International Journal of Education, Social Studies, And Management (IJESSM)
e-ISSN : 2775-4154
Volume 6, Issue 2, June 2026
The International Journal of Education, Social Studies, and Management (IJESSM) is published 3 times a year (**February, June, October**).
Focus : Education, Social, Economy, Management, and Culture.
LINK : http://lpppipublishing.com/index.php/ijessm

The Role of Green Accounting in Enhancing Sustainability Report Integrity

Lenny Dermawan Sembiring[1], Ratih Puspitasari[2], Umi Mas'ulah[3], Ngurah Pandji Mertha Agung Durya[4], Murwani Wulansari[5]
[1] *STIE Sultan Agung, Indonesia*
[2] *Institut Bisnis dan Informatika Kesatuan Bogor, Indonesia*
[3]*Politeknik Stibisnis, Indonesia*
[4] *Universitas Dian Nuswantoro, Indonesia*
[5] *Universitas Bina Sarana Informatika, Indonesia*

ABSTRACT

The purpose of this study is to explain the role of green accounting in enhancing sustainability report integrity. This study uses a qualitative and descriptive approach to explain the role of green accounting in enhancing sustainability report integrity. The use of a qualitative and descriptive approach is supported by secondary data such as books, national and international journal articles, and related sources. The research results show that green accounting plays a crucial role in maintaining and enhancing the integrity of a company's sustainability report. Through the implementation of green accounting, sustainability reports are no longer merely public relations documents but are transformed into honest, transparent, and accountable strategic documents. The primary role of green accounting in strengthening report integrity is transforming qualitative data into accurate quantitative data, standardization and transparency of environmental costs, helps meet global standards, facilitates third-party auditing, and reduces greenwashing practices.

ARTICLE INFO
Article history:
Received
11 June 2026
Revised
21 June 2026
Accepted
05 July 2026

Keywords: *Role, Green Accounting, Sustainability Report Integrity.*

Corresponding Author : lennydermawansmb@gmail.com

INTRODUCTION

Green accounting is a new paradigm in accounting that integrates environmental factors into a company's financial cycle to create long-term business sustainability. Conventional accounting tends to ignore the ecological impacts of a company's operational activities, resulting in costs such as water pollution, carbon emissions, and habitat destruction not being recorded in the primary financial statements (Marcella et al., 2024; Sihombing et al., 2024). Green accounting breaks these boundaries by transparently identifying, measuring, and allocating environmental costs, including pollution prevention costs, waste management costs, and investments in environmentally friendly technologies. By incorporating these aspects into their accounting, companies can obtain a much more accurate picture of their operational efficiency and true profitability, as profits are no longer hidden at the expense of environmental sustainability.

Beyond serving as an internal control tool for energy and material efficiency, green accounting also plays a crucial role in building a positive reputation and gaining trust among stakeholders. Modern society, global investors, and regulatory bodies are increasingly discerning and demanding tangible social responsibility from corporations. By preparing comprehensive environmental accounting reports, companies can demonstrate their commitment to sustainable development in an empirical and measurable manner (Ashari and Anggoro, 2021). This not only minimizes legal risks arising from violations of increasingly stringent environmental regulations but also opens up new market opportunities and attracts investors based on sustainability principles. Ultimately, green accounting is no longer simply a voluntary supplementary instrument but has transformed into an essential business strategy that bridges a company's economic interests with the preservation of the earth for the future of future generations.

Green accounting philosophically changes the way businesses view nature, which has traditionally been positioned only as a provider of unlimited resources and a free reservoir of waste. In traditional accounting structures, income statements often present false profit figures because financial success is achieved by assigning environmental damage to society and the future. Green accounting corrects this bias by expanding the boundaries of financial reporting to include the recognition of natural capital. This means that ecosystem degradation, the depletion of non-renewable natural resources, and the negative impacts of industrial waste are recognized as real liabilities or expenses that must be financially borne by the entities that produce them. Operationally, the implementation of green accounting requires a profound overhaul of a company's internal cost classification system. Environmental costs are no longer hidden under obscure general overhead items, but are instead broken down into several strategic categories. This category includes preventative costs, such as investments in low-emission machinery, detection costs through regular environmental audits, and internal and external failure costs, such as hazardous waste treatment and remediation of degraded land. This thorough cost tracking enables management to identify production inefficiencies, such as raw material waste or excessive energy use, that have previously escaped traditional accounting scrutiny. The impact of this data transparency is significant in guiding high-level strategic decisions, particularly regarding long-term cost savings through product and process innovation. When management recognizes that the cost of final waste management is far greater than the cost of redesigning products for recycling, companies are encouraged to transition to a circular economy. Furthermore, from an external perspective, the depth of information presented in green accounting forms a key basis for the preparation of credible sustainability reports. These reports are then used by financial analysts and global investors to assess a business's long-term resilience to climate change risks and regulatory transitions. Companies that implement in-depth green accounting will have a significantly stronger competitive advantage in accessing capital in modern financial markets.

Green accounting plays a crucial role in strengthening the integrity of a company's sustainability report in the modern era. By integrating environmental factors into traditional financial recording systems, green accounting transforms the way companies measure and transparently report their ecological footprint. This practice ensures that sustainability reports are not merely image-boosting tools or marketing gimmicks that often trigger green fraud, but rather an accurate reflection of a company's true commitment to the planet (Olivia and Hidayat, 2024). By providing a measurable and auditable framework, green accounting quantifies environmental costs, such as carbon emissions, waste management, and energy efficiency, into clear units of value. This data standardization process eliminates ambiguity and one-sided claims, allowing stakeholders to objectively verify the validity of the information presented. Furthermore, green accounting aligns financial performance with social responsibility, creating a coherent and reliable set of information. When an organization is able to present ecological data using a rigorous accounting methodology, the level of trust from investors, consumers, and regulators automatically increases. The integrity of sustainability reports supported by green accounting also serves as a long-term risk mitigation tool, helping management identify operational inefficiencies and anticipate penalties from increasingly stringent environmental regulations. Ultimately, green accounting goes beyond simply recording numbers; it builds the foundation of clean and responsible corporate governance, ensuring that every sustainability narrative presented to the public is based on empirical reality and can be fully accounted for.

The purpose of this study is to explain the role of green accounting in enhancing sustainability report integrity.

RESEARCH METHOD

This study uses a qualitative and descriptive approach to explain the role of green accounting in enhancing sustainability report integrity. Descriptive qualitative research is a research model that focuses on understanding social or human phenomena in depth, holistically, and comprehensively without manipulating the variables within them (Ratnawita et al., 2023; Sudirman et al., 2023). Through this approach, the researcher acts as a key instrument, going directly into the field to collect rich, textured, and high-context data from participants. Unlike quantitative research, which relies on statistics and hypothesis testing, descriptive qualitative research aims to produce holistic narrative descriptions of observed speech, writing, behavior, or specific situations. The main characteristic of this method lies in its naturalistic nature, meaning that phenomena are studied as they are, according to the actual conditions in which they occur, so that the meaning behind each action can be revealed as objectively as possible from the perspective of the research subject. In practice, the data collection process in descriptive qualitative research generally relies on in-depth interviews, participant observation, and analysis of relevant documents (Pandiangan, 2022; 2023; 2024; Tambunan and Pandiangan, 2024). The collected data is then carefully analyzed not to seek rigid cause-and-effect relationships, but rather to describe in detail the chronology, atmosphere, emotions, and complexity of the phenomenon being studied. The analysis process is also inductive, where researchers begin by moving from specific facts found in the field to then synthesize them into general patterns or certain themes that can clearly explain the reality. The final results of this research are presented in the form of a strong and flowing verbal narrative, arranging complex pieces of information into a complete portrait of reality so that readers can feel and understand the situation directly as if they were at the research location (Kurdhi et al., 2023; Lumbanraja et al., 2024; Tambunan et al., 2024).

The use of a qualitative and descriptive approach is supported by secondary data such as books, national and international journal articles, and related sources. To support the sharp analysis in this descriptive qualitative research, the existence of secondary data plays a vital role as a key pillar in forming the argument (Gultom et al., 2024; Hamzah et al., 2025; Pandiangan et al., 2024). This secondary data was obtained through a comprehensive literature review of various sources of highly authoritative scientific literature. Scientific textbooks were used to build a solid theoretical framework and provide a well-established conceptual foundation for the research topic. Meanwhile, national and international journal articles serve as up-to-date sources of information, presenting the latest academic debates, previous empirical findings, and similar methodologies validated by experts worldwide. International journal articles, in particular, broaden the analytical horizon by providing a global perspective and comparative standards, making the discussion more substantial and universally recognized. In addition to scientific books and journals, this research was also enriched by various other credible related sources such as official government documents, reports from reputable research institutions, and valid digital archives. All secondary data was not simply collected, but critically reviewed, synthesized, and integrated into the research narrative to support or test the validity of the qualitative findings being developed. By relying on triangulation of these literature data sources, researchers were able to cross-verify the information obtained, thereby minimizing subjectivity and maintaining the validity of the resulting descriptions (Pandiangan et al., 2023). Through the interweaving of in-depth text interpretations from these secondary sources, the descriptive qualitative approach was able to produce conclusions that were not only descriptive, but also analytical and critical, and capable of making a real contribution to the development of scientific knowledge.

RESULT AND DISCUSSION

The Development of the Role of Green Accounting and Sustainability Report

The development of the role of green accounting and sustainability reporting has undergone a significant transformation in recent decades, shifting from a mere voluntary moral obligation to a crucial strategic necessity for the survival of modern businesses. Initially, conventional accounting focused solely on recording internal financial transactions and maximizing shareholder profits without considering the impact of environmental externalities (Yasrawan and Werastuti, 2022). However, with increasing global awareness of the climate crisis, biodiversity decline, and pressure from various stakeholders, this paradigm is beginning to shift. Green accounting emerged as a solution for integrating environmental costs into corporate accounting practices, enabling organizations to more accurately identify, measure, and allocate the costs of waste management, energy conservation, and environmental restoration. This enables management to make wiser decisions and minimize the ecological footprint of their operations.

In line with the development of green accounting, sustainability reports have also evolved into a powerful communication tool for demonstrating transparency in a company's non-financial performance to the public. While these reports were once considered merely image-boosting tools, sustainability reports have now adopted stringent international standards to ensure that data on carbon emissions, water usage, waste management, and social and governance aspects are presented in a measurable and comparable manner. The integration of green accounting as an internal recording system and sustainability reports as an external reporting medium creates a strong synergy in building a company's reputation. Global investors today no longer solely look at net profit figures in mainstream financial statements but also examine the extent to which companies are able to mitigate climate risks and capitalize on the circular economy opportunities clearly illustrated in these reports. Ultimately, the development of these two concepts not only changes the way companies calculate profitability, but also redefines the meaning of true business success, where economic sustainability must go hand in hand with the preservation of the earth and social welfare.

The transformation of green accounting and sustainability reporting has now reached a stage where the environmental dimension is no longer a mere appendix, but rather a core part of a company's financial architecture. In depth, green accounting works by breaking down the boundaries of traditional accounting, which has neglected the depreciation of natural assets. In conventional practice, air pollution or land degradation due to factory operations are considered externalities, or external impacts, that are not included in the profit and loss calculation. Green accounting changes this paradigm by capitalizing these environmental costs into the core accounting system. Companies are beginning to calculate the full lifecycle costs of products, from raw material extraction and energy-consuming production processes to post-consumer waste management. Internalizing these costs allows management to see the true picture of efficiency, as a business line that appears highly profitable financially may actually be ecologically disadvantageous if the costs of remediating its impacts are included.

Meanwhile, the evolution of sustainability reporting is in line with strengthening global regulations and increasingly stringent capital market demands. Sustainability reporting has shifted from a narrative format that tends to be subjective to rigorous, data-driven reporting. Companies are now required to adopt a global standard framework that requires detailed disclosure of greenhouse gas emissions, water usage intensity per unit of product, and upstream-to-downstream supply chain efficiency. This raw data, collected through internal green accounting systems, is then formulated into public disclosure metrics in sustainability reports (Erstiawan et al., 2024). This close link is crucial for institutional investors who use non-financial risk analysis to inform their long-term investment decisions. Companies that fail to provide credible sustainability reporting face the risk of capital withdrawals or significantly higher borrowing costs due to perceived systemic risks related to climate change.

Furthermore, this development has led to the emergence of the concept of integrated reporting, a method that combines pure financial performance with sustainability performance in one comprehensive document. This in-depth approach demonstrates that an organization's financial health is inseparable from the health of the environment in which it operates. Green accounting provides a reliable measurement methodology, while sustainability reporting provides a platform for public accountability. The synergy of these two instruments ultimately forces modern corporations to redefine their business strategies, shifting from being primarily focused on short-term profits to creating long-term value that maintains a balance between economic profitability, preserving the earth's ecosystem, and social justice.

The Role of Green Accounting in Enhancing Sustainability Report Integrity

Green accounting plays a crucial role in maintaining and enhancing the integrity of a company's sustainability report. Without green accounting, sustainability reports are often criticized as merely a marketing tool or greenwashing, a condition where companies claim to be environmentally friendly when their operational reality is different (Mariani et al., 2023; Pandiangan et al., 2025; Tambunan et al., 2025). Through the implementation of green accounting, sustainability reports are no longer merely public relations documents but are transformed into honest, transparent, and accountable strategic documents.

Table 1.
Summary of the Role

Integrity Aspects	The Role of Green Accounting
Accuracy	Transforming narrative claims into concrete figures based on financial or non-financial data.
Transparency	Disclosing details of funding allocations for environmental management.
Reliability	Provides a valid document trail to facilitate external audits.
Relevance	Linking environmental performance directly to long-term financial performance.

The following are the key roles of green accounting in strengthening report integrity:

1. Transforming Qualitative Data into Accurate Quantitative Data
   Sustainability reports are often filled with empty promises. Green accounting forces companies to measure, record, and quantify their environmental impacts in specific monetary or physical units, for example, carbon emissions in tons of CO_2, waste volume in liters, or the cost of investing in environmentally friendly technology in rupiah (Ashari and Anggoro, 2021).
2. Standardization and Transparency of Environmental Costs
   With this transparent recognition of costs, stakeholders such as investors, governments, and the public can clearly see whether companies are truly allocating financial resources to sustainability or merely theoretically (Olivia and Hidayat, 2024). Green accounting identifies specific environmental expenditures, including:
   a. Prevention costs, such as investments in waste filters or renewable energy.
   b. Internal failure costs, such as the costs of treating waste already produced.
   c. External failure costs, such as the costs of compensating the community for environmental impacts.
3. Helps Meet Global Standards
   To maintain high integrity, sustainability reports must be comparable from year to year or with competitors. Green accounting provides a recording methodology that aligns with international standards, such as the Global Reporting Initiative (GRI) and the International Sustainability Standards Board (ISSB). When environmental data is systematically recorded using accounting principles, the report becomes more consistent and valid (Erstiawan et al., 2024).
4. Facilitates Third-Party Auditing
   The highest integrity of a sustainability report is achieved when it is successfully audited by an independent party (Yasrawan and Werastuti, 2022).
   a. Green accounting creates a clear audit trail.
   b. Auditors can easily match what is written in the sustainability report with physical transaction evidence and the company's financial journals. Without a green accounting system, auditors will have difficulty verifying the validity of the environmental data.
5. Reduces Greenwashing Practices
   Greenwashing is the main enemy of sustainability report integrity. Green accounting acts as a corporate "lie detector." If a company claims to have

implemented significant energy efficiency measures, this must be reflected in reduced utility costs or reduced depreciation of carbon-based assets in its financial statements. This synchronization prevents companies from manipulating information (Fransisco et al., 2024; Wijaya et al., 2024; Yoppy et al., 2023).

CONCLUSION

The research results show that green accounting plays a crucial role in maintaining and enhancing the integrity of a company's sustainability report. Through the implementation of green accounting, sustainability reports are no longer merely public relations documents but are transformed into honest, transparent, and accountable strategic documents. The primary role of green accounting in strengthening report integrity is transforming qualitative data into accurate quantitative data, standardization and transparency of environmental costs, helps meet global standards, facilitates third-party auditing, and reduces greenwashing practices.

REFERENCES

Ashari, M. H., & Anggoro, Y. (2021). Mewujudkan keberhasilan usaha dengan penerapan Akuntansi Hijau. *Jurnal Riset Dan Aplikasi: Akuntansi Dan Manajemen, 5*(1), 45-56.

Erstiawan, M. S., Soebijono, T., & Sulistiowati, S. (2024). Akuntansi Hijau dalam Perspektif Literatur Review. *AKUNTANSI 45, 5*(2), 1090-1107.

Fransisco, F., Prasetyo, K., Surya, S., Hutahean, T. F., & Pandiangan, S. M. T. (2024). Faktor-Faktor Fundamental Terhadap Earning Per Share Pada Perusahaan Perbankan BUMN. *Journal of Economic, Bussines and Accounting (COSTING), 7*(3), 5837-5844.

Hamzah, R., Shifa, M., Musdirwan, M., Tanjung, I. I., Ningsih, L., & Pandiangan, S. M. T. (2025). Analysis of the Role of Decent Living Standards and Knowledge on Human Development Index Growth. *International Journal Of Education, Social Studies, And Management (IJESSM), 5*(3), 1566-1572.

Kurdhi, N. A., Sunarta, D. A., SH, M., Nur, N., Jenita, S. E., Hatta, I. H. R., ... & Rahman, A. (2023). *Statistika Ekonomi*. Cendikia Mulia Mandiri.

Lumbanraja, P. C., Lumbanraja, P. L., & Pandiangan, S. M. T. (2024). Covid-19 Pandemic: Is there any impact on the Agribusiness Index?. *Research of Finance and Banking, 2*(2), 87-96.

Marcella, V., Hutahaean, T. F., & Pandiangan, S. M. T. (2024). Determinant of Transfer Pricing Practices for Property and Real Estate Companies Listed on the Indonesia Stock Exchange Period 2020-2022. *Journal of Management and Bussines (JOMB), 6*(6), 1986-1993.

Mariani Alimuddin, S. E., Jana Sandra, S. E., Sarce Babra Awom, S. E., Pandiangan, S. M. T., Solehudin, M. M., Ahmad, S. E., ... & SE, M. (2023). *Pengantar Ekonomika*. Cendikia Mulia Mandiri.

Olivia, H., & Hidayat, S. (2024). Mengukur Dampak Lingkungan Melalui Akuntansi Hijau: Analisis Literasi Dan Tren Penelitian Dengan Vosviewer. *Bisnis-Net Jurnal Ekonomi Dan Bisnis, 7*(2), 964-969.

Pandiangan, S. M. T., Tambunan, H. N., Gultom, J. A., & Hutahaean, T. F. (2024). Analysis of Asset Management Ratio and Solvency Management Ratio. *Journal of Corporate Finance Management and Banking System (JCFMBS), 4*(2), 25-36.

Pandiangan, S. M. T., Dharmawan, D., Hariyanto, M., Pujiastuti, E., & Zalogo, E. F. (2025). Resilience Management in Generation Z Entrepreneurs in Medan City. *International Journal Of Education, Social Studies, And Management (IJESSM), 5*(1), 19-26.

Ratnawita, P., Tua, S. M., Pratomo, A. B., Saputra, E. K., & Nuryanto, U. W. (2023). Analysis of the Experience of Teachers on Student Achievement in Economics at Private High School. Edumaspul. *Jurnal Pendidikan, 7*(1), 522-526.

Sihombing, R. S. Z., Tutik, D. W., Nathalie, N., Hutahean, T. F., & Pandiangan, S. M. T. (2024). Analisis Rasio Likuiditas, Solvabilitas, Aktivitas, Pertumbuhan Dan Profitabilitas Terhadap Earning Per Share Terhadap PT. Bank BRI Tbk Pada Tahun 2018-2021. *Journal of Economic, Bussines and Accounting (COSTING), 7*(4), 8085-8093.

Sudirman, S., Taryana, T., Suprihartini, Y., Maulida, E., & Pandiangan, S. M. T. (2023). Effect of Lecturer Service Quality and Infrastructure Quality on Student Satisfaction. *Journal of Innovation Research and Knowledge, 2*(9), 3577-3582.

Tambunan, H. N., Pandiangan, S. M. T., & Candra, S. Mei Veronika Sri Endang, & Hendarti, Ricca.(2024). Upaya Peningkatan Perekonomian dengan Memanfaatkan Potensi Ibu Rumah Tangga di Era Digital pada Kelurahan Durian, Kecamatan Medan Timur. E-Amal: Jurnal Pengabdian kepada Masyarakat, 4 (1), 1-6.

Wijaya, A., Hutahean, T. F., & Pandiangan, S. M. T. (2024). PENGARUH FEE AUDIT, AUDIT TENURE, REPUTASI AUDITOR, KOMITE AUDIT, DAN ROTASI AUDIT TERHADAP KUALITAS AUDIT PADA PERUSAHAAN

MANUFAKTUR YANG TERDAFTAR DI BURSA EFEK INDONESIA PERIODE 2019-2022. *Journal of Economic, Bussines and Accounting (COSTING), 7*(5), 4426-4438.

Yasrawan, K. T., & Werastuti, D. N. S. (2022). Bagaimana Peran Dan Penerapan Akuntansi Hijau Di Indonesia?. *Jurnal Akuntansi Kontemporer, 14*(3), 151-161.

Yoppy, I., Hartono, I. A., Hutahaean, T. F., & Pandiangan, S. M. T. (2023). Influence Profitability, Policy debt, Policy Dividend, Investment Decision, And Firm Size to Company Value Manufacture Sub Sector Food And Drink Which Registered In the Indonesian Stock Exchange. *International Journal of Economics Social and Technology, 2*(3), 175-183.