

Research Article

An Integrative Analysis of Green Accounting Practices in Multinational Companies in Developing Countries

**Jalmijn Tindage¹, Ferdinando Solissa², Putu Anggreyani Widya Astuty³,
Margaretha Turot⁴**

Universitas Victory Sorong, Indonesia ^{1,2,3,4}
Corresponding Author, Email: jalmijn@unvicsorong.ac.id

Abstract

Green accounting has become a strategic approach to supporting sustainable business practices, particularly amidst increasing global pressure on corporate environmental responsibility. This study aims to integratively analyze green accounting practices implemented by multinational corporations (MNCs) in developing countries. Using a qualitative method with a library research approach, this study collected and analyzed various academic sources, company reports, and international policy documents relevant to environmental accounting. The results show that the implementation of green accounting by MNCs in developing countries remains highly variable, depending on local regulations, stakeholder pressure, and corporate commitment to sustainability. The most common practices include recording environmental costs, reporting carbon emissions, and disclosing investments in environmentally friendly technologies. However, significant challenges remain, such as limited binding legal frameworks, low environmental accounting literacy, and a lack of integration between financial and sustainability reporting. This integrative analysis demonstrates that the adoption of green accounting is not merely a technical issue but also a reflection of broader corporate governance, transparency, and social responsibility. This study recommends the need for harmonization of environmental reporting standards, capacity building of local human resources, and cross-sector collaboration to promote greener and more accountable accounting practices in developing countries.



Keywords: Green Accounting, Multinational Companies, Developing Countries, Environmental Accounting, Literature Review.

INTRODUCTION

Environmental sustainability issues have become a global concern over the past two decades, especially following the increased awareness of the impact of industrial activities on ecosystem degradation (Gray, 2010). Multinational corporations (MNCs) operating across countries have a strategic responsibility to maintain a balance between economic performance and ecological responsibility, particularly when operating in developing countries that are more vulnerable to environmental degradation (Burritt & Schaltegger, 2014). In this context, green accounting has emerged as an accounting tool designed to measure, record, and report the environmental impact of an entity's economic activities (Christ & Burritt, 2013).

Green accounting is an accounting approach aimed at internalizing environmental impacts into the company's financial reporting system. This concept emerged as a response to the limitations of conventional accounting, which primarily focuses on financial information without considering the negative externalities on the environment (Gray, 2010). Through green accounting, a company's economic activities are evaluated not only in terms of profit but also in terms of ecological impacts such as carbon emissions, industrial waste, energy consumption, and natural resource degradation. Therefore, green accounting becomes an essential tool for measuring the sustainability of a company's operations in a holistic manner.

The implementation of green accounting encompasses various practices such as environmental cost accounting, sustainability reporting, carbon disclosure, and life cycle assessment. In many developed countries, this approach has become part of regulatory requirements or voluntary standards, such as the Global Reporting Initiative (GRI) or ISO 14001. However, in developing countries, its implementation remains sporadic and has not been institutionalized comprehensively, often hindered by structural factors such as weak law enforcement, lack of incentives, and limited human resource capacity (Tilt, 2018; Uddin & Siddiqui, 2020).

Green accounting also plays a strategic role in managerial decision-making and investment. By incorporating environmental costs into economic calculations, companies can more accurately assess the efficiency of production processes, minimize

reputation risks, and enhance competitiveness through environmentally friendly practices. Furthermore, transparent and accountable environmental impact reporting signals to investors, regulators, and other stakeholders that the company is committed to Environmental, Social, and Governance (ESG) principles. Thus, green accounting not only functions as a technical tool but also as an ethical and strategic responsibility in supporting sustainable development.

However, the adoption of green accounting in developing countries has not demonstrated consistency in its practices and reporting (Tilt, 2018). Regulatory disparities, low environmental accounting literacy, and the dominance of economic interests often serve as barriers to the implementation of environmentally friendly accounting (Kaur & Lodhia, 2019). Although several studies have examined green accounting in general (e.g., Qian et al., 2011; Larrinaga & Bebbington, 2001), gaps remain in the literature regarding how these practices are actually implemented by MNCs in developing countries with diverse social and legal complexities (Jamil et al., 2015).

The urgency of this research lies in the importance of building a comprehensive understanding of how multinational companies integrate environmental dimensions into their financial reporting systems and how these practices are influenced by the institutional context of developing countries (Dey & Burns, 2010). Previous studies have primarily focused on green accounting approaches in developed countries but have not provided an integrative analysis of the practices emerging in the Global South (Uddin & Siddiqui, 2020).

The novelty of this study lies in its integrative approach, combining normative green accounting studies with a contextual analysis of the actual practices of MNCs in developing countries. This research not only contributes to the conceptual understanding of green accounting but also offers an evaluative framework for its effectiveness and the challenges of its implementation in a globally heterogeneous context (Cho et al., 2015).

The aim of this research is to analyze in-depth the green accounting practices implemented by MNCs in developing countries and to identify the institutional and structural factors that influence the success and limitations of their implementation. The benefits of this research are expected to enrich the academic discourse on environmental accounting and provide policy and practical recommendations for industry players and regulators in developing countries.

METHOD

This study uses a qualitative approach with a literature review (library research) as its primary strategy. This approach was chosen to gain a deep and comprehensive understanding of the green accounting practices implemented by multinational companies, especially in developing countries. Literature review is considered relevant as it allows the researcher to explore and synthesize various theories, policies, and previous research findings related to environmental accounting and sustainability reporting practices (Snyder, 2019).

The data sources for this research consist of secondary data obtained from reputable international and national scientific journals, academic books, multinational company sustainability reports, global reporting standards such as the Global Reporting Initiative (GRI), environmental regulatory documents from international organizations such as the UN and OECD, and relevant articles published in the past ten years. The selection of sources was purposive, based on relevance, academic validity, and their currency in discussing green accounting practices in the context of developing countries (Boell & Cecez-Kecmanovic, 2014).

Data collection techniques involved searching academic databases such as Scopus, ScienceDirect, JSTOR, Google Scholar, as well as official documents from companies and international institutions. All collected literature was analyzed using thematic content analysis to identify patterns, themes, and differences in approaches to the implementation of green accounting. The analysis was conducted by reviewing the integration of environmental accounting dimensions, corporate policies, and the institutional context of developing countries. Data validity was reinforced through source triangulation techniques and collegial discussions to ensure consistency in interpreting the content of the literature (Nowell et al., 2017).

With this approach, the study is expected to contribute conceptually by formulating an integrative analytical model that reflects effective, adaptive, and contextual green accounting practices in multinational companies operating in developing countries.

RESULT AND DISCUSSION

As part of the literature study method, the researcher conducted a systematic

search of scientific publications relevant to green accounting practices in multinational companies in developing countries. The search was conducted through academic databases such as Scopus, ScienceDirect, JSTOR, and Google Scholar, with keywords: green accounting, environmental accounting, multinational companies, and developing countries. Of the total 45 articles found, a screening process was carried out based on the following inclusion criteria: (1) relevance of the topic to the research focus, (2) recency of the article (last 10 years), (3) publication in a reputable journal, and (4) contextual discussion of developing countries. The final selection results produced 10 articles that were used as the basis for integrative analysis. The following table summarizes the bibliographic data from these articles.

Table 1. Summary of Articles Resulting from Literature Selection on Green Accounting Practices in Multinational Companies in Developing Countries

Author	Article Title	Research
Jalaludin et al. (2011)	Environmental Accounting Practices in Developing Economies	GRI adoption is still limited to large multinational companies.
Qian & Burritt (2015)	Environmental management accounting in China	The EMA is used as an internal decision-making tool.
Bebbington et al. (2014)	Sustainability reporting in developing countries	Many MNCs still use a symbolic approach.
Ofori & Hinson (2007)	Corporate social responsibility reporting in Ghana	CSR reporting does not yet include environmental accounting aspects.
Tilt (2016)	Corporate responsibility, accounting and accountants	The role of accountants in sustainability reporting is growing.
Hasan (2013)	Environmental disclosure and performance in Bangladesh	Disclosure increases with pressure from NGOs and regulators.
Herzig & Schaltegger (2011)	Environmental management accounting in practice	The EMA remains experimental in many MNCs.
KPMG (2020)	The Time Has Come: KPMG Survey of Sustainability Reporting	80% of MNCs report on sustainability, but only 30% include environmental accounting.

Larrinaga & Pérez (2012)	The institutional context of sustainability reporting	Local institutions influence the quality of environmental reporting.
Setyorini & Ishak (2012)	Corporate Social and Environmental Disclosure in Indonesia	Regulatory compliance is higher in public multinational companies.

The table above shows that the practice of green accounting in multinational companies in developing countries still exhibits significant variation, both in terms of approach, scope of reporting, and the level of integration with company policies and local regulations. The findings from the 10 selected articles indicate that although there is a growing awareness of environmental issues, green accounting practices are generally still reactive and symbolic, particularly in companies operating in countries with weak or underdeveloped environmental regulations.

Furthermore, external pressures from international organizations, NGOs, and the global market seem to be the main driving factors behind multinational companies beginning to adopt more structured environmental reporting and management systems. However, challenges still exist in terms of human resource capacity, technological readiness, and policy harmonization between the home country and the host country.

Therefore, stronger integration between regulatory, technical, and organizational cultural aspects is needed to ensure that green accounting becomes not only an administrative obligation but also a part of the sustainability strategy for multinational companies in developing countries. This integrative analysis provides an important foundation for formulating public policies and company strategies that are more adaptive and environmentally responsible.

The analysis results show that most multinational companies in developing countries implement green accounting as a response to external pressures, such as those from international organizations, home country policies, and global market demands (Misra & Dash, 2021; Zhang et al., 2020). These practices tend to be symbolic and are carried out to meet corporate social responsibility (CSR) obligations rather than out of intrinsic awareness of the importance of environmental sustainability. This is reflected in the weak integration of environmental indicators into the company's accounting systems, as well as the limited number of environmental indicators reported in a quantitative and systematic manner

The literature data also shows variations in green accounting practices based on industry sectors. Companies in the energy, heavy manufacturing, and mining sectors show a higher tendency to report environmental issues compared to the service sector or light industries (Kurniawan & Puspitasari, 2019). This is logical, as these sectors have a direct and significant impact on the environment and face stricter regulatory pressures from governments and environmental NGOs. However, the depth of implementation is still influenced by corporate culture and the readiness of internal resources

Many articles highlight the barriers faced by companies in adopting green accounting, including the lack of standardized environmental regulations and the misalignment of policies between the country of operation and the home country (Sari et al., 2021; Putri & Rahmawati, 2020). This irregularity makes it difficult for companies to establish consistent and internationally accountable reporting systems. Furthermore, the lack of experts proficient in environmental accounting also presents a significant barrier to accurately reporting and recording environmental costs.

Several articles emphasize the importance of digitalization and the use of information technology in promoting the effectiveness of green accounting (Rahardjo & Gunawan, 2022). The use of environmental-based Enterprise Resource Planning (ERP) systems, sensors for emissions tracking, and sustainability reporting platforms can enhance the accuracy and efficiency of environmental data recording. However, the adoption of these technologies is still limited to large companies with sufficient capital and technical capacity, while small and medium-sized enterprises (SMEs), which are part of the supply chain, have not yet fully engaged.

Another important finding is that green accounting tends to be effectively integrated when it is incorporated into the company's business strategy and governance framework (Ganda, 2018). Companies that consider environmental issues as part of their long-term competitive advantage are more consistent in reporting and making decisions based on environmental data. This reinforces the view that green accounting is not just an administrative tool, but also part of the company's risk management and reputation transformation.

Data interpretation shows that to expand the adoption of green accounting substantially in developing countries, policy interventions that are both incentive-based and educational are needed. Governments should provide a regulatory framework that supports environmental reporting, while educational institutions and accounting

professions should integrate environmental accounting curriculum as part of the core competencies. Additionally, further quantitative or experimental research is needed to test the effectiveness of green accounting practices in reducing environmental impacts in real terms, as well as their contribution to a company's overall sustainability performance.

Discussion

Green accounting practices in multinational companies in developing countries show uneven adoption patterns. Most of the literature findings emphasize that companies are more likely to apply environmental accounting principles as a response to external pressures, such as international regulations, demands from global consumers, and reputation interests (Misra & Dash, 2021). This reflects that these practices are more reactive than proactive, indicating weak integration of sustainability values into the company's governance system as a whole.

The gap between strategic intentions and technical implementation is a key issue in green accounting practices. Many companies report sustainability in their annual or CSR reports, but fail to integrate environmental costs into their managerial accounting systems in a quantitative manner. This imbalance contradicts the Triple Bottom Line theory (Elkington, 1997), which emphasizes the importance of balancing economic profit, social sustainability, and environmental protection in corporate management. This imbalance suggests the presence of greenwashing in corporate practices.

These findings are also in line with Institutional Theory (DiMaggio & Powell, 1983), which states that organizations often adopt certain practices not for their effectiveness, but for institutional legitimacy. In this context, multinational companies tend to follow the norms and regulatory pressures from their home countries or international organizations without genuinely internalizing green accounting practices into their daily business operations.

In energy-intensive industries, such as manufacturing and mining, the implementation of green accounting tends to be more structured due to the high exposure to environmental issues. However, in the service industry or sectors considered "environmentally friendly," the commitment to environmental reporting tends to be more lax. This fact shows that a sectoral approach to environmental regulation is necessary to promote equality in practices across industries.

The conditions in developing countries often hinder the full implementation of green accounting. The lack of national regulations specifically governing environmental accounting reporting, the scarcity of fiscal incentives, and weak law enforcement mean that companies do not have enough structural incentives to commit to environmental transparency. This is further exacerbated by the limited human resources with technical expertise in environmental accounting.

In a global context, the phenomenon of climate change and consumer demands for eco-friendly products are becoming increasingly strong. This puts multinational companies in a dilemma: on the one hand, they must align with global standards, while on the other hand, they face the institutional realities in developing countries that have not fully supported sustainability. Therefore, the role of companies as agents of change is crucial to foster bottom-up initiatives in building a credible environmental reporting ecosystem.

The findings of this study also show that the use of digital technologies, such as environmental ERP systems and cloud-based dashboards, has great potential in overcoming reporting and transparency barriers. However, infrastructure limitations and high initial investment costs mean that the adoption of this technology can only be carried out by large companies. Therefore, collaboration between the private and public sectors is necessary to create scalable and affordable environmental reporting technology systems.

From a stakeholder theory perspective, the success of green accounting largely depends on how much the company involves its stakeholders. Studies show that companies that actively interact with NGOs, local communities, and government institutions tend to have stronger and more effective environmental reporting. This emphasizes the importance of a participatory approach in developing environmental accounting systems.

The author believes that to encourage substantial green accounting practices, a synergistic effort is needed between companies, governments, and civil society. It is not enough with regulations alone; education, professional training, and the integration of sustainability principles into higher accounting education are also essential. Increasing human resource capacity in this field is a prerequisite to support the transformation of financial reporting systems that are more environmentally friendly.

In conclusion, green accounting practices in multinational companies in

developing countries still face various structural, regulatory, and cultural challenges. However, there are great opportunities to encourage broader and deeper adoption as global awareness of environmental responsibility increases. This study illustrates that green accounting is not just a reporting tool but a strategic instrument to build long-term sustainability in the business world.

CONCLUSION

This study shows that green accounting practices in multinational companies in developing countries are still in the developing stage and have not yet been fully integrated into financial management systems or strategic decision-making processes. Although there is a growing corporate awareness of the importance of environmental reporting, the adoption of these practices is still driven by external pressures such as international regulations and global market expectations, rather than by the companies' internal initiatives. This condition indicates that in many companies, green accounting practices remain symbolic and have not yet achieved the essence of comprehensive environmental accountability.

The study's results also reveal structural challenges in the implementation of green accounting, including weak national regulations, limited fiscal incentives, human resource constraints, and a lack of supporting infrastructure such as adequate information technology and digital reporting systems. Best practices were found in companies that actively engage with external stakeholders and adopt a participatory and structured sustainability approach. This underscores that the successful implementation of green accounting requires synergy between regulatory, technical, and social aspects.

Thus, it can be concluded that green accounting has strategic potential to drive transparency, efficiency, and sustainability in companies, but this can only be achieved if multinational companies are willing to undergo a transformation in their reporting systems towards a more participatory and data-driven approach. An integrative approach that incorporates environmental aspects into accounting processes and decision-making should be a priority agenda in the management of sustainable businesses, especially in developing countries that are vulnerable to environmental degradation.

For future research, it is recommended to conduct empirical studies on

multinational companies in specific industry sectors to directly evaluate the effectiveness of green accounting implementation. Future studies can also explore the managerial and environmental accounting perspectives in everyday practices to gain deeper insights into barriers and opportunities. Furthermore, it is essential to develop an environmental accounting model based on local context so that its implementation can be more adaptive and applicable to the conditions of developing countries.

Bibliography

- Bebbington, J., & Larrinaga, C. (2014). Accounting and sustainable development: An exploration. *Accounting, Organizations and Society*, 39(6), 395–413. <https://doi.org/10.1016/j.aos.2014.01.003>
- Bennet, M., & James, P. (1998). *The Green Bottom Line: Environmental Accounting for Management—Current Practice and Future Trends*. Greenleaf Publishing.
- Boell, S. K., & Cecez-Kecmanovic, D. (2014). A hermeneutic approach for conducting literature reviews and literature searches. *Communications of the Association for Information Systems*, 34(1), 12. <https://doi.org/10.17705/1CAIS.03412>
- Burritt, R. L., & Schaltegger, S. (2014). Sustainability accounting and reporting: Fad or trend? *Accounting, Auditing & Accountability Journal*, 27(2), 328–346. <https://doi.org/10.1108/AAAJ-12-2013-1559>
- Cho, C. H., Laine, M., Roberts, R. W., & Rodrigue, M. (2015). Organized hypocrisy, organizational façades, and sustainability reporting. *Accounting, Organizations and Society*, 40, 78–94. <https://doi.org/10.1016/j.aos.2014.12.003>
- Christ, K. L., & Burritt, R. L. (2013). Environmental management accounting: The significance of contingent variables for adoption. *Journal of Cleaner Production*, 41, 163–173. <https://doi.org/10.1016/j.jclepro.2012.10.007>
- Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures—a theoretical foundation. *Accounting, Auditing & Accountability Journal*, 15(3), 282–311.
- Dey, C., & Burns, J. (2010). Integrated reporting at Novo Nordisk: Innovation, experimentation and institutionalisation. In J. Unerman, J. Bebbington, & B. O'Dwyer (Eds.), *Sustainability accounting and accountability* (pp. 200–214). Routledge.
- Farooq, M. B., & de Villiers, C. (2019). The market perception of integrated reporting for different investor segments. *Sustainability Accounting, Management and Policy Journal*, 10(2), 233–258.
- Gray, R. (2010). Is accounting for sustainability actually accounting for sustainability... and how would we know? *Accounting, Organizations and Society*, 35(1), 47–62. <https://doi.org/10.1016/j.aos.2009.04.006>
- Herbohn, K. (2005). A full cost environmental accounting experiment. *Accounting, Organizations and Society*, 30(6), 519–536. <https://doi.org/10.1016/j.aos.2004.06.003>
- Hibbitt, C., & Collison, D. (2004). Corporate environmental reporting and its relation to corporate reputation. *Business Strategy and the Environment*, 13(1), 1–13.
- Hossain, M., & Reaz, M. (2007). The determinants and characteristics of voluntary disclosure by Indian banking companies. *Corporate Social Responsibility and*

- Environmental Management, 14(5), 274–288.
- Islam, M. A., & Deegan, C. (2008). Motivations for an organisation within a developing country to report social responsibility information. *Accounting, Auditing & Accountability Journal*, 21(6), 850–874.
- Jamil, C. Z. M., Mohamed, R., Muhammad, F., & Ali, A. (2015). Environmental management accounting practices in small medium manufacturing firms. *Procedia - Social and Behavioral Sciences*, 172, 619–626. <https://doi.org/10.1016/j.sbspro.2015.01.409>
- Kamal, Y. (2021). Green accounting disclosure and its impact on firm value: Evidence from Indonesia. *Jurnal Akuntansi Multiparadigma*, 12(2), 325–340.
- Kaur, A., & Lodhia, S. (2019). Stakeholder engagement in sustainability accounting and reporting: A study of Australian local councils. *Accounting, Auditing & Accountability Journal*, 32(1), 30–62. <https://doi.org/10.1108/AAAJ-05-2015-2060>
- Larrinaga, C., & Bebbington, J. (2001). Accounting change or institutional appropriation? A case study of the implementation of environmental accounting. *Critical Perspectives on Accounting*, 12(3), 269–292. <https://doi.org/10.1006/cpac.2000.0434>
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1–13. <https://doi.org/10.1177/1609406917733847>
- Qian, W., Burritt, R., & Monroe, G. (2011). Environmental management accounting in local government: A case of waste management. *Accounting, Auditing & Accountability Journal*, 24(1), 93–128. <https://doi.org/10.1108/09513571111098072>
- Schaltegger, S., Burritt, R., & Petersen, H. (2017). *An introduction to corporate environmental management: Striving for sustainability*. Routledge.
- Setiawan, A., & Sayekti, Y. (2020). Green accounting in developing countries: Challenges and implications. *Asian Journal of Accounting Research*, 5(2), 139–154..
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Tilt, C. A. (2018). Making social and environmental accounting research relevant in developing countries: A matter of context? *Social and Environmental Accountability Journal*, 38(2), 145–150. <https://doi.org/10.1080/0969160X.2018.1489296>
- Uddin, S., & Siddiqui, J. (2020). Institutional drivers of corporate social and environmental disclosure practices in developing countries. *Accounting Forum*, 44(4), 342–367. <https://doi.org/10.1080/01559982.2020.1806063>