

DIMENSION IN ENVIROMENTAL DISCLOSURE RESEARCH: REVIEW OF CURRENT DEVELOPOMENT.

Yahaya Umar Usman

Department of Accounting and Finance Abubakar Tafawa Balewa University, Bauchi.
uyumar@atbu.edu.ng, yahayauu02@gmail.com

&

Adamu Musa Zakari

Department of Accounting and Taxation Al-Istiqama University, Sumaila.
amzi201025@gmail.com

Abstract

This study adopts archival research design to examines contemporary dimension in corporate environmental disclosure research. The study systematically reviews existing literature from database of Elsevier, JSTOR. Emerald and Research Gate, sample of 45 current articles publish in last five years were selected from 115 articles. The study reveals that there is a steady rise in publications in the topic under consideration, and most academic work in this area consider voluntary disclosure and there is an increase consideration on mandatory disclosure and most environmental disclosure studies uses GRI guideline and Bloomberg disclosure, additionally, most studies consider environmental disclosure with social and governance reporting know as an acronym of ESG. Recent environmental disclosure studies used weighted method to analyses disclosure checklist rather than unweighted method and many theories like ecological modernization theory, isomorphism theory, theory of Social License to Operate etc. additional to widely used stakeholder and legitimacy theory.

Keywords: *Archival Research, Environmental Disclosure, Current Development*

Introduction

The Accounting profession witnesses the growth of environmental issues in financial reporting, environmental accounting and environmental disclosure became an issue of concern in today's corporate annual report. Environmental disclosures become an integral part of company's annual report. Corporate reporting is a comprehensive report on an entity's operation throughout the preceding accounting year widely known as Annual reports. The reports are intended to give stakeholders information about the entity's activities and financial performance.

In addition to the audited financial statements, annual reports contain a great deal of extra information. This information might be numerical, narrative, financial or non-financial. Many significances information is provided in narrative form. There is a view that submits that narrative reports can be much easier to understand than financial statements particularly to non-accountants (ICAN, 2021). The extra information provided may be provided on a mandatory or voluntary basis. Disclosures may be a mandatory requirement of the law or other regulations, or they may be

provided as voluntary disclosures by a company. In practice, the disclosures by a company are likely to be a mixture of mandatory and voluntary disclosures (ICAN 2021, Usman 2019).

Annual reports are widely used as a means for sustaining stakeholder relationships. Therefore, annual reports are regarded as a tool for companies to express their views on many issues. Ideally the best mode to communicate messages related to company's operation is annual report. Hence, companies used the reports to send messages to stakeholders on any issue concerning the company and stakeholder this include environmental issues. The aim is to influence stakeholders' perceptions pertaining the reporting entity. Many Companies integrate environmental disclosures into their annual reports, while some publish separate sustainability reports (Miklosik and Evans, 2021, Plotnikova, et al 2020). Corporate entities report environmental issues differently some entities disclose specific environmental issues like carbon disclosure, green innovation, water disclosure, climate change etc. while some reported environmental issues generally. Environmental disclosure depends on market in which an entity operates because reported either on voluntary or mandatory basis.

Shoeb et al, (2022) posit that there are two types of environmental disclosure now in use: voluntary and compulsory and majority entities are reporting environmental issues on voluntarily basis, firms engage in voluntary environmental disclosure in

respect to pressures from stakeholders to validate their survival and growth. Environmental Disclosure has become an increasingly preferred subject for organizations such as the United Nation Department on Sustainable Advancement (UNSD), Association of Certified Chartered Accounts (ACCA), Institute for Chartered Accountants of England and Wales (ICAEW), Canadian Institute of Chartered Accountants (CICA), and International Federation of Accountants (IFAC), among other international organization and capital markets that has released numerous standards, rules and regulations.

Environmental disclosure is the set of information that relate to a firm's environmental activities and performance, as well as the associated financial implications. Environmental disclosure provides additional non-financial information to the market and thus reduces the information gap between companies and capital market participants (e.g., stakeholders, investors, government). In this way, companies can manage their public image and reputation by publishing positive ESG information (Mengtao et al, 2023).

In view of that, environmental disclosure has expanded significantly around the world in recent years. National governments, international institutions, academics, and civil society have called for greater information, not only to inform policymakers but also to enable stakeholder to know the environmental impacts of industry and economic development The

aim is to push companies into disclosing their environmental information by placing them under pressures from governments, markets, and civil society (Wang & Burnell 2013)

The disclosure of environmental information around the world attracted attentions as developed countries started earlier and achieved good results in this field while developing countries lagged relatively, over 60 countries and regions around the world have established their own government information disclosure systems (Li et al, 2021). With this development, the attention of academic researchers from Accounting, management, finance, and economic disciplines have focused on the environmental disclosure. Meanwhile, accounting academics have concentrated on the adequacy of environmental disclosure in financial reporting and its value relevance to investors and what factors determine environmental disclosure (Al-Tuwaijri, et al, 2004).

According to Haleem et al, (2021) Studies on environmental disclosures are gaining great consideration from researchers around the world due to the significance of practicing and publishing environmental information. Those studies explain that environmental performance has the ability to improve stakeholders' satisfaction, improves the brand reputation of an entity and also improves the market value, and reducing the cost of capital. Companies with a higher history of positive environmental performance had very little risk for bankruptcy than companies with lower

environmental performance. Firms with environmental disclosure are more likely to raise significantly greater sums of equity capital than firms that do not disclose information (Husted & Sousa-Filho, 2019)

Studies investigate the level of environmental disclosures, which varied across countries and industries. Researchers attempt to develop different theories to examine environmental disclosure from different viewpoints with advancements in this research area. Researches show that environmental disclosure would be affected by firm characteristics (e.g., Board numbers, CEO, natural disaster, industry type) also Attributes such as transparency, dependability, verifiability, auditability etc. ought to be exist in environmental disclosure (Meng-tao et al, 2023, Shoeb et al, 2022).

According to Khosroshahi et al, (2021) contemporary academic and practice communities in large part because of the collateral effect of industrial development on the environment and the society. Competitive market needs to not only focus on monetary benefits, but also take into consideration the environmental and social aspect of sustainability. Specifically, the consumption pattern around the world over the over the past two decades, governments have also started focusing on environmental disclosure, and several researchers have explored the role of governments. There is a steady rise in publications, and major academic work in the area of environmental accounting and disclosure particularly from Italy, the USA and the UK (Shoeb, et al, 2022)

In line with the foregoing this study investigated the environmental disclosure researches with an emphasis of current development from two distinct perspectives theoretical frameworks and methodological approaches. The study systematically reviews existing literature from database of Elsevier, JSTOR, Emerald and Research Gate, sample of 45 current articles publish in last five years were selected from 115 articles. The study is structured in to five sections as follows Section 2 literature insights on environmental disclosure, section 3 theories about environmental disclosure, section 4 methodological approaches of environmental disclosure and section 5 summary and conclusion.

Literature Review

This section reviews related literatures, only archival research are showed, others are displayed as appendix attached to the study. Bouzzine (2021) examines Stock price reactions to environmental disclosure in an increasing academic interest. The systematic literature review covers 38 stock-based event studies from 1990 to 2020. The study categorizes the extant literature into four subfields: pollution disclosures; environmental violation, legal penalty, and law enforcement disclosures; environmental disaster disclosures and multifaceted disclosures. Findings reveal negative stock price reactions to all environmental pollution events, irrespective of the research sample. The study reviews the frameworks illustrates how researchers mobilize diverse rationales to explain their similar results and also review the rigor of the methods based

on seven established criteria. The study recommended future research to advance insights into this field.

Haleem et al, (2021) investigate Environmental Accounting (EA) and its importance. The research used papers that relating to the EA, which are available in Emerald, Taylor and Francis, and also Oxford journal. Findings depicts that environmental accounting is very useful and significant in controlling entities that are operating in environmentally sensitive industries environmental accounting system provides a significant road map for internal and external auditors in their achievements as well as helps the firms for improving performance.

Shoeb et al, (2022) systematically review literatures using bibliometric analysis technique on the Scopus database over a 30-year period (1991- 2021), using a sample of 190 articles particularly the most relevant journals, influential authors, countries, keywords, academic institutions, most cited papers, and trends aimed at investigating environmental accounting disclosure practices. The results of the study show that environmental disclosure is still at an early stage but is developing at a greater pace. The study reveals that there is a steady rise in publications, and major academic work in the area coming from Italy, the USA and the UK.

Seini et al, (2022) investigate how Non-Financial Disclosure (NFD) connects to sustainable development by conducting an in-depth scient metric analysis to gain insights into evolution, trends, and other

multi-dimensional aspects to map centralities and bursts in non-financial sustainability indicators. The study uses bibliometric data from a pool of 1568 studies from Web of Science published in Social Science Citation Index (SSCI) and Science Citation Index Expanded (SCIE) journals between 1991 and 2021 to identify the prominent research areas in this stream and the pattern of the interrelationship among various disciplines. Findings reveal several novel features of ESG disclosures, such as corporate sustainable performance, environmental performance, environmental disclosures, sustainable supply chains, sustainability indicators, and integrated reporting.

Theoretical Framework

Shoeb et al (2022) posit that majority of environmental accounting literature examines environmental disclosure through the lens of shareholder and legitimacy theory demonstrating that firms engage more in environmental disclosure voluntarily because of societal and market pressure from different stakeholders to validate their survival and growth. Stakeholder theory is an adequate framework to address the study of firms' environmental strategy because these types of firms face stringent pressures from stakeholders, according to stakeholder theory, a company requires its stakeholders' support to ensure its long-term success, because of this companies adjust their activities to balance stakeholders' conflicting interests and demands. Stakeholder theory views environmental disclosure as the primary mechanism used

by companies to communicate their actions in response to stakeholder concerns around different issues, including environmental issues (Grosbois and Fennell, 2022, Delgado-Márquez et al., 2017).

Legitimacy theory provides further insight by expanding stakeholder theory by focusing on the relationship between the organisation and society. It defines legitimacy as a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within the same socially constructed system of norms, values, beliefs and definitions (Suchman, 1995, in Grosbois and Fennell., 2022). It proposes that organisations strategically use corporate disclosure to convey a message to society that they are competent and responsible citizens to gain, maintain or restore legitimacy. If an organisation does not comply with societal expectations and breaches the social contract, a legitimacy gap is created. As a result, sanctions may be imposed on the it, motivating managers to adopt legitimizing strategies, e.g., increased public disclosure of information to close the gap (Deegan, 2019). In line with legitimacy theory by providing sufficient environmental disclosures, the entity hopes to improve its overall public image and ultimately justify its continued existence this is by achieving congruence between their financial objectives and the accepted social norms (Elijido-Ten., 2004)

The above mentioned theories together with other widely used theories like agency theory, signaling theory, political cost theory, disclosure theory, theory of firm, information asymmetric theory, reputations

theory among others are widely used in environmental studies when firm reports environmental information voluntarily. However, when environmental disclosure is mandatory studies also used different theories. In the absence of any mandatory reporting requirement or a particular environmental disaster that would necessitate more environmental disclosure the stakeholder theory is likely to uncover the possible determinants for providing corporate environmental disclosures (Elijido-Ten, 2004).

Grosbois and Fennell., (2022), posits that the institutional environment includes regulative, normative and cognitive structures such as political and legal frameworks, guidelines, accepted norms of behaviour, or general belief systems in society. The resulting institutionalized rules, policies, patterns and programs are products of agents such as the state, professional groups, industry organisations, public opinion, and courts. Through institutional theory, corporate behaviour, environmental disclosure (mandatory), can be explained as an action conducted by organisations to conform to standards, rules, and norms shared in the organisational field to gain institutional legitimacy. According to institutional theory, all companies operate within specific institutional environments or organisational fields, defined as those organisations that, in the aggregate, constitute a recognized area of institutional life (DiMaggio & Powell, 1983 in Grosbois and Fennell., 2022).

Institutional theory can also be with isomorphism theory, according to isomorphism theory, when enterprises try to make their organizational practices (such as environmental disclosure) consistent with the institutionalized norms in specific organizational fields, they show isomorphism. Isomorphism is a process through which organisations develop similar structures and characteristics because they operate under similar conditions. As a result, by promulgating rules within their structures and procedures, organisations within the field become more homogenous over time. Institutional theory proposes that companies that face similar institutional pressures will eventually adopt similar strategies and organisational practices to gain legitimacy (Wang, et al., 2023, Grosbois and Fennell., 2022). Mandatory environmental disclosure studies also go along with many other Miklosik and Evans (2021) in analysing environmental disclosure on how protection of the environment, emissions, carbon footprint, and climate change are addressed in companies' annual reports uses theories like theory of corporate environmental sustainability reporting and theory of Social License to Operate (SLO). Likewise, Feng et al., (2021) uses sustainable development theory, compliance cost theory, dynamic capability theory and ecological modernization theory.

In additions to aforementioned theories other studies uses different theories in analyzing both voluntary and mandatory environmental disclosures theories like theory of greenwashing, game theory, social capital theory, Projection pursuit model,

liability of foreignness in capital markets (CMLOF), contingency theory, structuration theory, impression management theory, Image Theory etc.

Methodology – the case of environmental disclosure

The research on corporate disclosure levels revealed large discrepancies in disclosure levels between enterprises and countries (Demir and Bahadir, 2014; Aljifri et al., 2014). There is no standard that addressed issues of environmental disclosures under the global widely used International Financial Reporting Standard (IFRS), which suggests that if environmental problems are within the range of specific accounting principles, such problems should be managed under appropriate standards (Shoeb et al., 2021). Different researches used different definitions of term under environmental disclosure, some view environmental disclosure to contain financial and non-financial data of an organization environmental issues to stakeholders while some researches

symbolized with the tasks of non-financial aspects of environment.

Most studies in environmental disclosure involve content analysis of environmental information. The analysis involves systemic and objective identification of concept for examination and tallying their presence in the chosen texts (Hyatt, 2012 in Kang and Hahn, 2018). The chosen text also known as disclosure index or checklist depend on the type of environmental disclosure a researcher wants to conduct, the research framework is the mandatory disclosure must be strictly based on the law that the study wants to address unlike studies under voluntarily environmental disclosure.

Disclosure index of voluntary environmental accounting usually depends on the research under questions many environmental studies now are Environmental, Social and Governance (ESG). This study gathers four different check list used in contemporary environmental disclosure research as follows.

Table 1: Most recent use Checklist

SN	Guide
1	Bloomberg disclosure
2	GRI Guidelines
3	Standards/rules
4	Others (self-constructed)

Another issue is scoring the disclosure items, this according to literature can be evaluated in two ways weighted and unweighted. The weighted approach considers all items of information in the

disclosure index have different importance and professional judgment is required to determine the weight. This can lead to a scale of disclosure item, which varies from zero to one. Unweighted approach on the

other hand considers all items in the disclosure index to have an equal important therefore items in the index are score as dichotomous one if the item is score and zero for otherwise. Majority of the contemporary studies go for weighted approach to score the environmental disclosure checklist.

Summary and Conclusion

The contemporary environmental reporting in corporate annual report and accounts has attracted the attention of not only academics but practitioners, professional bodies, and regulators of capital markets. The development of the area in an academic world is an issue of concern; this attracted the attention of this study to investigate the current development in environmental disclosure research. The study begins with gathering articles from web database particularly recent publication in the last five years with the aim of analysing the current theoretical and methodological dimension of contemporary environmental disclosure research.

The main theories that applies to environmental disclosure are actually interrelated, from the stakeholder and legitimacy approach, to the diffusion and adoption of environmental disclosure practices, or other theories like institutional, agency, information asymmetric among others. Many studies demonstrate a preference of many theories, as scholars and academics investigated to develop and adopted many theories in an environmental disclosure research like ecological modernization theory, isomorphism theory, theory of Social License to Operate,

contingency theory, structuration theory etc. The dimension of environmental disclosure stated changing from voluntary to mandatory and from general to specific as some scholars investigates specific environmental issues like water, pollution, carbon to mention few. Current studies usually use GRI guidelines, Bloomberg disclosure or standards and rules pertaining environment as disclosure index rather than self-constructed checklist.

References

- Aljifri, K., Alzarouni, A. and Tahir, M. I. (2014). The Association between firm Characteristics and Corporate Financial Disclosures: evidence from UAE companies. *The International Journal of Business and Finance Research* volume 8 number 2 2014.
- Al-Tuwaijri S. A., Christensen T. E., and Hughes K.E. (2004). The relations among environmental disclosure, environmental performance, and economic performance: a simultaneous equations approach *Accounting, Organizations and Society* 29 (2004) 447–471
- Bouzzine Y. D., (2021). Stock price reactions to environmental pollution events: A systematic literature review of direct and indirect effects and a research agenda *Journal of Cleaner Production* 316 (2021) 128305
- Deegan, C. M. (2019). Legitimacy theory. Despite its enduring popularity and contribution, time is right for a necessary makeover. *Accounting, Auditing & Accountability Journal*, 32(8), 2307–2329.
- Delgado-Márquez B. L., Pedaga L. E., and Córdón-Pozo E. (2017) Industries

- Regulation and Firm Environmental Disclosure: A Stakeholders' Perspective on the Importance of Legitimation and International Activities *Organization & Environment* 2017, Vol. 30(2) 103 – 121
- Demir V. and Bahadir O. (2014). An investigation of compliance with International Financial Reporting Standards by listed companies in Turkey. *Accounting and Management Information Systems* Vol. 13, No. 1, pp. 4–34, 2014
- Elijido-Ten E. (2004). Determinants of Environmental Disclosures in A Developing Country: An Application of the Stakeholder Theory *Fourth Asia Pacific Interdisciplinary Research in Accounting Conference 4 to 6 July 2004 Singapore*
- Feng Y., Wang Y., and Liang Z. (2021). How does environmental information disclosure affect economic development and haze pollution in Chinese cities? The mediating role of green technology innovation *Science of the Total Environment* 775 (2021) 145811
- Grosbois D. d., and Fennell D. A. (2022). Determinants of climate change disclosure practices of global hotel companies: Application of institutional and stakeholder theories *Tourism Management* 88 (2022) 104404
- Haleem A., Abdul Nazar M. C., and Hilal M. I. M. (2021). A Systematic Review on Environmental Accounting *Academy of Entrepreneurship Journal* Volume 27, Special Issue 4, 2021
- Husted B. W., Sousa-Filho J. M. d. (2019). Board structure and environmental, social, and governance disclosure in Latin America *Journal of Business Research* 102 (2019) 220–227
- ICAN (2021) Corporate Reporting Study text Emile wolf publishers London
- Kang S. W., and Hahn S. E. (2018). Environmental Information Disclosure in the Hotel Sector: Global Reporting Initiative Application *Journal of Environmental Assessment Policy and Management* Vol. 19, No. 4 (December 2017) 1750019
- Khosroshahi h., Azad N., Jabbarzadeh A., and Verma M. (2021). Investigating the level and quality of the information in the environmental disclosure report of a corporation considering government intervention *International Journal of Production Economics* 235 (2021) 108071
- Li Y., Zhang X., Yao X., Sake A., Liu X., and Peng N., (2021). The developing trends and driving factors of environmental information disclosure in China *Journal of Environmental Management* 288 (2021) 112386
- Meng-tao C., Da-peng Y., Wei-qi Z., and Qi-jun W. (2023). How does ESG disclosure improve stock liquidity for enterprises — Empirical evidence from China *Environmental Impact Assessment Review* 98 (2023) 106926
- Miklosik A., and Evans N. (2021). Environmental sustainability disclosures in annual reports of mining companies listed on the Australian Stock Exchange (ASX) *Heliyon* 7 (2021) e07505
- Saini N., Singhania M., Hasan M., Yadav M. P., and Zoynul Abedin M. (2022). Non-financial disclosures and sustainable development: A scientometric analysis *Journal of*

- Cleaner Production* 381 (2022) 135173
- Shoeb M., Aslam A., and Aslam A. (2022). Environmental Accounting Disclosure Practices: A Bibliometric and Systematic Review *International Journal of Energy Economics and Policy*, 2022, 12(4), 226-239.
- Plotnikova, V.V., Shilovskaya, M.S., Strubalin, V.P., and Muravleva, V.T., 2020. Connectivity of information between annual and sustainability reports: Russian company's analysis. *Qual. Access Success* 21 (174), 14–21.
- Usman Y. U. (2019). Firm Characteristics and Mandatory Accounting Information Disclosure in the Nigerian Insurance Industry (Unpublished M.Sc. Thesis) Bayero University Kano.
- Wang H., and Bernell D. (2013). Environmental Disclosure in China: An Examination of the Green Securities Policy *Journal of Environment & Development* 22(4) 339–369
- Wang H., Yang G., Ouyang X., and Tan Z. (2023). Does environmental information disclosure promote the supply of environmental public goods? Evidence based on a dynamic spatial panel Durbin model *Environmental Impact Assessment Review* 93 (2022) 106725

Appendix Literature review Table

SN	AUTHOR/YEAR	LOCATION	TITLE	Journal	GUIDED THEORY	DISCLOSURE/REPORTING INDEX
1	Wang et al.,(2023)	China	Environmental Impact Assessment Review	Environmental Impact Assessment Review	isomorphism theory	environmental information disclosure (EID) and environmental public goods (EPG)
2	Liu et al., (2021)	China	Water disclosure and financial reporting quality for social changes: Empirical evidence from China	Technological Forecasting & Social Change	stakeholder theory and signaling theory	water information disclosure index
3	Feng et al., (2021)	China	How does environmental information disclosure affect economic development and haze pollution in Chinese cities? The mediating role of green technology innovation	Science of the Total Environment	sustainable development theory, compliance cost” theory dynamic capability theory ecological modernization theory	environmental information disclosure
4	Meng J. and Zhang Z., (2022)	China	Corporate environmental information disclosure and investor response: Evidence from China's I Market	Energy Economics		environmental information disclosure
5	Husted et al., (2019)	Latin American	Board structure and environmental, social, and governance disclosure in Latin America	Journal of Business Research	Agency theory	ESG Disclosure
6	Meng-tao et al.. (2023)	China	How does ESG disclosure improve stock liquidity for enterprises — Empirical evidence from China	Environmental Impact Assessment Review	signaling theory and reputation theory	ESG disclosure
7	Miklosik A. and Evans N., (2021)	Australian	Environmental sustainability disclosures in annual reports of mining companies listed on the Australian Stock Exchange (ASX)	Heliyon	theory of corporate environmental sustainability reporting theory of Social License to Operate (SLO), stakeholder theory	GRI G3 disclosure checklist
8.	Pei-yi et al (2020)	Worldwide	Greenwashing in environmental, social and governance disclosures	Research in International Business and Finance	theory of greenwashing	Bloomberg ESG disclosure

9	Bu et al., (2022)	China	Does environmental information disclosure improve energy efficiency?	Energy Policy	Porter's theory	Pollution Information Transparency Index
10	Zheng et al., (2020)	China	Configurational analysis of environmental information disclosure: Evidence from China's key pollutant-discharge listed companies	Journal of Environmental Management	Agency theory Information asymmetric theory Stakeholder theory	Environmental information disclosure index
11	Li et al., (2021)	China	The developing trends and driving factors of environmental information disclosure in China	Journal of Environmental Management	Stakeholder Theory voluntary disclosure theory legitimacy theory, Signal theory	Pollution Information Disclosure Index (PITI)
12	Khosroshahi et al., (2021)	Canada	Investigating the level and quality of the information in the environmental disclosure report of a corporation considering government intervention	International Journal of Production Economics	Game theory	environmental disclosure

13	Wang et al.(2023)	China	Green innovation output in the supply chain network with environmental information disclosure: An empirical analysis of Chinese listed firms	International Journal of Production Economics	Social capital theory	Environmental information disclosure index
14	Xie G., Chen L., and Chen X., (2021)	China	The role of short selling threat in corporate environmental disclosure strategies: Evidence from China	Resource and Energy Economics	voluntary disclosure theory	Environmental Disclosure index
15	Luo W., Guo X., Zhong S., and Wang J., (2019)	China	Environmental information disclosure quality, media attention and debt financing costs: Evidence from Chinese heavy polluting listed companies	Journal of Cleaner Production	Signaling Theory	Environmental information disclosure
16	Liu Z., and Liu M., (2021)	China	Quality evaluation of enterprise environmental accounting information disclosure based on projection pursuit model	Journal of Cleaner Production	Projection pursuit model	Environmental information disclosure
17	Bouzzine Y. D., (2021)	Germany	Stock price reactions to environmental pollution events: A systematic literature review of direct and indirect effects and a research agenda	Journal of Cleaner Production		
18	Borralho et al (2022)	Spain and France	Environmental, social and governance disclosure's impacts on earnings management: Family versus non-family firms	Journal of Cleaner Production	Stakeholder theory Agency Theory	Environmental, social and governance (ESG) disclosure
19	Saini et al (2022)	India	Non-financial disclosures and sustainable development: A scientometric analysis	Journal of Cleaner Production		
20	Park et al., (2023)	US and Japan	Revisiting sustainability disclosure theories: Evidence from corporate climate change disclosure in the United States and Japan	Journal of Cleaner Production	Legitimacy theory Voluntary disclosure theory	Climate change disclosure
21	Yu P. E., and Luu B. V., (2021)	International	International variations in ESG disclosure – Do cross-listed companies care more?	International Review of Financial Analysis	liability of foreignness in capital markets (CMLOF)	ESG disclosure
22	Schiemann et al., (2022)	International	ESG Controversies, ESG Disclosure and Analyst Forecast Accuracy	International Review of Financial Analysis	Disclosure theory and legitimacy theory	ESG disclosure score
23	Chang Y., Du X., and Zeng Q.,	China	Does environmental information disclosure mitigate corporate risk? Evidence from China	Accounting and Economics	Information asymmetry	Environmental information disclosure

	(2021)					
24	Papa et al., (2022)	Italy	The impact of the EU nonfinancial information directive on environmental disclosure: evidence from Italian environmentally sensitive industries	Meditari Accountancy Research		environmental disclosure index
25	Purwantini et al(2021)	Indonesia	The Relationship Between Environmental Performance and The Extent of Environmental Disclosure	Humanities & Social Sciences Reviews	Legitimacy theory	Environmental Disclosure Index
26	Fuadah et al (2021)	Indonesia	Environmental Uncertainty and Manager's Personnel Value Effect on Environmental Disclosure	Jurnal Organisasi dan Manajemen	contingency theory and structuration theory.	Environmental disclosures
27	Moshud et al., (2021)	Nigeria	Firm Size and Environmental Disclosure of Quoted Firms in Nigeria	International Journal Of Innovative Research & Development		Environmental Disclosure
28	Al-Waeli et al., (2022)	Iraq	The Impact of Environmental Costs Dimensions on the Financial Performance of Iraqi Industrial Companies with The Role of Environmental Disclosure as A Mediator	Eastern-European Journal of Enterprise Technologies	legitimacy theory	Environmental Disclosure
29	Morales-Raya et al., (2019)	US	To Be or to Seem: The Role of Environmental Practices in Corporate Environmental Reputation	Organization & Environment	impression management theory	Environmental Disclosure.
30	Lopez-De-Silanes et al., (2020)	US, UK, France, Swirtzland , Japan and Australia	ESG Performance and Disclosure: A Cross-Country Analysis	Singapore Journal of Legal Studies	Theory of Firm	Bloomberg ESG disclosure scores and Sustainalytics ESG rankings
31	Kang S. W., and Hahn S. E., (2018)	Australia	Environmental Information Disclosure in the Hotel Sector: Global Reporting Initiative Application	Journal of Environmental Assessment Policy and Management	stakeholder pressure theory, legitimacy theory, institutional theory	Environmental Information Disclosure
32	Alade M. E., & Odugbemi O. M.	Nigeria	Determinants of Environmental Disclosure of Listed Oil and Gas Firms in	International Journal of Innovative	Voluntary disclosure theory	environmental disclosure

	(2021)		Nigeria	Research in Accounting and Sustainability		
33	Acar E., Caliyurt K. T., and Zengin-Karaibrahimoglu Y. (2021)	International	Does ownership type affect environmental disclosure?	International Journal of Climate Change Strategies and Management	legitimacy theory and stakeholder theory	Environmental Disclosure
34	Wahyuningrum et al., (2022)	Indonesia	Environmental disclosure and its determinants	Earth and Environmental Science		Environmental Disclosure
35	Ribeiro et al., (2021)	Brazil	Environmental disclosure level: a firms' proactive or defensive posture?	Journal of Business Management	Image Theory Legitimacy Theory	Bloomberg ESG disclosure
36	Sukirman, et al., (2021)	Indonesia	Environmental disclosure on agricultural and mining sector	Earth and Environmental Science	legitimacy theory and stakeholder theory	GRI G4 Standard index
37	Nuti P. (2021)	Tanzania	The determinants of environmental disclosure practices in the Extractive industry in Tanzania			environmental disclosure
38	Hanić et al., (2021)	Serbia	Environmental disclosure practice in the Serbian banking sector	Journal of Contemporary Management Issues	legitimacy theory	environmental disclosure index
39	Meng et al., (2022)	China	Corporate Environmental Information Disclosure and Investor Response Empirical Evidence from China's Capital Market			environmental disclosure
40	Digdowiseiso et al., (2022)	Indonesia	What Drives Environmental Disclosure? Evidence from Mining Companies Listed on the Indonesia Stock Exchange	International Journal of Energy Economics and Policy	Legitimacy Theory	GRI-G4 disclosure
41	Grosbois et al., (2022)	International	Determinants of climate change disclosure practices of global hotel companies: Application of institutional and stakeholder theories	Tourism Management	institutional, stakeholder and legitimacy theories	GRI
42	Shoeb et al., (2022)	Archival research	Environmental Accounting Disclosure Practices: A Bibliometric and Systematic Review	International Journal of Energy Economics and Policy		

43	Haleem et al., (2021)	Archival research	A systematic review on environmental Accounting	Academy of Entrepreneurship Journal		
44	Saini et al., (2022).	Archival research	Non-financial disclosures and sustainable development: A scientometric analysis	Journal of Cleaner Production 381 (2022) 135173		
45	Ismail et al., (2021).	France	The impact of international sustainability initiatives on Life Cycle Assessment voluntary disclosures: The case of France's CAC40 listed Companies	Journal of Cleaner Production	legitimacy theory,	GRI