organizations' ability to achieve sustainable development objectives	5	0.861	Reliable
The integration between environmental auditing and sustainability reporting in increasing stakeholders' confidence in sustainability reports	5	0.804	Reliable
The integration between environmental auditing and sustainability reporting in enhancing the accuracy of environmental information reported in sustainability reports	5	0.921	Reliable
Overall Questionnaire	15	0.948	Reliable

From table (1) we can find out that the value of Cronbach's Alpha for each dimension of the questionnaire and for the whole questionnaire were higher than the acceptable value which is **0.70** (Salah El-Din & Mahmoud Allam, 2000, p. 115). Which means that there is a good degree of homogeneity among the statements of the questionnaire. Therefore, the researcher can assure that the questionnaire is reliable enough to use it in analyzing the data and to answer the questions of the study. Hence it will be used to get the desired results for testing the hypothesis of this study.

7.3.3 Internal Consistency Validity

We can know the internal consistency validity of the questionnaire by calculating the correlation between each statement and the total score of the dimension which the statement belongs to (Awad, 1998, p. 172). So, we will calculate the Pearson Correlation Coefficient and the following tables (2-4) show the results.

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Table (2) Results of the Internal Consistency Test for the Dimension of the Impact of Integrating Environmental Auditing and Sustainability Reporting on Enhancing Organizations' Ability to Achieve Sustainable Development Goals

Statement	Correlation Coefficient	Significance Level	Decision
Environmental auditing evaluates the balance between organizations' pursuit of maximum profitability and the requirements of environmental protection.	0.748**	0.000	Internally consistent
Environmental auditing verifies the existence of a balance between population needs and the conservation of natural resources, ensuring that present needs are met without compromising the rights of future generations.	0.846**	0.000	Internally consistent
Environmental auditing helps reduce the risks and damages resulting from industrial waste and the indiscriminate depletion of environmental resources.	0.684**	0.000	Internally consistent
Auditing the environmental dimension is considered a key tool for achieving a balance among the economic, social, and environmental dimensions.	0.903**	0.000	Internally consistent
Environmental auditing contributes to improving resource-use efficiency and reducing waste.	0.853**	0.000	Internally consistent

It is evident from Table (2) that the observed significance level (p-value) for all statements was less than 0.01. This indicates that the correlations between each statement and the total score of the dimension "The Impact of Integrating Environmental Auditing and Sustainability Reporting on Enhancing Organizations' Ability to Achieve Sustainable Development Goals" are statistically significant, confirming the internal consistency of the statements within the dimension.

Likewise, the internal consistency of the dimension "The Contribution of Integrating Environmental Auditing and Sustainability Reporting to Enhancing Stakeholders' Confidence in Sustainability Reports" was tested, and the results are presented in Table (3).

Table (3) Results of the Internal Consistency Test for the Dimension of the Contribution of Integrating Environmental Auditing and Sustainability Reporting to Enhancing Stakeholders' Confidence in Sustainability Reports

Statement	Correlation Coefficient	Correlation Coefficient	Decision
Environmental auditing contributes to achieving the objectives of environmental pressure groups by raising environmental awareness and producing environmentally friendly products.	0.766**	0.766**	Internally consistent
Environmental auditing contributes to protecting the reputation of industrial organizations by addressing environmental damage and reducing the associated costs.	0.797**	0.797**	Internally consistent
The presence of an independent environmental audit enhances users' confidence in sustainability reports.	0.869**	0.869**	Internally consistent
Environmental auditing contributes to improving natural resource management and reducing waste.	0.861**	0.861**	Internally consistent
The results of environmental auditing help improve the company's strategic planning in alignment with sustainability goals.	0.630**	0.630**	Internally consistent

As we can see from table (3) the value of significance (P-value) was lower than 0.01 for all the statements which means that there is a significant relationship between each statement and the sum of the dimension "The Contribution of Integrating Environmental Auditing and Sustainability Reporting to Enhancing Stakeholders' Confidence in Sustainability Reports". So, we can say that there is a high internal consistency between the statements in this dimension.We also measured the internal consistency of the dimension "The Role of Integrating Environmental Auditing and Sustainability Reporting in Enhancing the Accuracy of Environmental Information Reported in Sustainability Reports" the following table (4) shows the results.

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Table (4) Results of the Internal Consistency Test for the Dimension of the Role of Integrating Environmental Auditing and Sustainability Reporting in Enhancing the Accuracy of Environmental Information Reported in Sustainability Reports

Statement	Correlation Coefficient	Significance Level	Decision
Environmental auditing helps develop accounting measurement and presentation methods and standards for environmental performance to ensure the accurate and clear disclosure of environmental liabilities and costs.	0.884**	0.000	Internally consistent
Environmental auditing helps verify industrial organizations' compliance with environmental safety standards and requirements.	0.911**	0.000	Internally consistent
Environmental auditing evaluates the effectiveness of internal controls over environmental aspects and activities in industrial organizations.	0.794**	0.000	Internally consistent
The presence of a regular environmental auditing system contributes to improving overall environmental performance.	0.896**	0.000	Internally consistent
The scope of environmental auditing within the company covers all environmentally significant activities.	0.899**	0.000	Internally consistent

As shown in table (4) it can be found that the significance level (p-value) obtained from each statement was less than 0.01 which means there is a significant relationship between each statement and the sum of the dimension **"The Role of Integrating Environmental Auditing and Sustainability Reporting in Enhancing the Accuracy of Environmental Information Reported in Sustainability Reports" **. Therefore, we can conclude that the statements of this dimension are homogeneous.

From the above tables (2-4) we have found out that the statements of our questionnaire are internally consistent and homogeneous with their respective dimensions. As the correlation coefficients obtained from the correlation between each statement and the sum of the dimension was significant since the obtained significance level (p-value) was less than the adopted level of significance (0.01). This means that the statement has a significant relation with the dimension it belongs to and they are internally consistent. So, we can conclude that the statements of our questionnaire have a good internal consistency and homogeneity that allows them to measure the dimensions of our study and proceed to analyze the data and test the hypotheses.

In order to find out if our data is normally distributed or not we used the Kolmogorov-Smirnov test to check if our data is suitable to be analyzed by these tests. This test is used to check what type of distribution does your data have and if it follows the normal distribution. Table (5) shows us the result of this test.

Table (5): Data Distribution

Statement	Test Statistic	p-value	Decision
The impact of the integration between environmental auditing and sustainability reporting on enhancing organizations' ability to achieve sustainable development goals	0.222	0.003	Does not follow
The contribution of the integration between environmental auditing and sustainability reporting to increasing stakeholders' confidence in sustainability reports	0.199	0.015	Does not follow
The role of the integration between environmental auditing and sustainability reporting in enhancing the accuracy of environmental information presented in sustainability reports	0.284	0.000	Does not follow

According to Table (5) we found that p-value which is the significance probability is smaller than the accepted value of significance (5%) in all dimensions of the study which means that the distribution of the study dimensions does not have a normal distribution. As a result, we will use one of the Non-Parametric Tests which is the Wilcoxon Test to know the impact level for our study variables and to test the study hypothesis.

8. Analyzing the Descriptive Data of The Study

In this study we used the **Five Point Likert Scale** to identify the level of respondent's answer towards the questions that were asked. The values of this scale started from (1-5) which are coded as follow: **SD=1 D=2 N=3 A=4 SA=5** Where SD stands for strongly disagree, D stands for disagree, N stands for neutral, A stands for agree and SA stands for strongly agree. The assumed mean of this scale is (3) which stand for neutral answer. Therefore, if the mean of the responses is higher than (3) then it will mean that the responses are in favor of agreeing with the question and if they are lower than (3) it will mean that the responses are in favor of disagreeing

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with the question. And if they are close to the value of (3) it will mean that the responses are neutral. So, we will test if the mean of the respondent's answer differs from the assumed mean of the scale (3) to find out the direction of the respondents towards the statement and dimensions of the study. After we coded the responses and entered them into the computer we will use **SPSS** program to run the statistics and get our results. We came up with the following scale to identify the level of impact for each dimension of the study. See table (6) below.

Table (6): Levels of Impact

Interval	1.0-1.80	1.81-2.60	2.61-3.40	3.41-4.20	4.21-5.0
Level of Impact	Very Low	Low	Moderate	High	Very High

Statistical Tools Used for The Study

Once the questionnaires were distributed to our sample, we collected the necessary data. The data was then coded and key into a computer to be analyzed by statistical tools that fit our study. This was to gather the needed results and answer the questions and hypothesis set for our study.

8.1 Description of the Study Sample Characteristics:

We used the first part of the questionnaire to find out general information about the sample. Which allowed us to describe some characteristics of them. Such as their job title, qualification they hold, specialization and how long they have been working.

Table (7) presents the distribution of the study sample according to these variables.

Variable	Category	Frequency	Percentage (%)
Educational Qualification	Bachelor's Degree	16	66.7
	Master's Degree	7	29.2
	PhD (Doctorate)	1	4.2
Years of Experience	From 5 to less than 10 years	3	12.5
	From 10 to 15 years	3	12.5
	More than 15 years	18	75.0
Job Position	Head of Department	4	16.7
	Department Manager	5	20.8
	Employee	15	62.5
Specialization	Accounting	7	29.2
	Other	17	70.8

From the above table (7) it can be observed that there is some diversity among the respondents regarding their qualification, work experience, job position and specialization. As far as the qualification is concerned, the highest percentage was occupied by those who have Bachelor's degree with 16 respondents out of the total which is equal to 66.7% then Master's degree holders were 7 out of the total sample size with percentage equal to 29.2% and lastly, we have Doctorate which only have one respondent which is equal to 4.2%. From this we can say that most of the respondents have good university qualification that would allow them to know more about the topic of the study and be able to answer the questions of the questionnaire properly. When it comes to the work experience of the respondents, we found that the highest percentage was occupied by those who have experience greater than 15 years with a number of 18 out of the sample size which equals to 75.0%. Then those who have 5 to less than 10 years' experience with a percentage equal to 12.5% and those who have 10 to 15 years' experience with percentage also equal to 12.5% with a number of 3 each. We can conclude from these results that most of the respondents have enough work experience that will help them give their opinion about the topic of the study based on their experience. For the job position we found that Employees occupy the highest percentage with a number of 15 respondents which is equal to 62.5% then Department Manager with a number of 5 respondents which is equal to 20.8% and Heads of Department with a number of 4 respondents which is equal to 16.7%. This means that the respondents came from different positions in the organization which will allow us to have some diversity when it comes to the topic of the study. Lastly for the specialization we have 7 respondents who have accounting specialization with percentage equal to 29.2% and others with specialization different than accounting with a number of 17 respondents which is equal to 70.8%. So, the sample of the study does not contain only those who have accounting specialization but also those who have other specialization. Which can give us different views

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about the topic of the study. So, from all the information above we can say that our sample has good level of qualification and experience that will allow them to answer the questions of the study and reach our objectives.

8.2 Hypothesis Testing

This section will test our hypotheses and look at what relationship if any exists between the variables in our study. Once the data for our sample was analyzed to get an idea of the population. We looked at if our study tool was valid and reliable. The study examines the relationship between the integration of environmental auditing and sustainability reporting and the quality and reliability of sustainability-related information in economic units within the Libyan oil sector. The hypotheses were tested using data collected through the questionnaire and appropriate statistical methods. A significance level of ($\alpha \leq 0.05$) was adopted. A p-value lower than 0.05 indicates a statistically significant relationship, while a p-value greater than 0.05 indicates that the relationship is not statistically significant.

First Hypothesis

The first hypothesis states that the integration between environmental auditing and sustainability reporting contributes to enhancing the ability of economic units to achieve the Sustainable Development Goals. To test this hypothesis, frequencies, percentages, and arithmetic means were calculated for the responses to each statement. The Wilcoxon signed-rank test against the hypothesized mean was also applied to each statement and to the overall dimension. The results are presented in Table (11).

Table (11) Results of Testing the Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing Institutions' Ability to Achieve the Sustainable Development Goals

Rank	Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing Institutions' Ability to Achieve the Sustainable Development Goals	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Arithmetic Mean	P-value	Decision	
									Percentage	Level
1	Environmental auditing helps reduce the risks and damages resulting from industrial waste and the unsustainable depletion of environmental resources	0.0	0.0	12.5	50.0	37.5	4.25	0.000	Agreement, 87.5%	High
2	Auditing the environmental dimension is considered a key tool for achieving a balance among the economic, social, and environmental dimensions.	0.0	0.0	8.3	66.7	25.0	4.17	0.000	Agreement, 91.5%	High
3	Environmental auditing assesses the balance between enterprises' pursuit of maximum profitability and the requirements of environmental protection.	0.0	0.0	12.5	58.3	29.2	4.17	0.000	Agreement, 87.5%	High

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Rank	Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing Institutions' Ability to Achieve the Sustainable Development Goals	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Arithmetic Mean	P-value	Decision	
									Percentage	Level
4	Environmental auditing improves resource-use efficiency and reduces waste	0.0	0.0	12.5	58.3	29.2	4.17	0.000	Agreement, 87.5%	High
5	Environmental auditing ensures a balance between the needs of the population and the conservation of natural resources, thereby ensuring that present needs are met without compromising the rights of future generations	0.0	0.0	16.7	50.0	33.3	4.17	0.000	Agreement, 83.3%	High
Overall	Overall Score of the Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing Institutions' Ability to Achieve the Sustainable Development Goals	0.0	0.0	12.5	56.7	30.8	4.18	0.000	Agreement, 87.5%	High

As shown in table (11) the value of significance (P-value) obtained from the overall score of the dimension that measures the effect of integration between environmental auditing and sustainability reporting in increasing the ability of institutions to achieve the sustainable development goals was equal to (0.000) which is less than the significance level that we have chosen (0.05). This means that there are differences between the opinion of the sample members and the mean that was hypothesised. The overall score of the arithmetic mean is equal to (4.18) this value lies in the interval (3.41-4.20) which means that it has a high effect and the rate of response was equal to (87.5%).

From the above results we can conclude that employees working in the oil field in Libya believe that the integration between environmental auditing and sustainability reporting increases the ability of institutions to achieve the sustainable development goals to a high degree. This may be because environmental auditing helps reduce the dangers of industrial wastes and the improper use of environment resources. It also helps in reaching a balance between the different dimensions of sustainable development; the economic, social and environmental. By evaluating whether the profit targets are balanced with the need to protect the environment. Environmental auditing can help increase efficiency in using resources and decreasing the number of wastes. As well as making sure that we are able to fulfill our communities need without compromising the environment and the ability of future generations to do the same. **We therefore accept the first hypothesis that "integration between environmental**

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auditing and sustainability reporting affects increasing the ability of institutions to achieve the sustainable development goals."

Second Hypothesis:

"The integration between environmental auditing and sustainability reporting contributes to enhancing stakeholders' confidence in sustainability reports." In order to test the second hypothesis, we wanted to see if the integration between environmental auditing and sustainability reporting helped increase the trust that the stakeholders have in the sustainability reports. The sample members answers were analysed by finding the frequency and percentage for each answer they gave and then finding the arithmetic mean of each statement. A Wilcoxon signed rank test against the hypothesised mean was done for each statement and the overall score for the dimension that measures how integration between environmental auditing and sustainability reporting can help increase the trust of the stakeholders in the sustainability reports. These results can be seen in table (12).

Table (12): Results of Testing the Contribution of Integration between Environmental Auditing and Sustainability Reporting to Enhancing Stakeholders' Confidence in Sustainability Reports

Rank	Contribution of Integration between Environmental Auditing and Sustainability Reporting to Enhancing Stakeholders' Confidence in Sustainability Reports						Arithmetic Mean	P-value	Decision	
		Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)			Percentage	Level
1	The existence of an independent environmental audit enhances users' confidence in sustainability reports.	0.0	0.0	4.2	50.0	45.8	4.42	0.000	Agreement, 95.8%	Very High
2	Environmental auditing contributes to improving natural resource management and reducing waste.	0.0	0.0	4.2	58.3	37.5	4.33	0.000	Agreement, 98.8%	Very High
3	Environmental auditing contributes to achieving the objectives of environmental pressure groups by raising environmental awareness and producing environmentally friendly products.	0.0	0.0	8.3	58.3	33.3	4.25	0.000	Agreement, 91.7%	Very High
4	Environmental auditing contributes to protecting the reputation of industrial enterprises by addressing environmental damage and reducing the associated costs.	0.0	0.0	8.3	58.3	33.3	4.25	0.000	Agreement, 91.7%	Very High
5	The results of environmental auditing help improve the company's strategic planning in line with sustainability objectives.	0.0	0.0	4.2	70.8	25.0	4.21	0.000	Agreement, 95.8%	Very High

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Rank	Contribution of Integration between Environmental Auditing and Sustainability Reporting to Enhancing Stakeholders' Confidence in Sustainability Reports						Arithmetic Mean	P-value	Decision	
		Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)			Percentage	Level
Overall	Overall Contribution of Integration between Environmental Auditing and Sustainability Reporting to Enhancing Stakeholders' Confidence in Sustainability Reports	0.0	0.0	5.8	59.2	35.0	4.29	0.000	Agreement, 94.2%	Very High

It is evident from Table (12) that the P-value was 0.000, which is lower than the adopted significance level of 0.05, indicating a statistically significant difference between the respondents' responses and the hypothesized mean. The overall arithmetic mean was 4.29, falling within the range (4.21–5.00), indicating a very high level of contribution, with a response rate of 94.2%. These results indicate that employees in the Libyan oil sector perceive that the integration between environmental auditing and sustainability reporting contributes to enhancing stakeholders' confidence in sustainability reports to a very high degree. This may be attributed to the role of environmental auditing in improving the reliability of disclosed environmental information, particularly through independent environmental auditing. It also supports better environmental management, strategic planning, transparency, and alignment with sustainability objectives, thereby strengthening the credibility of sustainability reports and stakeholders' confidence in the organization. **Accordingly, the second hypothesis, which states that "the integration between environmental auditing and sustainability reporting contributes to enhancing stakeholders' confidence in sustainability reports," is accepted.**

Third Hypothesis:

"The integration between environmental auditing and sustainability reporting leads to enhancing the accuracy of environmental information presented in sustainability reports." To test the third hypothesis and determine whether the integration between environmental auditing and sustainability reporting leads to enhancing the accuracy of environmental information presented in sustainability reports, the responses of the study sample were analyzed by calculating the frequencies and percentages for each response option, in addition to calculating the arithmetic mean for each statement. Furthermore, the wilcoxon signed-rank test against the hypothesized mean was applied to each statement, as well as to the overall score of the dimension measuring the role of integration between environmental auditing and sustainability reporting in enhancing the accuracy of environmental information presented in sustainability reports. The results are presented in Table (13).

Table (13): Results of Testing the Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing the Accuracy of Environmental Information Presented in Sustainability Reports

Rank	Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing the Accuracy of Environmental Information Presented in Sustainability Reports						Arithmetic Mean	P-value	Decision	
		Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)			Percentage	Level
1	Environmental auditing helps verify industrial enterprises' compliance with environmental safety standards and requirements.	0.0	0.0	4.2	62.5	33.3	4.29	0.000	Agreement, 95.8%	Very High

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Rank	Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing the Accuracy of Environmental Information Presented in Sustainability Reports	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Arithmetic Mean	P-value	Decision	
									Percentage	Level
2	The scope of environmental auditing in the company covers all environmentally significant activities.	0.0	0.0	12.5	50.0	37.5	4.25	0.000	Agreement, 87.5%	Very High
3	The existence of a regular environmental auditing system contributes to improving overall environmental performance.	0.0	0.0	8.3	62.5	29.2	4.21	0.000	Agreement, 91.7%	Very High
4	Environmental auditing evaluates the effectiveness of internal controls over environmental aspects and activities in industrial enterprises.	0.0	0.0	16.7	58.3	25.0	4.08	0.000	Agreement, 83.3%	High
5	Environmental auditing helps develop accounting measurement and presentation methods and standards for environmental performance in order to disclose environmental obligations and costs accurately and clearly.	0.0	0.0	25.0	50.0	25.0	4.00	0.000	Agreement, 75.0%	High
Overall	Overall Effect of Integration between Environmental Auditing and Sustainability Reporting on Enhancing the Accuracy of Environmental Information Presented in Sustainability Reports	0.0	0.0	13.3	56.7	30.0	4.17	0.000	Agreement, 86.7%	Very High

It is evident from Table (13) that the P-value was 0.000, which is lower than the adopted significance level of 0.05, indicating a statistically significant difference between the respondents' responses and the hypothesized mean. The overall arithmetic mean was 4.17, falling within the range (3.41–4.20), indicating a high level of contribution, with a response rate of 86.7%. These results indicate that employees in the Libyan oil sector perceive that the integration between environmental auditing and sustainability reporting contributes to enhancing the accuracy of environmental information presented in sustainability reports to a high degree. This may be attributed to the role of environmental auditing in verifying compliance with environmental standards, monitoring environmental activities, identifying deficiencies, and evaluating the effectiveness of environmental internal control systems. It also contributes to reducing errors, improving environmental measurement and reporting practices, and supporting the accurate disclosure of environmental obligations and costs, thereby enhancing the quality and reliability of environmental information presented in sustainability reports. **Accordingly, the third hypothesis, which states that "the integration between environmental auditing and sustainability reporting leads to enhancing the accuracy of environmental information presented in sustainability reports," is accepted.**

Testing the Main Hypothesis

The main hypothesis of the study states that: "There is a statistically significant relationship between the integration of environmental auditing and sustainability reporting and the improvement of the quality and reliability of

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sustainability-related information in the economic units under study." To test the main hypothesis, the results of the three sub-hypotheses were considered. The hypotheses were tested using frequencies, percentages, arithmetic means, and the Wilcoxon signed-rank test against the hypothesized mean, at a significance level of ($\alpha \leq 0.05$). The results showed that the first sub-hypothesis achieved an arithmetic mean of 4.18, a response rate of 87.5%, and a P-value of 0.000, indicating a high contribution of the integration between environmental auditing and sustainability reporting to achieving the Sustainable Development Goals. The second sub-hypothesis recorded a mean of 4.29, a response rate of 94.2%, and a P-value of 0.000, indicating a very high contribution to enhancing stakeholders' confidence in sustainability reports. The third sub-hypothesis recorded a mean of 4.17, a response rate of 86.7%, and a P-value of 0.000, indicating a high contribution to improving the accuracy of environmental information presented in sustainability reports. Since all three sub-hypotheses were statistically significant, with P-values of 0.000, which are lower than 0.05, the three sub-hypotheses were accepted and the main hypothesis was supported. Overall, the findings indicate that integrating environmental auditing with sustainability reporting contributes to improving the quality and reliability of sustainability-related information through enhancing sustainable development, stakeholder confidence, and the accuracy of environmental information. Accordingly, based on the statistical results of the three sub-hypotheses, the main hypothesis of the study is accepted, which states: **"There is a statistically significant relationship between the integration of environmental auditing and sustainability reporting and the improvement of the quality and reliability of sustainability-related information in the economic units under study."**

9. Study Findings

Here are the study conclusions in an academic format.

1. Through the results we found out that there is a positive impact of integrating Environmental Auditing and Sustainability Reporting on increasing the quality of the Sustainability information and making it reliable. Which has a value of (p=0.000) Therefore the hypothesis of this study is accepted.
2. The Results for the first sub-hypothesis state that there is a high effect of integrating Environmental Auditing and Sustainability Reporting on Economic Units ability to meet the Sustainable Development goals. By having a value of (4.18) and a response rate of (87.5%).
3. The Results for the second sub-hypothesis state that there is a very high effect of integrating Environmental Auditing and Sustainability Reporting on Stakeholders Trust in Sustainability Reports. By having a value of (4.29) and a response rate of (94.2%) which has a p value of (0.000).
4. The Results for the third sub-hypothesis state that there is a high effect of integrating Environmental Auditing and Sustainability Reporting on the Accuracy of Environmental information that can be found in Sustainability Reports. By having a value of (4.17) and a response rate of (86.7%) which has a p value of (0.000).
5. We can say that Environmental Auditing plays a big role in ensuring that an organization meets its environment requirements. It can help improve Environmental Performance controls as well as Transparency and Disclosure of Information. Allowing us to have better information when trying to evaluate an Economic Unit using Sustainability Reports.

10. Conclusions

Through this research we have tried to identify how Environmental audit is linked to Sustainability Reporting in Economic Units especially in the Libyan Oil Sector and how it can help enhance the quality and reliability of information related to sustainability. We used several statistical tools to help us with analyzing our study data and to test our hypotheses these tools included frequencies and percentages, arithmetic mean and standard deviation and Cronbach alpha to measure the reliability of the study tool as well as other tests that were suitable to test our study hypotheses and get statistical significance. By using these statistical tools, we found that there is a statistical relationship between linking Environmental Audit to Sustainability Reporting and enhancing the quality and reliability of information related to sustainability with p value =0.000. So, we accept our study main hypothesis. Also, from the results we found that linking Environmental Audit to Sustainability Reporting will enhance Economic Units ability to reach the sustainable development goals with a high degree that was indicated by an arithmetic mean of 4.18 and percentage of 87.5%. We also found that linking Environmental Audit to Sustainability Reporting will enhance trust of stakeholders towards sustainability reports with a very high degree that was indicated by an arithmetic mean of 4.29 and percentage of 94.2% with p value =0.000. We found that linking Environmental Audit to Sustainability Reporting will enhance the accuracy of environment information presented in the sustainability report with a high degree that was indicated by an arithmetic mean of 4.17 and percentage of 86.7% with p value =0.000. Therefore, we accept our three sub hypotheses which means that we also accept our study main hypothesis. By linking Environmental Audit to Sustainability Reporting, we can help enhance the quality and reliability of information as well as help increase transparency and disclosure, trust from stakeholders, manage environment risk and improve the environment performance of the economic units we studied. From all that we can say that by increasing the link between Environmental Audit and Sustainability Reporting we can help provide better quality information that is related to sustainability and help companies make better decisions and reach their sustainable development goals.

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11. Study Recommendations

1. More focus should be put on using Environmental auditing in economic units to better control environmental activities more efficiently especially in Oil & Gas industries.
2. Linkage between Environmental Auditing and Sustainability Reporting to provide a true and fair view of what is being reported.
3. Produce an annual sustainability report using pre-determined environmental economic and social measures that can be measured quantitatively and qualitatively.
4. Environmental audits should have a higher degree of independence and improve its internal control procedures to help with environmental risk assessment.
5. More training and building of integrated information systems will allow for a more detailed analysis of the environment and its impact on sustainability reporting.
6. Regulatory organizations and professional bodies should take a larger role in developing guidelines and policies on environmental auditing and sustainability reporting and open up for more research to be done.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that they have no conflict of interest.

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