

Extent of Employees' Awareness of Environmental Audit Practices: A Field Study of Industrial Companies in Basra

Abdulhussain Tofeeq Shible^a, Jalil Ibrahim Salih^b, Nahla Ghalib Abdul Rahma^c, ^aEconomic & Administration College, University of Basra, Iraq, ^bTechnical College of Administration, Basra, Southern Technical University, Iraq, ^cTechnical Institute of Basra, Southern Technical University, Iraq, Email: ^ahusainshibli@yahoo.com, ^bJaleel_kanan@yahoo.com, ^cnahla.jalee@stu.edu.iq

There has been a sharp increase in the demand for financial auditors to be responsible to the community since the 1990s, so much so that they are now required to audit the environmental performance of companies. This policy is primarily aimed at maintaining the environment and reducing environmental damage that may occur as a result of the negative effects of industrial activities. The main purpose of this study is to identify the importance of environmental audits in protecting the environment from polluters, and the extent of industrial companies' employees' awareness of environmental audits and environmental protection. The study also identifies the requirements and methods of environmental audits. The researchers conducted a pilot study using a questionnaire with 92 employees in industrial companies in Basra. Eighty-four questionnaires were returned and deemed valid for analysis. The results also indicated that industrial companies are committed to regulations and procedures that help in protecting the environment but at the same time they fail to practice their responsibilities towards the surrounding environment in terms of paying compensation for damages incurred to the environment.

Key words: *Environmental protection, environmental auditing, industrial companies.*

Introduction

Environmental problems across the globe have been increasing sharply in the past three decades, and the consequential risks to the planet have resulted in calls for the participation of individuals and businesses to contribute to resolving these problems. Many international, regional and local organizations and bodies focus on resolving environmental issues. At the international level, the 1972 Stockholm Environment Conference in Sweden resulted in the establishment of the United Nations (UN) environment program. Since then, a number of environment-related conferences and conventions have been held and treaties signed. Based on this interest, the number of public and non-public organizations concerned with environmental protection has increased to more than ten thousand in advanced and developing countries. These include the United States Environmental Protection Agency (EPA), the Ireland Environmental Protection Agency and the Society of Management Accountants of Canada; the latter has focused on the issue of environmental pollution and guided by the environmental concepts recommends strategies to address the effects of pollution. International, regional and local interest in environmental issues has led to increased pressure on industrial companies to commit to their responsibilities towards their communities. These responsibilities are not limited to production quality, offering services and achieving material profits but involve many other aspects, such as caring for the environment. This is important because negative attitudes towards the environmental issues will, sooner or later, undermine company performance. These responsibilities have seen the emergence of environmental audits. Two kinds of pressures have influenced the emergence and development of environmental audits. The first is represented by the direct pressures that encourage the adoption of environmental auditing, while the second kind comprises threats, opportunities and increasing environmental awareness among consumers, competitors and legislators. Therefore, it has become necessary for companies to move towards a general strategy of disclosure of environmental issues for the general public.

An environmental audit is an approach that is concerned with the maintenance of the environment. It first emerged in the 1960s, but then fell into abeyance until it again began to attract interest in 1986 when the Environmental Protection Association issued an environmental audit policy statement. Following the renewed interest, the number of environmental audits increased significantly in the 1990s. Price Waterhouse conducted a survey of 455 industrial companies in 2000, which found that 73% of the companies conducted environmental audits in 2000s compared to only 40% in 1992 (Krishna et al., 2017; Pandit, et al., 2018).

Environmental audits for industrial companies are a key strategy by which to reduce polluters and waste stemming from industrial operations and processes. It is a method to ensure commitment to environmental regulations, policies and administrative programs. In addition,

the rise of the so-called ‘moral’ investor means that profitability is no longer the only criterion for investors; some investors now prefer to direct investment towards companies whose activities do not result in environmental damage, while simultaneously achieving appropriate returns. Research confirms a positive relationship between an industrial company's profitability and its environmental performance as companies that maintain the environment are able to achieve future profits due to the decreased environmental costs. Therefore, a demand has arisen for auditors to check the environment-related information.

Literature Review

Several studies have addressed the topic of environmental audits, among which (Ağan et al., 2016) was conducted in Turkey. The research investigated the role of industrial companies in achieving their corporate social responsibility and identified the importance of environmental issues for these companies (Ağan et al., 2016). The results indicated a positive relationship between social responsibility and both environment and sustained development. Furthermore, the study recommended industrial companies achieve their social responsibilities towards the community and develop their environmental resources.

In addition, (Kiprotich, 2016) conducted a study in the UK to identify the extent to which accountants and auditors are concerned about environmental issues (Kiprotich, 2016). The researcher utilized a questionnaire to obtain data. Results indicated a low level of concern regarding environmental issues. Similarly, (Pfaff & Sanchirico, 2000) investigated the views of US company managers about conducting an environmental audit internally rather than through an external auditor (Pfaff & Sanchirico, 2000). The study had several findings, among which were that US companies preferred to conduct internal environmental audits. The study recommended the necessity for incentives for companies that are committed to environmental audit and fines for those lacking commitment.

Moreover, (Watson, 2004) compared the environmental policies applied by European Union (EU) countries based on their environmental policy tools (Watson, 2004). The study revealed environmental audits have an important standing in the EU due to the laws and regulations to which companies should adhere. The study also revealed that promoting environmental management and environmental systems is an attractive and relatively inexpensive strategy for environmental protection. The study by (Ljubisavljević et al., 2017) aimed to identify the contribution of environmental audits to improving and maintaining the environment (Ljubisavljević et al., 2017). The study revealed that industrial companies operating in the Republic of Serbia caused environmental damages at the local level because of harmful emissions and their failure to recycle and dispose of hazardous wastes. The study recommended ensuring continuous improvement by industrial companies to protect the environment through utilizing environmental technologies that limit pollution. This is in

addition to utilizing advanced electronic staff for recycling the environmentally hazardous materials.

Finally, (Charles & Frimpong , 2012) investigated the extent to which accounting auditors understand the basic methods by which they practice the environmental and social audit process (Charles & Frimpong , 2012). The study revealed that accounting auditors of industrial companies are not obligated to report the environmental and social effects on the community, in general, and the surrounding environment in particular, to the board of directors. The study recommended that industrial companies should disclose the environmental and social issues in their annual reports and statements and external accounting auditors should not ignore the company's environmental and social activities.

Theoretical Framework

The Concept and Importance of Environmental Audit

Before defining the concept 'environmental audit', it is necessary first to identify what the environment is, as there is no one conceptualization of it (Epstein, 2018). The environment here is defined as the sphere within which organisms of human beings, animals and plants live and this includes water, air and earth and whatever influences this sphere (Oltra, 2008).

In this context, 'environmental audit' is defined as one of the audit branches that aims to evaluate companies' commitments to the legislative requirements at both the international and local levels and the extent of the infrastructure within an economic unit to meet commitment requirements (Boyd & Banzhaf, 2007). According to (Therivel et al., 2013), environmental audit is the regulated control of transactions among the processes conducted by companies and their environments and these include emissions to air, water and earth (Therivel et al., 2013). Environmental audit is not limited to just abiding by the legislation regulations and legal instructions but extends to adopting a strategic approach that follows up the environmental impacts of all company activities. Meanwhile, (Gray & Bebbington, 2000) refers to environmental audit as an organized evaluation to determine whether or not the environmental performance confirms the arrangements planned by a company and whether the implementation of these arrangements is effectively and appropriately conducted to achieve the environmental policy of the economic unit (Gray & Bebbington, 2000; Flayyih, Salih, Rahma & Mohammed, 2020).

Official organizations have also proposed definitions. Thus, the US EPA defines environmental audit as a regular, documented, periodical and subjective check that is conducted by companies or an external party to identify the extent of operational processes and various practices conformity with the applicable requirements (Iraldo, Testa & Frey, 2009). Similarly, the International Chamber of Commerce (ICC) defines environmental audit as an administrative method that includes a regular, documented, periodical and subjective

evaluation of what a company should do to assist environmental protection via applying an administrative control on environmental practices; in other words, it evaluates the extent of a company's adherence to administrative policies and demands (Stafford, 2004). Meanwhile, according to (26), environmental audit is a regular, subjective and periodical check for environmental performance by specialized members from within or outside the economic unit to ensure commitment to administrative environment-related laws and policies and for the evaluation of the efficiency of environment-related administrative programs, as well as the communication of the obtained results to the concerned parties (De Moor & Beelde, 2005). In the context of Iraq, Al-Ta'i states that the use of environmental audits was initiated by the Financial Control Authority in 1998. Then in 1999, a specialized environmental body was established to perform environmental audit tasks (Henri & Journeault, 2008). Al-Ta'i adds that the Financial Control Authority defines environmental audit as "evaluating the results of implementing national and local policies, plans and programs in the field of protecting and improving the environment and assessing the effect of the organization's various processes on the environment based on the approved criteria, in addition to explaining the costs as much as possible" (Taei, 2002).

Environmental Audit Requirements

An audit is more efficient if implemented based on an approved set of principles and requirements according to which performance can be evaluated. Many requirements related to environmental audit have emerged from programs and organizations (37). These include (Soh & Martinov-Bennie, 2015):

Auditors' knowledge, experience and skills: The Natural Resources and Ethical Trade Program stipulates that the audit team should at least include one member who possesses a good understanding and is aware of the work conditions and who possesses knowledge regarding environmental safety (Mahzan & Hassan, 2015). For the member to acquire such information, he/she should be trained on environmental issues and environmental safety. In addition, the audit team should possess appropriate experience for research and evaluation. Given the different nature of companies being audited, audit teams should exhibit sufficient and appropriate knowledge regarding foreign languages that could assist the team by raising questions and obtaining answers.

Audit Team: The Natural Resources and Ethical Trade Program indicates that the auditing team should comprise three to four auditors including a female auditor in order to address and raise the social issues of working women (Patriarca et al., 2017).

Training Auditors: The Natural Resources and Ethical Trade Program indicates that the results of environmental audit sometimes have serious legal implications for the company as

well as for managers and supervisors (Hoos, Messier Jr, Smith & Tandy, 2018). As such, auditors should be appropriately qualified, able to offer the appropriate level of service and able to prepare the required reports. Auditors, therefore, should receive the appropriate training in relation to environmental-related laws, environmental audit processes, the auditor's role, the environmental risks associated with production process and the international legislations and regulations (Kwock, Ho & James, 2016).

Methodology

Population and Sample

The population of the study was a group of industrial companies operating in Basra, Iraq from which a sample of 92 participants was selected. These received questionnaires by hand with the assistance of the researchers' assistants. From the questionnaires distributed, 84 were retrieved and deemed valid for analysis with an acceptable response rate of 95.65%.

Data Collection

The researchers adopted a questionnaire for data collection as it is among the main methods utilized for collecting the necessary data through which to achieve the research goals. The data can also be tested using the SPSS software.

The questionnaire was developed by the researchers based on the theoretical framework of the research and included 17 items. The five-point Likert scale was used to determine the strength of the respondents' responses as each statement was assigned to an appropriate scale where 5= strongly agree, 4= agree, 3= neutral, 2= disagree and 1= strongly disagree. Data were then tested and analysed based on the appropriate statistical methods to test the research hypotheses.

Statistical Treatment

A group of statistical methods in SPSS V 20 software was utilized for the data analysis and to test the hypotheses. The means and standard deviations values were obtained to describe the research variables and the t-test was used to test the hypotheses.

Hypotheses

In light of the problem and the goal of the research, the following two hypotheses were formulated:

HO₁: There is no statistically significant relationship between industrial companies' employees' awareness and environmental audits.

HO₂: An environmental audit does not contribute to protecting the environment from polluters.

Validity and Consistency of the Questionnaire

To verify the questionnaire's validity, it was forwarded to a jury of academics and specialized faculty members who have extensive scientific knowledge and experience in the environmental and audit fields, for review. Their opinions were taken into account and the tool was modified accordingly. An appropriate tool for the purpose of collecting accurate data is one that is able to reveal relatively consistent data and information. Accordingly, the SPSS package was utilized to calculate the internal consistency (Cronbach's Alpha), which was 81.3% (see Table 1). This is deemed to be an acceptable value for the purpose of this research as the lowest level of acceptable Alpha value is 60.

Table 1: Showing the degree of reliability

Dimension	Items (No.)	Cronbach's Alpha
First Dimension	8	81.7%
Second Dimension	9	81.7%
Total	17	80.3%

Results and Discussion

This section presents a description of the results of respondents' responses using means and standard deviations. The study used a 17-item questionnaire that assisted in identifying the extent of industrial companies' employees' awareness towards environmental audit and environmental protection. Respondents were asked to determine the significance of each factor using the five-point Likert scale (1-5).

Results and Discussion of the First Hypothesis

The first research hypothesis states that there is no statistically significant relationship between industrial companies' employees' awareness and environmental audits. After analysing the participants' responses, means and standard deviations for this hypothesis were calculated (see Table 2).

Table 2: The descriptive statistical analysis for the assumed relationship between industrial companies' employees' awareness and environmental audits

Effect Factors	Mean	Standard Deviation	Rank	Sig
1- Environmental awareness aims to develop employees' abilities and skills in the environmental domain.	4.17	1.27	4	High
2- Employees possess awareness related to environmental audits that enables them to maintain their health and safety.	4.21	0.78	2	High
3- Employees possess awareness towards local environmental laws and regulations.	3.67	1.17	6	High
4- Employees possess awareness towards local environmental issues and problems.	3.87	0.87	5	High
5- The environment means everything that surrounds us including living, non-living, material and intangible things.	4.26	0.64	1	High
6- Employees' environmental awareness contributes to achieving a level of environmental protection.	3.27	1.03	9	Medium
7- Employees need more environmental awareness to maintain their health.	3.38	1.14	8	Medium
8- Employees' environmental awareness contributes to the company's environmental sustainability.	3.45	0.97	7	Medium
9- Environmental protection offers an environmental awareness for employees, which is positively reflected in increased productivity.	4.20	0.81	3	High
Total	3.83	0.96		

The findings displayed in Table 2 indicate that:

- 1- Participants agreed that environment means everything that surrounds us including living, non-living, material and intangible things. This item had a mean of 4.26 and a standard deviation of 0.64.
- 2- Participants agreed that they possess awareness regarding environmental audits that enables them to maintain their health and safety. This item had a mean of 4.21 and a standard deviation of 0.78.
- 3- Participants agreed that environmental protection offers environmental awareness for employees and is positively reflected on increased productivity. This item had a mean of 4.20 and a standard deviation of 0.81.
- 4- Participants agreed that environmental awareness aims to develop employees' abilities in the environmental domain. This item had a mean of 4.17 and a standard deviation of 1.27.
- 5- Participants agreed that there is an awareness among employees towards local environmental issues and problems. This item had a mean of 3.87 and a standard deviation of 0.87.
- 6- Participants agreed that there is an awareness among employees towards local environmental laws and regulations. This item had a mean of 3.67 and a standard deviation of 1.17.
- 7- Participants agreed that employees' environmental awareness contributes to the company's environmental sustainability. This item had a mean of 3.45 and a standard deviation of 0.97.
- 8- Participants agreed that employees need more environmental awareness to maintain their health. This item had a mean of 3.38 and a standard deviation of 1.14.
- 9- Participants agreed that employees' environmental awareness contributes to achieving a level of environmental protection. This item had a mean of 3.27 and a standard deviation of 1.03.

The results displayed in Table 2 indicate that means of participants' responses ranged between 3.27 and 4.26. The participants viewed environment everything that surrounds us including living, non-living, material and intangible things and that employees possess an awareness towards environmental audit, which makes them maintain their health and safety. In addition, they perceive environmental protection as offering employees environmental awareness that is positively reflected in increased productivity. These items, which had the highest rankings, were of high importance as the mean for participants' responses for each of these items exceeded 4.2. The total mean for the items was 3.83 while the total standard deviation was 0.96, which indicates the extent to which the values are dispersed from the total mean of the items as a whole.

Results and Discussion of the Second Hypothesis

The second hypothesis states that an environmental audit does not contribute to protecting the environment from polluters. After analysing participants' responses to the questionnaire, the means and standard deviations in relation to this hypothesis were calculated (see Table 3).

Table 3: Analysis of the extent to which environmental audits protect the environment from polluters

Effect Factors	Mean	Standard Deviation	Rank	Sig
1- Environmental audits require the company's management to take the necessary procedures for protecting environment from polluters.	3.84	0.86	6	High
2- Environmental audits operate in stages represented by preparation, planning, implementation, reporting and following up.	4.11	0.90	5	High
3- Environmental audits declare the amount of environmental pollution resulting from the company's activities.	4.20	0.81	4	High
4- Environmental audits collect and evaluate evidence relating to environmental activities.	3.27	1.17	8	High
5- Environmental audits have a role in maintaining a clean and pollution-free environment.	4.42	0.82	1	High
6- Environmental audits contribute to the disclosure of the company's commitment or non-compliance to environmental maintaining-related procedures.	4.29	1.01	2	High
7- Environmental audits have an important role in increasing awareness about the effects of environmental problems and their risks to sustainable development.	4.22	0.79	3	High
8- Environmental audits involve all the company's environmental activities and events.	3.67	1.17	7	High
Total	4.00	0.96	0.94	

The results shown in Table 3 indicate the following;

- 1- Participants agreed that environmental audits have a role in maintaining a clean and pollution-free environment. This item had a mean of 4.42 and a standard deviation of 0.82.
- 2- Participants agreed that environmental audits contribute to the disclosure of the company's commitment or non-compliance to environmental maintaining-related procedures. This item had a mean of 4.29 and a standard deviation of 1.01.

- 3- Participants agreed that environmental audits have a vital role in increasing the awareness about environmental problems and their risks to sustainable development. This item had a mean of 4.22 and a standard deviation of 0.79.
- 4- Participants agreed that environmental audits declare the amount of environmental pollution resulting from the company's activities. This item had a mean of 4.20 and a standard deviation of 0.81.
- 5- Participants agreed that environmental audits operate in stages represented by preparation, planning, implementation, reporting and following up. This item had a mean of 4.11 and a standard deviation of 0.90.
- 6- Participants agreed that environmental audits require the company's management to take the necessary procedures to protect the environment from polluters. This item had a mean of 3.84 and a standard deviation of 0.86.
- 7- Participants agreed that environmental audits involve all the company's environmental activities and events. This item had a mean of 3.97 and a standard deviation of 1.17.
- 8- Participants agreed that environmental audits collect and evaluate evidence relating to environmental activities. This item had a mean of 3.27 and a standard deviation of 1.17.

Table 3 show that the means of the participants responses ranged between 3.27 and 4.42. Furthermore, the participants believe that environmental audits have a role in maintaining a clean and pollution-free environment, and that it contributes to the disclosure of the company's commitment or non-compliance to environmental maintaining-related procedures. They agreed that there is an important role for environmental audit in increasing awareness about the effects of environmental problems and their risks to sustainable development. These three items had a high significance as they had means above 4.2 and were in the top three in the rankings. The total mean was 4.00 with a total standard deviation of 0.94, which indicates the extent to which the values are dispersed from the total mean of the items as a whole.

Testing the Research Hypotheses

The hypotheses were tested by utilizing the responses obtained from the participants using the t-test at the level, 0.05. The hypotheses were also tested and verified based on the sequence of items previously offered:

Testing the First Hypothesis

To support or refute the hypothesis that “there is no statistically significant relationship between industrial companies’ employees’ awareness and environmental audits”, a t-test was performed. See Table 4 for the results.

Table 4: T-test for the first hypothesis

Factor	Mean	Sample Size	T		Results of Hypothesis test Null / Rejected
			Calculated	Scheduled	
All Items	3.83	84	9.578	0.42	

The results in Table 4 indicates that the Z calculated value of 9.576 is above scheduled t, which is 0.42. Therefore, the null hypothesis which states that there is no statistically significant relationship between industrial companies' employees' awareness and environmental audits is rejected. It is replaced by the alternative that states that there is a statistically significant relationship between industrial companies' employees' awareness and environmental audits.

Testing the Second Hypothesis

To support or refute the hypothesis that “environmental audits do not contribute to protecting the environment from polluters” a t-test was performed, the results of which are shown in Table 5.

Table 5: T-test for the second hypothesis

Factor	Mean	Sample Size	T		Results of Hypothesis test Null / Rejected
			Calculated	Scheduled	
All Items	4.00	84	9.782	0.42	

Table 5 shows that the Z calculated value of 9.782 is above scheduled t which is 0.42. Therefore, the null hypothesis which states that environmental audits do not contribute to protecting the environment from polluters is rejected. It is replaced by the alternative that states that environmental audits contribute to protecting the environment from polluters.

Conclusions and Future Research

A total of 92 questionnaires were distributed to employees in industrial companies operating in Basra, Iraq. Eighty-four were retrieved and deemed valid for analysis, which is an acceptable rate of response of 95.65%. The study was based on two main hypotheses that stated: "There is no statistically significant relationship between industrial companies' employees' awareness and environmental audits"; and “Environmental audits do not contribute to protecting the environment from polluters”. The questionnaires were analysed using SPSS software and the hypotheses were tested using the t-test.



The study revealed a set of conclusions, among which were environmental audits have a role in protecting the environment from polluters, which is clear as companies adopt the necessary procedures to maintain and protect the environment. It was also found that industrial companies' management seek to adopt procedures to follow the laws that assist in protecting and maintaining the environment. In addition, industrial companies seek to perform their business activities according to environmental laws and regulations and that there are specific environmental policies within these companies. Moreover, environmental programs are implemented and committed to. However, it was concluded that these companies do not commit to their responsibilities toward the surrounding environment. This lack of commitment is exemplified by their refusal to pay for any environmental damages they incur, and the lack of a unit dedicated to preparing and issuing environmental-audit specific criteria and standards that are appropriate for the Iraqi environment.

However, there still remain questions without answers when it comes to identifying temporary attitudes and approaches in the field of environmental audits from both the practical and the theoretical dimensions. This holds true for addressing the environmental considerations' impacts and their presence in financial statements. Finally, it is hoped that future research will seek to answer such concerns.

REFERENCES

- Ağan, Y., Kuzey, C., Acar, M. F., & Açıkgöz, A. (2016). The relationships between corporate social responsibility, environmental supplier development, and firm performance. *Journal of Cleaner Production*, 112, 1872-1881.
- Boyd, J., & Banzhaf, S. (2007). What are ecosystem services? The need for standardized environmental accounting units. *Ecological economics*, 63(2-3), 616-626.
- Charles, O & Siaw Frimpong , (2012) Corporate Social and Environmental Audit: Perceived Responsibility or Regulatory Requirement , *Research Journal of Finance and Accounting* 3(4):47-56 .
- De Moor, P., & Beelde, I. D. (2005). Environmental auditing and the role of the accountancy profession: a literature review. *Environmental Management*, 36(2), 205-219.
- Epstein, M. J. (2018). *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. Routledge.
- Flayyih, H. H., Salih, J. I., Rahma, N. G. A., & Mohammed, Y. N. (2020). Earnings Management between the fact of manipulation and credibility of management procedures: a literature review. *Social Science and Humanities Journal*, 12, 1898-1908.
- Gray, R., & Bebbington, J. (2000). Environmental accounting, managerialism and sustainability: Is the planet safe in the hands of business and accounting?. In *Advances in environmental accounting & management* (pp. 1-44). Emerald Group Publishing Limited .
- Henri, J. F., & Journeault, M. (2008). Environmental performance indicators: An empirical study of Canadian manufacturing firms. *Journal of environmental management*, 87(1), 165-176 .
- Hoos, F., Messier Jr, W. F., Smith, J. L., & Tandy, P. R. (2018). An experimental investigation of the interaction effect of management training ground and reporting lines on internal auditors' objectivity. *International Journal of Auditing*, 22(2), 150-163 .
- Iraldo, F., Testa, F., & Frey, M. (2009). Is an environmental management system able to influence environmental and competitive performance? The case of the eco-management and audit scheme (EMAS) in the European union. *Journal of Cleaner Production*, 17(16), 1444-1452.



- Kiprotich , L , E . (2016). An Evaluation of occupant perception and satisfaction of Indoor environment in LEED-certified buildings in Nairobi, Kenya (Doctoral dissertation, department of eral estate and construction management university of Nairobi
- Krishna, I. M., Manickam, V., Shah, A., & Davergave, N. (2017). Environmental management: science and engineering for industry. Butterworth-Heinemann .
- Kwock, B., Ho, R., & James, M. (2016). The effectiveness of professional scepticism training for auditors in China: evidence from a university in China. *China Journal of Accounting Studies*, 4(2), 205-224.
- Ljubisavljević, S., Ljubisavljević, L., & Jovanović, D. (2017). Environmental Audit for Environmental Improvement and Protection. *Economic Themes*, 55(4), 521-538.
- Mahzan, N., & Hassan, N. A. B. (2015). Internal audit of quality in 5s environment: Perception on critical factors, effectiveness and impact on organizational performance. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 5(1), 92-102
- Oltra, V. (2008). Environmental innovation and industrial dynamics: the contributions of evolutionary economics. *Cahiers du GREThA*, 28(27), 77-89.
- Pandit, R., Parrotta, J., Anker, Y., Coudel, E., Diaz Morejón, C. F., Harris, J., ... & Tamin, N. M. (2018). Responses to halt land degradation and to restore degraded land (Chapter 6). IPBES .
- Patriarca, R., Di Gravio, G., Costantino, F., & Tronci, M. (2017). The functional resonance analysis method for a systemic risk based environmental auditing in a sinter plant: A semi-quantitative approach. *Environmental Impact Assessment Review*, 63, 72-86.
- Pfaff, A. S., & Sanchirico, C. W. (2000). Environmental self-auditing: Setting the proper incentives for discovery and correction of environmental harm. *Journal of Law, Economics, and Organization*, 16(1), 189-208.
- Saliha, J. I., & Flayyihb, H. H. (2020). Impact of Audit Quality in Reducing External Audit Profession Risks, *International Journal of Innovation, Creativity and Change*, 13(7), 176 – 197. www.ijicc.net
- Soh, D. S., & Martinov-Bennie, N. (2015). Internal auditors' perceptions of their role in environmental, social and governance assurance and consulting. *Managerial Auditing Journal*, 30(1), 80-111.



- Stafford, S. (2004). Does Self-Policing Help the Environment-EPA's Audit Policy and Hazardous Waste Compliance. *Vt. J. Envtl. L.*, 6, 1-8.
- Taei, S, Hamid, H. (2002). Environmental auditing: A proposed approach for application in Iraq with a Comparative Study), Unpublished Master Thesis, University of Mustansiriya, Faculty of Management and Economics.
- Therivel, R., Wilson, E., Heaney, D., & Thompson, S. (2013). *Strategic environmental assessment*. Routledge .
- Watson, M. (2004). Environmental auditing in the new Europe. *Managerial Auditing Journal*, 19(9), 1131-1139.