

ENVIRONMENTAL ACCOUNTING OF COMPANIES IN CAMEROON

LA COMPTABILITE ENVIRONNEMENTALE DES ENTREPRISES AU CAMEROUN

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Abstract

The objective of this study is to examine the environmental accounting practices of Cameroonian companies. Secondary data were used from 40 companies in the manufacturing, agricultural, transport, and service sectors, which have sustainable development reports. An explanatory research design and descriptive statistics were used to assess the extent and variation of environmental accounting reporting, costs, and disclosures across sectors and company maturity. The study reveals that the majority of companies use quantitative environmental accounting and costs in accordance with current legislation, while environmental accounting disclosure is qualitative. Regarding company maturity, mature companies tend to provide more qualitative information, while less mature companies disclose higher levels of environmental information. The study recommends that, in addition to local regulatory practices, companies expand their business planning to include regulatory bodies to evolve social requirements and strengthen stakeholder interest, corporate image, and reputation. Furthermore, the Cameroonian government should create a legal framework to promote the development of environmental accounting practices among Cameroonian companies.

Keywords : Environmental Accounting, Environmental Accounting Reporting, Environmental Cost Accounting, Environmental Accounting Disclosure.

Résumé

L'objectif de cette étude est d'examiner les pratiques de comptabilité environnementale des entreprises camerounaises. Des données secondaires ont été utilisées auprès de 40 entreprises des secteurs manufacturier, agricole, des transports et des services, disposant de rapports de développement durable. Un plan de recherche explicatif et des statistiques descriptives ont été utilisés pour évaluer l'étendue et la variation des rapports, des coûts et des informations en matière de comptabilité environnementale selon les secteurs et la maturité des entreprises. L'étude révèle que la majorité des entreprises utilisent une comptabilité environnementale quantitative et des coûts conformes à la législation en vigueur, tandis que la divulgation de la comptabilité environnementale est qualitative. Concernant la maturité des entreprises, les entreprises matures ont tendance à fournir des informations plus qualitatives, tandis que les entreprises moins matures publient des niveaux plus élevés d'informations environnementales. L'étude recommande qu'outre les pratiques réglementaires locales, les entreprises élargissent leur planification d'entreprise pour inclure les organismes de réglementation afin de faire évoluer les exigences sociales et de renforcer l'intérêt des parties prenantes, l'image et la réputation des entreprises. Par ailleurs, le gouvernement camerounais devrait créer un cadre juridique pour promouvoir le développement de pratiques de comptabilité environnementale des entreprises camerounaises.

Mots clés : Comptabilité environnementale, Rapports de comptabilité environnementale, Comptabilité des coûts environnementaux, Divulgation de la comptabilité environnementale

Introduction

Since the late 1950s, companies were ignorant about the environment. According to Gendron, (2004), it is in the 1970s that the birth of environmental accounting coincides with the development of environmental awareness where companies evolved attitudes towards the environment which marked the beginning of a popular awareness that would continue to grow. In the 1960s, a group of protesters started to denounce the environmental damages that companies caused to the communities during industrial production.

This is how today, whether in Europe or the United States, environmental accounting is gaining momentum within the companies. In China, according to the worldwide sustainable development agenda, China has implemented stringent environmental protection laws. The inclusion of environmental accounting in China's national sustainable development accounting since the 1990s indicates the significant value the Chinese government places on standardising corporate environmental accounting (Agyemang, et al., 2023; Kongkuah, et al., 2021). Therefore, environmental accounting provides stakeholders with both economic and environmental information, serving as a medium for businesses.

In Africa, environmental accounting is smoothly gaining ground, this was as a result of the Rio de Janeiro's Earth Summit of 1992 which gave Africa a push towards regarding the environment, whereby many African countries started adopting environmental policies and putting in place organisations in charge of sustainable development, such as South Africa. South Africa remains among the countries with the highest poor environmental sustainability (Dzomonda & Fatoki, 2021). This calls for practical actions to reduce the poor environmental sustainability in South Africa. To overcome this poor environmental performance in the corporate sector, global governments have introduced interventions to assist the corporate sector in reducing negative environmental impacts. This intervention has been termed environmental management accounting practices (EMAP) in literature. For example, in South Africa, the introduction of the King Code III and IV was intended to lessen the environmental impacts of companies through extensive environmental information disclosure, also Cameroon involved in the creation of the Ministry of Environment, Nature Protection and Sustainable Development in the year 1992 so as to look at environmental issues.

In the literature, majority of works have dealt on environmental accounting and financial performance (Ibrahim, et al., 2023; Major, et al., 2023; Kihamba, 2017; Emmanuel, 2021; Dhar, et al., 2021; Okafor, 2018; Al-Mawali, 2021; Awa, et al., 2022; Ifeoma, 2023; Obiora, et al., 2022, etc.). Other studies treat the relationship between environmental accounting and

transparency (Sari, et al., 2024; Alim, 2022; Caputo, et al., 2021; Hanh, et al., 2013; Andrew, 2000, etc.).

This paper contributes to the current debate to examine environmental accounting practices of companies in Cameroon. Several questions guide the study: How is environmental accounting information reported by companies in Cameroon? How is environmental cost accounting practice by companies in Cameroon? How is environmental accounting information being disclosed by companies in Cameroon?

A brief presentation of the methodology with a sample of 40 companies in Cameroon, the variables of the study was measured based on Global Reporting Initiative and a descriptive analysis was done. To provide elements of response, this article is structured as follows: the first section presents the concept of environmental accounting in the literature, the second section describe the methodology adopted, the third section present the results, the fourth section is discussion of the findings and finally the conclusion.

1. Concept of Environmental Accounting in the Literature

Environmental accounting is a multifaceted concept that integrates environmental considerations into traditional accounting practices (Gray, et al., 2001). According to Burritt, et al., (2010) environmental accounting has various approaches and methodologies aimed at measuring, analysing and reporting the environmental impacts of a company's activities such as Environmental Financial Accounting, Environmental Management Accounting, Natural Capital Accounting, Carbon Accounting and Environmental Social Governance Reporting (ESGR). Although environmental accounting is multifaceted, in this study Environmental Management Accounting and Environmental Financial Accounting was retained because with EMA it directly focus on cost management, efficiency improvements, and strategic decision-making while Environmental Financial Accounting requires the provision of appropriate information in the financial statements or sustainability report regarding estimated social cost occasioned by production externalities on the environment, and how much deliberate intervention cost had been incurred to bridge the gap between marginal social cost and marginal private cost by a company (Hahn, et al., 2013).

In the literature, several authors have tried to find a definition to environmental accounting. For Weng, et al. (2015) referred to environmental accounting as green accounting that measures the performance of companies in respect to the environment. It involves the identification,

measurement and reporting of environmental specific cost, for example liability cost and waste disposal cost; and covers more than reporting or accounting for waste management and benefits. O'Connor, 2006) refers to environmental accounting as any form of accounting involving the collection, recording, and reporting of internal and external information about the financial and non-financial impact of organisational activities upon individuals, society and more generally on the physical environment.

According to (Environmental Protection Agency, 1995) as cited by (Okafor, 2018) environmental accounting identifies the use of resources, measures the associated costs and communicate the costs in order to know the impact on the environment and the national economy. This environmental accounting measures the effect of the natural environment on the company's that is quantified in monetary terms. (Okafor, 2018) further explained that from Environmental Protection Agency, environmental accounting is classified into global environmental accounting that deals with economics in the country level, the national environmental accounting deals with economics at the national level, while corporate environmental accounting focuses on the remediation and conservation cost that will have effect on economic and environmental performance of companies. These three definitions of environmental accounting are very marked by contexts respective, but still show that environmental accounting is a large concept which brings together different realities. In view of these definitions, we can define environmental accounting as the identification, measurement and reporting the environmental costs and benefits associated with company's activities, products and services so as to achieve sustainable development and maintaining favorable relationship with the community. From the definitions above several aspects are likely to be explored for an exploratory analysis based on how environmental accounting is been practiced. First, we have the form on how environmental accounting information is reported through environmental accounting reporting which (Managi, 2010) defines environmental accounting reporting as the practice of integrating environmental information into financial reporting systems to provide a more comprehensive assessment of a company's environmental impact. This includes quantifying and disclosing data related to environmental costs, benefits, risks, and opportunities to facilitate better decision-making and promote sustainable business practices. Second, we have the level of implementing environmental cost accounting, by (Akande, 2019) defines environmental cost accounting as identifying, recording and reporting the costs incurred as a result of business operations in the environment. According to (Charles,

et al., 2017) environmental costs are costs incurred by companies to prevent and protect environmental problems and reduce environmental damage.

The third aspect is linked to the existence of environmental accounting disclosure, according to (Ahmed, et al., 2021), environmental accounting disclosure is a process through which companies provide information about their environmental performance and its impacts on the environment. This information can include details on a range of factors, such as emissions of greenhouse gases, water consumption and waste generation, energy use and other environmental impacts caused by their operations. By disclosing this information, companies can help to identify areas where they can improve their environmental performance and reduce their negative impact on the environment. This environmental accounting information disclosure is been done by companies disclosing companies' environmental information from their sustainability report through the media so as to create awareness to stakeholders, investors and the community, in other to improved investment and have good image with the community. Environmental accounting practices of companies can be explained on the one hand using legitimacy theory and stakeholder theory and on the other hand, through empirical works on environmental accounting practices.

Legitimacy theory

The theory of legitimacy developed by (Dowling & Pfeffer, 1975) holds that companies' activities must conform to the values or social norms in which it operates. The failure of companies to adhere to social values or norms can make it difficult for the company to gain the community's support to continue working. Before, companies focus was on profit maximisation for it to be legitimate, but given the expectations in societies in recent years, the existence of legitimacy in companies is that they should avoid harming the atmosphere or incase of a damage on the environment companies should compensate. This theory extensively clarify social and environmental information disclosure (Mousa & Hassan, 2015) by disseminating environmental information, the company demonstrates its legitimacy in the eyes of the public, which is necessary for the company to justify its existence in the eyes of society.

Stakeholder's theory

The stakeholder theory originates from (Freeman, 1984) holds that companies have the obligations not only to their shareholders in maximising shareholders wealth but also to a broader group of stakeholders, such as employees, customers, suppliers, communities and the environment by considering the interest and well-being of all stakeholders in companies decision-making, by fulfilling stakeholder expectations regarding sustainability. This theory is

important in that companies that provides environmental information is said to be environmentally responsible to their actions and decisions in doing their business activities. If stakeholder believes that company is responsible to the environment, the relationship between company and stakeholder will become stronger. Thus, company will manage to gain stakeholder support. Moreover, in this theory, the ‘community’ may be perceived as a ‘powerful’ stakeholder to influence company decisions and that may then have further impact on the operations and future of company growth. Without community pressures, there might be no environmental initiatives established by companies. One of the ways for the company to meet stakeholder expectation is by providing an environmental reporting in order to gain their support (Horisch, 2020).

Environmental Accounting Practices

Nugraha, et al., (2024) study the effect of environmental accounting disclosures and environmental performance on firm value in the manufacturing sector listed on the Indonesia Stock Exchange (IDX) for the 2017-2020 period. This study uses a sample of 43 manufacturing companies in Indonesia where the data needed in this study is in the form of financial report data obtained from the Indonesian Stock Exchange Gallery. The sampling method is purposive sampling. The data analysis technique used is single linear regression using SPSS. The results showed that the environmental accounting disclosure variable had a significant effect on firm value. Meanwhile, the environmental performance variable has no effect and is not significant on firm value. The single linear regression model in this study has an R² value of 77.48%, which means the firm value can be explained by using the variable value of environmental accounting disclosures, where the remaining 22.52% is influenced by other factors, variables outside the model that have been studied.

Osemene (2024) study of corporate governance mechanisms and environmental accounting reporting (EAR) in selected African quoted companies. Using ex-post facto research design, the study’s population comprised of quoted companies in six sectors located in four Africa countries (Egypt, Nigeria, Kenya and South Africa). A content analysis was carried out to obtain environmental disclosure and reporting score, while static panel regression model was used to analyse the data. Findings revealed that board committee has a significant influence on EAR in the African countries, board diversity in Kenya and Nigeria, board size in South Africa and Nigeria, board independence in Egypt and Kenya, and institutional ownership in Nigeria, Egypt and South Africa were found to have significant influence on EAR. This result implies that extant laws and codes on corporate governance should be followed, and most importantly,

other countries studied should emulate South Africa and adopt integrated reporting and application of Global Reporting Initiative (GRI) index score in their corporate reporting.

Shiyghan et al., (2024) study aimed at evaluating the effect of environmental cost accounting on the return on assets of manufacturing firms in the Douala Industrial Zone. Data was collected through a descriptive survey and a questionnaire using a sample size of 128. The study adopted a descriptive statistic and ordered logit model to do the data analysis. The results showed a positive relationship between employee health and safety compliance cost, and pollution prevention cost. It therefore recommended the application of environmental prevention policies, in order to reduce resource spending on restoration and environmentally friendly product production.

Alim (2022) examine the effect of environmental accounting on the transparency of companies in Cameroon. The paper finds that the average level of environmental accounting information disclosure by the companies in Cameroon is 62% and the transparency is 61.7%. For the results of the model's estimates, environmental accounting information disclosure affects positively and significantly at 1% the transparency of companies in Cameroon. The study concludes that environmental accounting is a lever of transparency of companies in Cameroon.

Muffee (2021) study the objective to assess the effect of environmental accounting on corporate performance of some companies in Magzi Ombe - Cameroon with the objectives guided by four hypotheses and the variables to the study were environmental cost, profit from environmental activities, and management of firm's resources and identification of environmental liability. The area of study was Development and management mission for industrial zones (MAGZI) Ombe. The analysis was computed using descriptive and inferential data gotten through the use of questionnaires that is purely primary data was used. Forty respondents were taken from six companies as sample from the population. The one way analysis of variance and the Pearson correlation methods of data analysis were used in analyzing the data gotten. From the analysis, we concluded that Environmental Accounting has a significant relationship with the Corporate Performance of companies.

Adegbei & Nwobodo (2020) study entitling "Environmental Accounting & Reporting Practices: Significance and Issues: A Case listed Deposit Money Banks (DMBs) in Nigeria" is based on primary data. The primary data were collected from the total number of 34 Accountants, taking two from each company. The main findings of the study are: i) the respondents have felt the strong significance of EA (Environmental Accounting) and ER (Environmental Reporting) in their Annual Reports, ii) the respondents have also been aware

for EA and ER practices, iii) the respondents have identified some major problems involved in EAR (Environmental Accounting and Reporting) practices as shown table 4 and also have suggested some measures as presented in table 5. From the above discussions, it is clear that EAR practices in DMBs is highly significant but not too satisfactory as there are many issues hindering them from carrying out best practices in EA and ER and hence poor in real sense of the term. Therefore, in order to improve the EAR practices in the DMBs, the proper authority need to implement the suggestions put forward by the respondents without any further delay. With the increasing concern sustainability, the need of environmental accounting practices has grown over the years.

2. Methodology

2.1. Sample and Data Sources

Based on the study, a sample of companies must meet three criteria: i) have a complete set of annual financial statements for 5 years 2019-2023; ii) companies who make available their environmental accounting report and iii) companies who disclose environmental information on their annual report or sustainability report. Although the number of companies selected for research is not large compared to the total number of companies listed on the database of National Institute of Statistic of Cameroon at that time; the sample size chosen is 40 registered companies from the manufacturing sector, agricultural sector, transport sector and service sector based on the criteria stated above. Secondary data were obtained from the annual reports and sustainability reports of companies in Cameroon through the companies Environmental, Social and Management Plan (ESMP) sourced from the Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED-Cameroon).

2.2. Variable measurements

Environmental accounting is measured using environmental accounting reporting, environmental cost accounting and environmental accounting disclosure.

2.2.1. Environmental Accounting Reporting

Environmental accounting reporting was measured using the Global Reporting Initiative index which is calculated as a ratio of reported environmental indexes of the company, to the total reporting index on environment that are expected to be reported by the company. Hence, the environmental reporting index of each company is scored out of 17 points as in table 1 below and expressed as a percentage.

Table 1: Environmental Accounting Reporting Checklist

Number	Environmental Accounting Reporting Checklist
1	Existence of Environment Policy
2	Management Concern for Environment
3	Environment Management System
4	Environmental Compliance
5	ISO 14001 Certification
6	Environmental Cost Identification and recording
7	Waste Management – recycling, reduction and reuse
8	Environmental budget/spending and activities
9	Environmental impact assessment and risk management
10	Presence of an environmental audit program
11	Environmental research and development
12	Pollution
13	Innovation and ways to reduce environmental degradation
14	Energy policy
15	Carbon emission report
16	Spills, noises and Odor
17	Other environmental issues

Source: (Rakiv, et al., 2016)

As part of the objective of this study, a model that captures the size of environmental reporting of companies in Cameroon was equally advanced in this study. The model however is expressed as a percentage of total number of items reported divided by the total number of items expected to be reported, according to the following expression:

$$EAR = \sum_{i=1}^N \frac{EN_i}{EN} \dots (1)$$

Where, EAR = environmental accounting reporting item

EN_i=each item to be disclosed under environmental (EN) reporting index. Hence, EN_i takes the range EN₁, EN₂, ..., EN₁₇ and each EN_i is reported in dummy (1,0) measured as "1" for companies that have a section in the Annual Reports for each item in table 3.2 and "0" otherwise.

EN=Total number of expected items to be reported under environmental accounting reporting checklist.

2.2.2. Environmental Cost Accounting

Environmental cost accounting was measured using Global Reporting Initiative based on pollution control cost, waste management cost and social project cost using a binary coding system index that assigns 0 and 1 to items. If items are made public, they are set to 1 and 0 if not reported, in the study of (Ngbomowa, 2023).

Table 2: Environmental Cost Accounting Index

S/N	Pollution Control Cost	Waste Management Cost	Social Project Cost
1	Expenses related to air, water, and soil pollution control technologies (Burritt & Schaltegger, 2010)	Costs for waste collection, transportation, and disposal (Kumar & Singh, 2021)	Electricity supply (International Energy Agency, 2021)
2	Costs associated with compliance to environmental regulations (García-Sánchez, et al., 2021)	Expenditures on recycling and recovery initiatives (Zhang, et al., 2020)	Water supply (World Health Organization, 2021)
3	Investments in pollution prevention measures (Ali, et al., 2021)	Expenses related to hazardous waste management (Davis & Hodge, 2020)	Building of schools/Scholarship schemes (UNESCO, 2021)
4	Costs of monitoring and reporting emissions (GRI, 2022)	Investments in waste reduction technologies and practices (OECD, 2020)	Road project (World Bank, 2021)

Source: Author(s), 2024

2.2.3. Environmental Accounting Disclosure

Environmental accounting disclosure was measured according to the Global Reporting Initiative (GRI, 2013) Sustainable Development Guideline, in the study of (Alim, 2022), and Nguyen, et al., 2019). The total number of items disclosure is 34 items in the 12 relevant fields as shown in table 3.

Table 3: Items for Mandatory Environmental Accounting Disclosure

N°	Field	Number of Items
1	Material	2
2	Energy	5
3	Water	3
4	Biodiversity	4
5	Emissions	7
6	Wastewater and waste	5
7	Information on label products and services	2
8	Compliance	1
9	Transportation	1
10	Overall	1
11	Supplier's review of the environment	2
12	Environmental complaints mechanism	1
	Total	34

Source: Global Reporting Index adapted by author

The disclosure index is calculated according to the weighted approach, depending on the quality of the information provided to assess the score for each item, then averaged for each field and calculated environmental accounting information disclosure index. The formula is as follows:

The level of information disclosure of companies

$$EA_j = \frac{\sum_{i=1}^{34} EAID_i}{34} \dots \dots \dots (3.2)$$

Where:

EAID_i is the score of Environmental accounting information of items, *i* published by firm *j*

Depends on how the company has published relevant information on the annual report for assessing the score for the level of environmental accounting reporting, environmental accounting cost and environmental accounting disclosure according to table 4.

Table 4: Method to assess the levels of environmental accounting reporting, environmental cost accounting and environmental accounting disclosure

Level of information disclosure	Score
Publication information is both quantitative and qualitative form	4
Only qualitative, non-quantitative Disclosure	3
Quantitative information both in object and value, no qualitative information	2
Quantitative information on the value, no object and no qualitative information	1
No information disclosure	0

Source : (Ahakiri, et al., 2023; Obiora, et al., 2022; Alim, 2022; Uniamikogbo ,et al., 2021).

2.3. Data Analysis

To analyse this study, a descriptive analysis was done through frequency tables, percentages were used to determine the average score of each environmental accounting practices. The test of the difference of means and variance of each environmental accounting practice between the manufacturing sector and the other sectors was tested so as to determine whether there is a significant difference between the means and variance of each environmental accounting practice between the manufacturing sector and the other sectors.

3. Results

In this section, the characteristics of the sample, the environmental accounting practices will be presented.

3.1. Characteristics of Sample

The sample of the study include 40 registered companies, which are registered in the file of the Ministry of Environment, Nature Protection and Sustainable Development of Cameroon,

because of the impact they cause to the environment and based on those who report environmental information since it is voluntary and not mandatory for companies to report and disclose their environmental information. They are in majority private limited companies (57%) and public companies (43%). In this sample 57.5% of companies are manufacturing companies, service sectors (17.5%), agriculture (12.5%) and transport (12.5%). Most of the companies have 20 years and more of existence (87.5%) and only 12.5% of this have between 1 and 33 years.

Table 5: Distribution of sample

Sector of Activity	Number of companies	Frequencies (%)	Age of company	Frequencies (%)
Manufacturing	23	57.5%	20years and above	87.5%
Service	7	17.5%		
Agriculture	5	12.5%		
Transport	5	12.5%	5years to 20years	12.5%
Total	40	100%		100%

Source: Authors (2025)

3.2. Environmental Accounting Practices of Companies in Cameroon

In this section, the environmental accounting reporting, the environmental cost accounting and the environmental accounting disclosure of companies in Cameroon will be presented.

3.2.1. Environmental Accounting reporting of companies in Cameroon

The findings of environmental accounting reporting practice show, the majority of the sample (65%) report the quantitative environmental information both in object and value but no qualitative environmental information. Only 25% of this sample report qualitative environmental information. Table 6 below present the summary of these findings.

Table 6: Descriptive findings on environmental accounting reporting

Average score of EAR	Frequency	Percentage
2	26	65
3	14	25
Total	40	100

Source : Authors (2025)

Reading Table 7, we note that the reporting of environmental information in financial statements is just indicative for companies in Cameroon (average EAR = 2.81) and the low concentration of the standard deviation of this variable suggests a globalization of the

observation. This result shows the lack of awareness of companies in Cameroon regarding the urgency of environmental issues. This demonstrates the non-adherence to the green initiatives of the global reporting index.

Table 7: Descriptive statistics of score of Environmental Accounting Reporting.

Variable	Observation	Mean	Standard deviation	Min	Max
Score of EAR	40	2.81	0.21	2.4	3.29

Source : Authors (2025)

As for the analysis by sector of activity, table 8 below shows that, manufacturing companies in Cameroon report the quantitative environmental accounting information both in object and value but no qualitative (58.3%) and 41.7% done on qualitative but no quantitative. In the agricultural companies, environmental accounting reporting is done in qualitative form (60%) and only 40% report quantitative environmental information in both object and value.

Whereas in the sector of service, almost all report quantitative environmental information in both object and value (86%) and 14% report the qualitative environmental information. In the transport sector, all companies report the quantitative environmental information in both object and value. Table 8 below presents the main findings.

Table 8: Descriptive Statistics of Environmental Accounting Reporting per sector of activity

Score of Environmental accounting reporting	Sector of Activity				
	Manufacturing	Agriculture	Service	Transport	Total
2	14	2	6	4	26
3	10	3	1	0	14
Total	24	5	7	4	40

Source : Authors (2025)

The examination of Table 9 shows a similarity of practice in terms of reporting environmental accounting information between the different sectors of activity of companies in Cameroon. Environmental accounting information is never found in the financial statements but it remains mentioned in the various notes or annexes which accompany these statements.

Table 9: The test of the difference of means of environmental accounting reporting between the manufacturing sectors and the other sectors.

Group	Observation	Mean	t-statistics	Significance
Manufacturing	24	2.84	-1.28	0.89
Other sectors	16	2.76		
Significance	***p<0.01	**p<0.05	*P<0.10	
Difference		-0.08		

Source: Authors (2025)

Furthermore, just as at the sector level, the practice is the same in terms of the seniority of these companies. We observe the same practice in terms of reporting environmental accounting information between mature and non-mature companies. This information is always reported for information purposes in the notes and appendices but not in the financial statements. Table 10 present this result.

Table 10: Test of the difference of means of environmental accounting reporting between the group of matured companies and not matured companies.

Group	Observation	Mean	t-statistics	Significance
Not matured	19	2.7	-3.4	0.99
Matured	20	2.9		
Significance	***p<0.01	**p<0.05	*P<0.10	
Difference		-0.2		

Source: Authors (2025)

3.2.2. Environmental Cost Accounting

Regarding environmental cost accounting, the results show that the majority of companies in Cameroon (65%) present quantitative environmental cost information in terms of object and value in their cost analysis. Only 25% present qualitative environmental cost information in their analysis.

Table 11: Descriptive findings on Environmental Cost Accounting

Average score of ECA	Frequency	Percentage
2	26	65
3	14	25
Total	40	100

Source : Authors (2025)

The average of 2.79 and the low standard deviation of 0.36 show on the one hand that the practice of environmental cost accounting in companies in Cameroon is much more focused on

the presentation of environmental cost information in a quantitative way in terms of object and value during the analysis of costs. On the other hand, these companies do not have a real environmental cost accounting capable of providing the methods of analyzing environmental costs and integrating the analysis of these costs into the formation of the net result of the company.

Table 12: Descriptive statistics of score of Environmental Cost Accounting

Variable	Observation	Mean	Standard deviation	Min	Max
Score of ECA	40	2.79	0.36	2.18	3.33

Source : Authors (2025)

As for the sector of activity, the analysis of the results shows that there is no difference in practice in terms of environmental cost accounting between the sectors of activity of companies in Cameroon. Environmental cost accounting is only used to present the expenses incurred for environmental protection. It does not have methods for evaluating these costs and does not analyze how these costs impact the formation of the net result of these companies. Table 13 below shows this finding.

Table 13: The test of the difference of means of environmental cost accounting between the manufacturing sectors and the other sectors

Group	Observation	Mean	t-statistics	Significance
Manufacturing	24	2.81	-0.31	0.62
Other sectors	16	2.77		
Significance	***p<0.01	**p<0.05	*P<0.10	
Difference		-0.04		

Source : Authors (2025)

Furthermore, the examination of the results of table 14 simply shows an absence of difference in the practice of environmental cost accounting between mature and non-mature companies in Cameroon.

Table 14: The test of the difference of the variance of environmental cost accounting between the not matured group and the matured group

Group	Observation	Mean	f-statistics	Significance
Not matured	19	2.66	1.43	0.22
Matured	20	2.93		
Significance	***p<0.01	**p<0.05	*P<0.10	
Difference		-0.27		

Source: Authors (2025)

3.2.3. Environmental Accounting Disclosure

The analysis of the results in Table 15 reveals that 55% of the sampled companies disclose environmental accounting information only in qualitative form, while 7.5% disclose environmental accounting information in quantitative form both object and value. Only 37.5% comply with the standard by publishing this information in quantitative and qualitative form.

Table 15: Descriptive findings on environmental accounting disclosure

Average score of Environmental accounting disclosure	Frequency	Percentage
2	3	7.5
3	22	55
4	15	37.5
Total	40	100

Source: Authors (2025)

Regarding the disclosure of environmental accounting information by sector of activity, the examination of table 16 shows a similarity of practice between the different sectors.

Table 16: The test of the difference of means of environmental accounting disclosure between the manufacturing sectors and the other sectors.

Group	Observation	Mean	t-statistics	Significance
Manufacturing	24	2.81	-0.32	0.62
Other sectors	16	2.77		
Significance	***p<0.01	**p<0.05	*P<0.10	
Difference		-0.04		

Source : Author (2025)

While in terms of experience we observe a significant difference in practice between non-mature and mature companies (table 17). Non-mature companies disclose this information by emphasizing much more the qualitative aspects while mature companies disclose this information by favoring only the quantitative dimension in terms of object and value without taking into account the qualitative aspects.

Table 17: Test of the difference of means of environmental accounting disclosure between the group of matured companies and not matured companies

Group	Observation	Mean	t-statistics	Significance
Not matured	19	3.53	3.70***	0.0003
Matured	20	3.07		
Significance	***p<0.01	**p<0.05	*P<0.10	
Difference		0.46		

Source: Authors (2025)

4. Discussion of findings

The findings reveal that the means of environmental accounting reporting is 2.81 which is closed to 3 indicating that companies do report environmental information in a qualitative form on their sustainability report. The small standard deviation of 0.21 indicates that the environmental accounting reporting scores are relatively clustered around the mean, indicating that most values did not deviate much from the mean of 2.81. This suggests a general industry trend toward uniformity in the qualitative disclosure of environmental performance and initiatives. Also, based on environmental accounting reporting and environmental cost accounting in the various sector of activities majority of the sample (65%) report the quantitative environmental cost both in object and value but no qualitative environmental cost. Only 25% of this sample report the qualitative environmental cost and the means of environmental cost accounting is 2.79 which is closed to 3 indicating that companies do report environmental cost in a qualitative form on their sustainability report. The small standard deviation of 0.36 indicates that the environmental cost accounting scores are relatively clustered around the mean, indicating that most values did not deviate much from the mean of 2.79. Lastly, the result reveals that with environmental accounting disclosure majority of the companies (55%) disclose only qualitative environmental information, 37.5% of the companies disclose environmental information both in quantitative and qualitative form and Only 7.5% of the companies disclose quantitative environmental information both in object and value and the means of environmental accounting disclosure is 3.28 indicating that companies do disclose environmental information in a qualitative form using sustainability report. The small standard deviation of 0.44 indicates that the environmental accounting disclosure scores are relatively clustered around the mean, indicating that most values did not deviate much from the mean of 3.28. The distribution above indicates that while qualitative disclosures dominate, a notable proportion of firms are beginning to integrate both forms of reporting, possibly to enhance transparency and meet stakeholder expectations. The standard deviation of 0.44 shows a slightly higher variability in disclosure practices compared to reporting and cost accounting, suggesting differences in how companies prioritize environmental transparency.

Overall, the findings indicate that while qualitative reporting remains the dominant approach to environmental accounting across companies, there is an emerging trend toward integrating quantitative information, especially in the area of environmental cost accounting. The consistently small standard deviations across the metrics suggest that reporting practices are relatively stable and do not vary widely between companies. However, the modest levels of

quantitative disclosure points to the need for more robust environmental accounting frameworks and standards to encourage comprehensive and transparent sustainability reporting. This result, in line with theoretical predictions concerning environmental accounting is explained by the fact that the institutional theory which suggests that in environments with weak institutional frameworks, companies may engage in environmental reporting primarily to conform to external expectations without fully integrating such practices into their core strategies. This will lead to symbolic compliance, where environmental initiatives do not translate into improved performance outcomes. Also, based on stakeholder theory, the benefits of environmental reporting are contingent upon the extent to which stakeholders value and reward such disclosures. Moreover, legitimacy theory posits that companies adopt environmental accounting to enhance or maintain legitimacy within society. Indeed, the Cameroonian government does not require companies to include environmental accounting information in their financial report at the end of the financial year and the framework law of 96 on environmental management in its article 74 specifies that the publication of information environmental assessments by companies must be done freely by the latter. Therefore, we can deduce that it is in order to clearly inform stakeholders that companies freely publish their performance report on sustainable development.

At the level of test of the difference of means for both sector of activity and seniority, there is no difference based on the companies level of environmental accounting practices, because the companies at both levels practice only qualitative, non-quantitative disclosure as a result of the legitimacy theory which states that companies must conform to the values or social norms in which it operates and any failure to adhere to this values or social norms can make it difficult for this companies to gain the trust from the community. More to this, based on the sector of activity manufacturing companies do more practice environmental accounting but other sectors do involve less because they follow the legitimacy theory.

Conclusion

The main objective of this study was to examine the environmental accounting practices of companies in Cameroon. More specifically, descriptive analysis was done to examine the various environmental accounting practices. Overall, three environmental accounting practices have emerged in sample companies. The environmental accounting reporting, environmental cost accounting and environmental accounting disclosure. In Cameroon, based on environmental accounting information reporting and environmental cost accounting majority

of the sample report the quantitative environmental information both in object and value but no qualitative environmental information but as regarding environmental accounting disclosure majority of the sample companies disclose only qualitative environmental disclosure information. Also based on the average score of environmental accounting practices in the study it shows that companies report environmental information based on only qualitative, non-qualitative disclosure.

Thus, considering the results obtained, the following points shall be put into application in order to improve environmental accounting in Cameroon. Apart from the local regulatory practices, Companies should extend their corporate planning to include regulatory bodies so as to change social demands in other to increase their stakeholder interest, companies' image and reputation. Moreover, the Cameroonian government should create a legal framework to promote the development of environmental accounting practice of companies in Cameroon, aligned with international standards such as International Financial Reporting Standards (IFRS) and GRI (Global Reporting Initiative).

It is important to note at the end of this study these findings are to be taken with great caution because of sample representativeness related to sampling method (empirical by purposive) and the sample size (very small). Again, this was carried out in a context where there is no efficient financial market.

BIBLIOGRAPHY

- Adegbei, F. F., & Nwobodo, H. (2020). Environmental accounting and reporting practices: significance and issues in Nigeria listed deposit money banks in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 8(10), 1-12.
- Afolabi, A. R., Amosun, O. O., Okunade, S. O., & Agbor, M. N. (2024). Environmental Accounting Disclosures and Financial Performance of Listed Oil and Gas Companies in Nigeria: An Application of Driscoll-Kraay Standard Errors Approach.
- Agyemang, A., Yusheng, K., Kongkuah, M., Musah, A., & Musah, M. (2023). Assessing the impact of environmental accounting disclosure on corporate performance in CHINA. *Environmental Engineering & Management Journal (EEMJ)*, 22(2).
- Al-Mawali, H. (2021). Environmental cost accounting and financial performance: The mediating role of environmental performance. *Accounting*, 7(3), 535-544.
- Ali, Q., Yaseen, M.R., Anwar, S., Makhadmeh, M.S.A. and Khan, M.T.I., (2021). The impact of tourism, renewable energy, and economic growth on ecological footprint and natural resources: A panel data analysis. *Resources Policy*, 74, p.102365.
- Alim, O. U. S. M. A. N. O. U. (2022). Environmental Accounting of Companies in Cameroon: A Lever of Transparency?. *Revue Africaine De Management*, 1(8).
- Akande, O., Emechebe, C., Lembi, J. and Nwokorie, J., (2023). Energy demand reduction for Nigeria housing stock through innovative materials, methods and technologies. *Journal of Sustainable Construction Materials and Technologies*, 8(3), pp.216-232.
- Ahmed, S.F., Mofijur, M., Nuzhat, S., Chowdhury, A.T., Rafa, N., Uddin, M.A., Inayat, A., Mahlia, T.M.I., Ong, H.C., Chia, W.Y. and Show, P.L., (2021). Recent developments in physical, biological, chemical, and hybrid treatment techniques for removing emerging contaminants from wastewater. *Journal of hazardous materials*, 416, p.125912.
- Andrew, J. (2000). Environmental accounting and accountability: can the opaque become transparent? *Interdisciplinary Environmental Review*, 2(2), 201-216.
- Awa, F. N., Larry E. U., & Udu, G. O. C., (2022) "Effect of Environmental Accounting Information Disclosure on Financial Performance of Manufacturing Companies in Nigeria (A Study of Selected Cement Companies in Nigeria)", *International Journal of Humanities and Social Science Invention (IJHSSI)*. 11(4) 66-74.
- Burritt, R. L., & Schaltegger, S. (2010). Sustainability accounting and reporting: Development, linkages and the role of the GRI. *Sustainability Accounting, Management and Policy Journal*, 1(1), 1-22. <https://doi.org/10.1108/20408021011038112>

- Caputo, F., Pizzi, S., Ligorio, L., & Leopizzi, R. (2021). Enhancing environmental information transparency through corporate social responsibility reporting regulation. *Business Strategy and the Environment*, 30(8), 3470-3484.
- Charles Jr, O.H., Schmidheiny, S. and Watts, P., 2017. *Walking the talk: The business case for sustainable development*. Routledge.
- Davis, J., & Hodge, G. (2020). The role of hazardous waste management in achieving sustainability. *Waste Management*, 105, 1-10. <https://doi.org/10.1016/j.wasman.2020.02.012>
- Dhar, S., & Chowdhury, M. A. F. (2021). Impact of environmental accounting reporting practices on financial performance: evidence from banking sector of Bangladesh. *International Journal of Asian Business and Information Management (IJABIM)*, 12(1), 24-42.
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Pacific sociological review*, 18(1), 122-136.
- Dzomonda, O., & Fatoki, O. (2021). Water sustainability and financial performance of firms listed on The Johannesburg Stock Exchange (JSE). *Acta Universitatis Danubius*, 17(3), 24-47. Retrieved from <https://dj.univ-danubius.ro/index.php/AUDOE/article/view/845/1353>.
- Emmanuel, E. (2021). Green accounting reporting and financial performance of manufacturing firms in Nigeria. *American Journal of Humanities and Social Sciences Research*, 5(7), 179-187.
- Freeman, R. E. (1984). *Strategic management : A stakeholder approach*. Boston : Pitman.
- García-Sánchez, I. M., Rodríguez-Domínguez, L., & Frías-Aceituno, J. V. (2021). The role of sustainability reporting in the context of corporate governance. *Journal of Business Ethics*, 168(4), 1-20. <https://doi.org/10.1007/s10551-019-04263-3>
- Gendron, B., (2004). Why emotional capital matters in education and in labour? Toward an optimal exploitation of human capital and knowledge management.
- Initiative, G. R. (2016). GRI standards. *Amsterdam*. Available online: <https://www.globalreporting.org/standards> Accessed March, 30, 2017.
- Gray, R. H., & Bebbington, J. (2001). Accounting for the Environment.
- Gündüz, M., & Gündüz, M. (2025). Environmental Accounting Disclosures and Financial Performance: Evidence from the Banking Sector. *Sustainability*, 17(8), 3569.

- Hahn, T., Kuhnen, M. (2013). What is the role of sustainability reporting in corporate governance? **Journal of Business Ethics**, 116(2), 293-307.
- Hanh, H. T., Chuyen, B. M., Huy, D. T. N., Phuong, N. T. T., Phuong, H. T. L., & Nuong, L. N. (2020). Challenges and Opportunities from impacts of FDI and Income ON Environment Pollution: ROLE of Financial Accounting Transparency in FDI Firms. *Journal of Security & Sustainability Issues*, 10(2).
- Hilmi, Y. (2023). Comptabilité générale: Exercices corrigés avec rappels de cours. Agence Francophone.
- HILMI, Y., ZOUINE, A., & FATINE, F. E. (2020). La mise en place d'un manuel de procédure d'application des IAS/IFRS, comme outil du contrôle interne. *International Journal of Management Sciences*, 3(2).
- Hörisch, J., Schaltegger, S., & Freeman, R. E. (2020). Integrating stakeholder theory and sustainability accounting: A conceptual synthesis. *Journal of Cleaner Production*, 275, 124097.
- Ibrahim, R., Ibrahim, Y. K., & Hussain, M. S. (2023). Environmental Reporting and Financial Performance of Listed Industrial and Consumer Goods Firms in Nigeria. *FUDMA Journal of Accounting and Finance Research [FUJAFR]*, 1(2), 123-140.
- International Energy Agency. (2021). World Energy Outlook 2021. <https://www.iea.org/reports/world-energy-outlook-2021>
- Kihamba, R. I. (2017). *The Relationship Between Environmental Accounting and Reporting Practices and Profitability of Manufacturing Firms Listed on the Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).
- Kongkuah, M., Yao, H., Fongjong, B. B., & Agyemang, A. O. (2021). The role of CO 2 emissions and economic growth in energy consumption: empirical evidence from Belt and Road and OECD countries. *Environmental Science and Pollution Research*, 28, 22488-22509.
- Kumar, A., & Singh, R. (2021). Waste management practices in India: A review. *Waste Management & Research*, 39(1), 1-12. <https://doi.org/10.1177/0734242X20985983>
- Major, I., & Nwdighoha, L. E. (2023). Environmental accounting cost and financial performance of listed natural resource firms in Nigeria. *BW Academic Journal*, 17-17.
- Managi, S. (Ed.). (2015). *The Routledge handbook of environmental economics in Asia*. New York: Routledge.

- Mousa, G., & Hassan, N. T. (2015). Legitimacy theory and environmental practices: Short notes. *International Journal of Business and Statistical Analysis*, 2(01).
- Muffee, V. W. (2021). The effects of environmental accounting on corporate performance (an empirical study of some companies in MAGZI Ombe). *International Journal of Economics, Commerce and Management*, 9(10), 163-199.
- Nestor, D.V. and Pasurka, C.A., (1995). *US environmental protection industry: A proposed framework for assessment* (No. PB-96-134309/XAB; EPA-230/R-95/011). Environmental Protection Agency, Washington, DC (United States). Office of Policy, Planning and Evaluation.
- Ngbomowa, J. M., (2023) Environmental Cost Accounting and Profitability of Publicly Traded Consumer Goods Companies in Nigeria. *International Journal of Academic Accounting, Finance & Management Research*, 7(10), 20-28. www.ijeais.org/ijaafmr.
- Nguyen, L., & Tran, M. (2019). Disclosure levels of environmental accounting information and financial performance: The case of Vietnam. *Management Science Letters*, 9(4), 557-570.
- Nugraha, A. A., Putra, S. S., Muhammad, R. N., Bukhori, E. P., Al-Gholy, A., & Junaedi, R. (2024). Environmental Accounting Disclosure on Firm Value (Study of Manufacturing Companies Listed on The Indonesian Stock Exchange 2017-2020). *Management Science Research Journal*, 3(3), 61-79.
- Rakiv, M., Islam, F., & Rahman, R. (2016). Environmental accounting reporting disclosure and company profitability: A Case Study on Listed Manufacturing Companies of Bangladesh. *International Journal of Ethics in Social Sciences*, 4(2), 21-30.
- Sari, R., & Muslim, M. (2024). Corporate Transparency and Environmental Reporting: Trends and Benefits. *Amkop Management Accounting Review (AMAR)*, 4(1), 1-18.
- Shiyghan, N. C., Mukah, S. T., & Vukenkeng, A. W. (2024). Environmental Cost Accounting and Return on Assets of Manufacturing Firms in Douala. *Open Journal of Accounting*, 13(4), 125-143.
- Obiora, F., Onuora, J. K., & Sandra, E. C. (2022). An Assessment of the impact of environmental accounting disclosure on profitability of firm in Nigeria. *International Journal of Innovative Finance and Economics Research*, 10(1), 92-103.
- O'Connor, L. (2006). Empirical research in social and environmental accounting: a metareview. *Sloan Management Review*, 1, 1-20.

OECD. (2020). Waste Management and Circular Economy.

<https://www.oecd.org/environment/waste-management-and-circular-economy.htm>

Okafor, T. G. (2018). Environmental costs accounting and reporting on firm financial performance: A survey of quoted Nigerian oil companies. *International Journal of Finance and Accounting*, 7(1), 1-6.

Osemene, O. F., Adinnu, P., Fagbemi, T. O., & Olowookere, J. K. (2024). Corporate governance and environmental accounting reporting in selected quoted African companies. *Global Business Review*, 25(4), 1096-1119.

UNESCO. (2021). Education for Sustainable Development. Retrieved from <https://en.unesco.org/themes/education-sustainable-development>

Weng, H. H., Chen, J. S., & Chen, P. C. (2015). Effects of green innovation on environmental and corporate performance: A stakeholder perspective. *Sustainability*, 7(5), 4997-5026.

World Bank. (2021). Waste Management Overview. Retrieved from <https://www.worldbank.org/en/topic/wastemanagement/overview>

World Health Organization. (2021). Water Supply and Sanitation. Retrieved from https://www.who.int/water_sanitation_health

Yassine, H. I. L. M. I., Zahra, H. A. J. R. I. O. U. I., & Hamza, E. K. (2024). Systematic review of IPSAS standards: The introduction of IPSAS in public establishments. *Edelweiss Applied Science and Technology*, 8(5), 292-306.

Zhang, Y., Wang, Y., & Liu, J. (2020). Recycling and recovery initiatives in urban areas: A case study. *Resources, Conservation and Recycling*, 161, 104918. <https://doi.org/10.1016/j.resconrec.2020.104918>.