"Determinants of sustainable development: The role of CSR disclosure"

AUTHORS	Meilda Wiguna 🝺 Sri Indarti Thamrin Andreas 🍺		
ARTICLE INFO	Meilda Wiguna, Sri Indarti, Thamrin and Andreas (2023). Determinants of sustainable development: The role of CSR disclosure. <i>Problems and Perspectives in Management</i> , <i>21</i> (2), 210-220. doi:10.21511/ppm.21(2).2023.23		
DOI	http://dx.doi.org/10.21511/ppm.21(2).2023.23		
RELEASED ON	Tuesday, 18 April 2023		
RECEIVED ON	Wednesday, 18 January 2023		
ACCEPTED ON	Wednesday, 22 February 2023		
LICENSE	This work is licensed under a Creative Commons Attribution 4.0 International License		
JOURNAL	"Problems and Perspectives in Management"		
ISSN PRINT	1727-7051		
ISSN ONLINE	1810-5467		
PUBLISHER	LLC "Consulting Publishing Company "Business Perspectives"		
FOUNDER	LLC "Consulting Publishing Company "Business Perspectives"		
O	B		

NUMBER OF REFERENCES
54

NUMBER OF FIGURES



© The author(s) 2023. This publication is an open access article.





BUSINESS PERSPECTIVES

LLC "CPC "Business Perspectives" Hryhorii Skovoroda lane, 10, Sumy, 40022, Ukraine www.businessperspectives.org

Received on: 18th of January, 2023 Accepted on: 22nd of February, 2023 Published on: 18th of April, 2023

© Meilda Wiguna, Sri Indarti, Thamrin, Andreas, 2023

Meilda Wiguna, M.Sc., Lecturer, Department of Accountancy, Faculty of Economics and Business, University of Riau, Indonesia. (Corresponding author)

Sri Indarti, Dr., Lecturer, Department of Management, Faculty of Economics and Business, University of Riau, Indonesia.

Thamrin, Dr., Lecturer, Department of Terumbu Karang Pasca Sarjana, University of Riau, Indonesia.

Andreas, Dr., Lecturer, Department of Accountancy, Faculty of Economics and Business, University of Riau, Indonesia.

This is an Open Access article, distributed under the terms of the Creative Commons Attribution 4.0 International license, which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

Conflict of interest statement: Author(s) reported no conflict of interest Meilda Wiguna (Indonesia), Sri Indarti (Indonesia), Thamrin (Indonesia), Andreas (Indonesia)

DETERMINANTS OF SUSTAINABLE DEVELOPMENT: THE ROLE OF CSR DISCLOSURE

Abstract

This study intends to assess the impact of adopting green accounting and environmental performance on sustainable development, with CSR disclosure acting as a moderator. The population of the study consists of the palm oil companies listed on the Indonesia Stock Exchange and the Malaysia Stock Exchange for the 2019–2021 period. Purposive sampling was utilized as a sampling method to select 45 businesses. Partial least squares analysis was performed to examine the data. The results showed that the implementation of green accounting ($\beta = 0.231$; p < 0.05) and environmental performance ($\beta = 0.285$; p < 0.05) affect the sustainable development of palm oil companies. Then, CSR disclosure strengthens the effect between the implementation of green accounting ($\beta = 0.293$; p < 0.05) and environmental performance ($\beta = 0.150$; p < 0.05) on the sustainable development of palm oil companies. This study helps companies that properly implement corporate social responsibility or care about environmental safety become the best investment opportunities. It also serves as the material for investors and potential investors to help them make the best decisions about companies that employ green accounting in corporate reporting.

Keywords

environmental performance, green accounting, CSR, Indonesia, Malaysia

JEL Classification M14, M48, Q01, Q56

INTRODUCTION

Through its voluntary certification programs and standards, the Roundtable on Sustainable Palm Oil (RSPO) encourages the creation of sustainable goods. The top two nations producing palm oil, Indonesia and Malaysia, actively promote standards for sustainable palm oil products. Legality, environmental responsibility, social responsibility, and corporate practices are all topics that the RSPO generally covers. National standards are expanding quickly in addition to international standards like the RSPO, ISPO (Indonesian Sustainable Palm Oil), and MSPO (Malaysian Sustainable Palm Oil). The Indonesian Palm Oil Association (GAPKI) awarded 682 certificates by the end of 2020, totaling 3.78 million hectares, or 27% of the country's palm oil plantings. Even more remarkable is the MSPO standard, which states that by 2020, over 88% of the area planted with Malaysian palm oil will MSPO-certified. Despite the advantages of palm oil as a significant driver of economic development and a means of subsistence in both nations, palm oil businesses have been implicated in environmental damage and human rights abuses that have had a detrimental effect on sustainable development (Lingyu, 2021).

This is consistent with the deteriorating environmental conditions brought on by trash from the palm oil industry. Ecological Observation and Wetlands Conservation in 2022 revealed that waste from two Wilmkodepar International subsidiaries' palm oil processing factories had contaminated the Sambas and Kapuas Rivers in Kalimantan, Indonesia (Wacana-edukasi, 2022). The editorial staff of Betahita (2019) also claims that many Malaysian companies own palm oil plantation land in Indonesia, including Sime Darby (Minamas), Kuala Lumpur Kepong, Genting Group, and IOI Group. Based on the findings, it was determined that the Simedarby-Minamas subsidiary had been involved in land and forest fires that affected concerns related to environmental degradation. According to Syahza et al. (2020), the area of palm oil plantations in Riau Province, Indonesia, was 1,119,798 ha in 2001. With an average growth rate of 5.16% per year and 261 units of palm oil mills, this region's size drastically increased to 2,503,566 ha in 2017. The issue is that not all palm oil enterprises in Indonesia's Riau Province run CSR initiatives.

According to Lingyu (2021), there needs to be more research to determine whether certification schemes like the RSPO, ISPO, and MSPO effectively promote sustainability. Regarding sustainability measures, considering Kalimantan (Indonesia), there is "no substantial difference" between RSPO and non-RSPO plants. Nevertheless, certified plantations typically produced higher yields. Due to the influence on company performance, businesses must see a new side of corporate responsibility to thrive and be sustainable over the long term instead of merely focusing on short-term gains (Astuti & Nugroho, 2016).

Increased transparency indicates the reform age, and businesses should be more environmentally conscious. Businesses that do not care about the environment will face many challenges, including regular protests from the community and even closure orders from the authorities for some businesses (Effendi, 2018). The sustainable development goals (SDGs) have not achieved their intended results because of the environmental harm brought on by businesses.

1. LITERATURE REVIEW

Companies that are deemed to be growing and sustainable are judged not only by their ability to turn a profit but also by how concerned they are about the environment and their local, global, and overall communities (Effendi, 2018). There is a need for sustainable development because this is consistent with the triple bottom-line idea put forth by Elkington (1997). Internalizing the effects of every social and economic decision on the environment is the cornerstone of sustainable development. This implies that for the environment to continue serving as a platform for life today and into the future, every social and economic action needs to be avoided, prevented, and considered (Salsiah et al., 2018).

Theoretically, a variety of elements influence sustainable development. First, this study investigates the economic component in relation to the adoption of green accounting. Second, in the ecological dimension, there is environmental auditing, either directly or indirectly, through environmental performance. Third, according to the stakeholder theory, a business must also consider the interests of its constituents, including shareholders, creditors, customers, suppliers, the government, the general public, and other groups. When deciding whether to disclose certain information in the firm's report, the management takes these stakeholders into account (Ghozali & Chariri, 2007).

The "sustainable development" idea looks at the connections between social justice, environmental protection, and economic growth (Rogers et al., 2010). In order to ensure environmental integrity and the safety, capability, welfare, and quality of life of both present and future generations, sustainable development is defined in Law No. 32 of 2009 concerning environmental protection and management as a deliberate and planned effort that integrates environmental, social, and economic factors into a development strategy. Sustainable development aims to balance current economic, social, and environmental concerns without sacrificing the rights of future generations to a healthy environment (Lako, 2018).

Environmental, social, and economic factors are intentionally incorporated into development initiatives through sustainable development. In order to guarantee environmental integrity, safety, capacity, well-being, and quality of life for both current and future generations, it is necessary to take specific steps (Zaili et al., 2020). An environmentally sustainable civilization can satisfy its basic resource demands, such as food, clean water, clean air, housing, and other essentials, without destroying or depleting the natural capital.

The Brundtland Commission (Zaili et al., 2020) developed and defined sustainable development, which gave rise to the concept of sustainable development. "Meeting the demands of the present without sacrificing the fulfillment of future generations" is the guiding philosophy of sustainable development. Growth is tied to how it manifests in human life regarding ideas, ideals, and concepts. The aim of sustainable development extends bevond environmental concerns. In a broader sense, sustainable development encompasses three sectors of public policy: social, economic, and environmental preservation. In particular, it assesses how economic, social, and environmental factors interact within the context of sustainable development by businesses operating in Indonesia. Additionally, their relationship with the government is tied to their use of sustainable development strategies (Zaili et al., 2020).

According to Lako (2018), green accounting is a process that includes recognition, value measurement, recording, summarizing, and reporting of financial information relating to social and environmental issues in a way that is helpful for users in assessing and making economic and non-economic decisions. Accounting reports integrate social and environmental data as well as accounting data to offer information. According to Datta and Deb (2012), green accounting is the process of identifying, prioritizing, evaluating, and incorporating environmental expenses incurred by businesses in a business decision. Acquiring, reviewing, and producing reports relevant to financial and environmental data is known as "green accounting," which aims to reduce environmental deterioration's adverse effects and costs (Cohen & Robbins, 2012).

Green accounting will increase business profitability by identifying and lowering environmental expenses, resulting in more proactive environmental planning (Tu & Huang, 2015). Green accounting contains three fundamental pillars based on Elkington's (1997) pillar theory. The first pillar of

the structure is environmental accounting that identifies, assesses, records, gathers, and reports environmental transactions, events, or objects to provide environmental accounting data. The second pillar is social accounting that identifies, assesses, records, gathers, and disseminates financial data relevant to social transactions or occurrences from an entity to give social accounting information. Finally, the third pillar is financial accounting that recognizes, assesses, records, gathers, and communicates events or transactions of an entity in order to provide accounting financial information (Lako, 2018). According to Elkington (1997), the successful integration of these three fundamental pillars into the state and corporations' growth is essential to achieving sustainable development and creating the earth's sustainability, prosperity for society or humans, and economic prosperity for the nation. Therefore, green accounting significantly impacts sustainable development (Dhar et al., 2020; Andi et al., 2020).

According to Andi et al. (2020), green accounting is being implemented in Indonesia in a way consistent with expectations, i.e., ecologically friendly, both in the accounting industry and regarding protecting the environment. Furthermore, the use of green accounting and sustainable development are related according to empirical data from earlier studies, including Dhar et al. (2020), Tu and Huang (2015), Nabila (2021), Endiana et al. (2020), Gonzalez and Mendoza (2020), Andi et al. (2020), and Nga et al. (2019). On the other hand, Yoga and Sastri (2020) and Ogbonna et al. (2021) claim that environmental accounting does not significantly contribute to sustainable development.

Factors that can affect sustainable development are those related to environmental performance, which is the subject of an environmental audit. According to Hadi (2014) and legitimacy theory, a company's management system needs to align with the societal value system. This demonstrates the necessity of reviewing environmental performance to gauge how well a firm adheres to societal values to lessen environmental pressure on the organization.

Under Article 1 of State Minister for the Environment Regulation Number 03 of 2013, an environmental audit assesses whether those in charge of a business or activity comply with the standards established by the government, social responsibility, and environmental responsibility. Therefore, to achieve sustainable economic and social development, Lu et al. (2020) consider environmental auditing a valuable instrument for monitoring environmental governance by emphasizing the importance of environmental audits in assisting local governments with environmental management and sustainable development.

Sustainable development is growth that balances environmental, economic, and social factors (Damayanti & Pentiana, 2013). In order for sustainable development to be successful, it is crucial for businesses to use environmental accounting management, which has been shown to increase environmental performance (Burhany & Nurniah, 2013). Furthermore, according to Ningsih et al. (2020) and Al Hanini (2021), environmental auditing substantially impacts sustainable development, which lends further evidence to this claim.

Corporate social responsibility (CSR) disclosure is a moderating factor. Pursuing sustainable economic operations is directly tied to CSR in general (Nayenggita et al., 2019). According to the legitimacy theory, CSR is the solution to environmental pressures brought on by social, political, and economic forces (Yusuf, 2017). CSR disclosure is one way to fulfill this accountability (Prihatiningtias & Dayanti, 2014). Disclosure of corporate social responsibility is the process of making known to specific interest groups and the broader public the social and environmental repercussions of an organization's or company's economic actions (Hackston & Milne, 1996).

According to the stakeholder idea, corporate actions affect a broader segment of society than just shareholders. According to Deegan (2002), information on an organization's social and environmental impacts should be shared with stakeholders (i.e., environmental, health and safety, employment, and community development or sponsorship disclosures). Bebbington (2001) asserts that accounting is crucial in regulating the interaction between businesses and the environment.

Social and environmental responsibilities are distinct obligations from an accounting perspective, particularly regarding disclosure and reporting (Andayani & Riduwan, 2011). CSR information disclosure is a physical representation of social behavior. The effectiveness of corporate social responsibility increases with disclosure quality (Platonova et al., 2018). Getting people's attention to suggest green accounting and encourage company sustainability brings the most benefit. The quality of CSR information disclosure can positively influence green accounting's adoption and the viability of polluting enterprises.

After implementation, green accounting can significantly improve the company's capacity for sustainable development. Therefore, businesses must develop green accounting, incorporating CSR into performance (Broman & Robèrt, 2017; Nekhili et al., 2017). According to Dhar et al. (2020), the quality of CSR disclosure increases with a system's openness to implementing green accounting. This will increase the company's performance and improve its capacity for sustainable development.

If the company considers its business practices' social and environmental implications, it can maintain its viability (Fitrah, 2015). A business can track its achievements and discuss its issues and progress with stakeholders through CSR disclosure. Environmental audit participation in sustainability development may increase with corporate social responsibility disclosure (Aras & Crowther, 2009). Environmental auditors have several opportunities with CSR disclosure, including the chance to ask questions directly, study documentation, hear from CSR specialists, and comment on what they know about CSR programs. It acts as a catalyst for ecological or environmental growth that is sustainable. Businesses must report on their CSR in their annual reports under Law Number 40 of 2007 Concerning Limited Liability Companies, governed by Article 66 Paragraph (2).

Therefore, sustainable development strikes a balance between ecological, economic, and social elements. An environmental audit involves assessing and documenting a company's commitment to economic, legal, social, and environmental responsibility. In order to assess how a company's activities impact sustainable development, an environmental audit looks at its environmental records, energy usage, volunteerism, work environment, employee compensation, and transparency. Rahim and Vicario (2015) recommended practices to boost the contribution of internal environmental audits to corporate social responsibility.

2. AIM AND HYPOTHESES

This study seeks to statistically evaluate the influence of green accounting adoption and environmental performance on sustainable development, with CSR disclosure as a moderator. Based on the literature review, the following hypotheses are developed:

- H1: Implementation of green accounting affects sustainable development.
- *H2: Environmental performance affects sustainable development.*
- H3: Disclosure of corporate social responsibility moderates the effect of green accounting implementation on sustainable development.
- H4: Disclosure of corporate social responsibility moderates the effect of environmental performance on sustainable development.

3. METHODS

This study uses descriptive quantitative methods. The annual and sustainability reports used in this study were submitted by the palm oil companies listed on the Indonesia Stock Exchange (IDX) and Malaysia Exchange from 2019 to 2021. In total, 45 palm oil enterprises were sampled for this analysis, including 17 in Indonesia and 28 in Malaysia. The sample was chosen with the use of purposeful sampling. This paper analyzes the data using PLS (partial least squares) approach. WarpPLS software version 7.0 and Microsoft Excel were used to process the data (Abdillah & Jogiyanto, 2015).

Sustainable development construct is defined according to Begum et al. (2019). Environmental, economic, and social sustainability practices are the three components of sustainable development used to calculate its content (SSP). There are 15 indicators to assess sustainable development, with five for each component. These measurements use the content analysis approach and the formula:

$$ISD = \frac{\sum_{i=1}^{n} sp}{n},$$
(1)

where ISD_{n} Enterprise sustainable development index, $\sum_{i=1}^{n} sp$ – Number of companies' sustainable development practices, n – Number of items for the company (15 indicators).

The implementation of green accounting is scored using a nominal scale, where a corporation receives a score of 1 if it uses green accounting or green accounting and a score of 0 if it does not. This means that a company will receive a score of 1 if its annual report includes one of the environmental costs components, such as costs associated with product recycling, environmental development, or environmental research, but will receive a score of 0 if it does not.

The environmental performance is measured by the PROPER and ISO 14001 standards, the ISPO measuring instrument for Indonesian enterprises, and the MSPO for Malaysian companies. A score of 3 is awarded to a company if it satisfies all three of these measuring instruments with strong and precise requirements. Scores of 2 and 1 are given to companies that satisfy only one of the measuring instruments. A score of 0 is awarded to companies that do not satisfy any of the measuring instruments.

CSR disclosure was measured by Sadou et al. (2017), whose composition is determined by 20 indicators using the content analysis method and the formula:

$$CSR_{j} = \frac{\sum X_{ij}}{N_{ii}},$$
(2)

where CSR_j – Corporate social responsibility disclosure company index, $\sum X_{ij}$ – Number of corporate *CSR* disclosures, N_{ij} – Number of items for the company (20 indicators).

4. RESULTS

Descriptive analysis using SPSS 28 was used to carry out the quantitative analysis in this investigation. Table 1 shows the descriptive test findings

Variable	Minimum	Maximum	Mean	Std. Deviation (SD)
Sustainable Development (SD)	.06667	1.0	0.735	0.2121
Green Accounting (GA)	0	1	0.76	0.431
Environmental Performance (EP)	0	3	2.17	0.842
CSR Disclosure (CSRD)	0	1.0	0.748	0.2431

Table 1. Descriptive statistics

and each variable's minimum, maximum, mean, and standard deviation.

The data used in this study total 135, according to the SPSS result in Table 1. The average value (mean) of sustainable development, coded as SD, is 0.735, which indicates that 73.5% of palm oil firms have implemented sustainable development, with a standard deviation of 0.2121, demonstrating variability in sustainable development. The standard deviation of the average value of green accounting implementation disclosed by companies is 0.431, indicating variations in the implementation of corporate green accounting. The average value (mean) of green accounting implementation or green accounting disclosed by companies is 0.76. The standard deviation of the environmental performance is 0.842, which implies that the average environmental performance number is 2.17, with a standard deviation of 0.842. The average CSR disclosure rate in palm oil plantation firms is 74.8% based on the average value (mean) of 0.748, or corporate social responsibility disclosure.

Before conducting structural model analysis (inner model) or hypotheses testing in SEM analysis, the paper needs to evaluate the measurement model (outer model), which is intended to assess the validity and dependability of research data from indicators creating latent components.

 Table 2. Convergent validity and reliability

Variable	AVE	Composite Reliability	Cronbach's Alpha
SD	1.000	1.000	1.000
GA	1.000	1.000	1.000
EP	1.000	1.000	1.000
CSRD	1.000	1.000	1.000

Note: SD – Sustainable Development; GA – Green Accounting; EP – Environmental Performance; CSRD – CSR Disclosure.

The indicator results for each variable are valid and dependable, as shown in Table 2. When the AVE value is > 0.50 for the planned construct, the indicator for each variable is said to be valid (Ghozali & Latan,

2015). Validity test results show that the AVE value of the indicator for the dependent variable is more than 0.70. Therefore, these indicators can be inferred to describe all variables adequately. Additionally, Cronbach's alpha and composite reliability can be used to evaluate the reliability. To be regarded as reliable, Cronbach's Alpha value and composite reliability must both be higher than 0.7 (Abdillah & Jogiyanto, 2015). Therefore, all of the variables employed in this study are trustworthy, according to the reliability test findings in Table 2, which demonstrate that each variable satisfies the requirements.

The results of hypotheses testing are obtained by examining the probability values, specifically the p-value, the path coefficient, and the t-statistics with WarpPLS. The statistics are displayed in Table 3.

Table 3. PLS path analysis coefficient results

No.	Variable	Path Coefficient	p-value
1.	GA	0.231	0.003
2.	EP	0.285	<0.001
3.	CSRD · GA	0.293	<0.001
4.	CSRD · EP	0.150	0.037

Note: SD – Sustainable Development; GA – Green Accounting; EP – Environmental Performance; CSRD – CSR Disclosure.

5. DISCUSSION

The results indicate sufficient evidence to support H1, which argues that the adoption of green accounting has an impact on sustainable development. This is consistent with the structural equation model, in which the estimated value of the coefficient or path coefficient of the resulting green accounting implementation variable is 0.231, indicating a positive direction; consequently, as the adoption of green accounting increases, sustainable development also increases. Furthermore, the p-value is less than 0.003, meaning that it is lower than the 0.05 level of significance, demonstrating that implementing green accounting affects sustainable development. This is in line with Parmar et al. (2010) and stakeholder theory, which claims that stakeholders push for sustainability issues like the right to CSR as a sign of corporate concern for society and the use of green accounting as a sign of CSR information on environmental costs and promote improved environmental performance. This is a crucial step in the organization's sustainable development.

The results of this study are in agreement with those of Dhar et al. (2020), Tu and Huang (2015), Nabila (2021), Endiana et al. (2020), Gonzalez and Mendoza (2020), Andi et al. (2020), and Nga et al. (2019) that there is an impact of implementing green accounting on sustainable development. Green accounting has been applied by the majority of the palm oil plantation firms that are listed on the IDX and the Malaysian Stock Exchange in order to support growing sustainable development in the environmental and social spheres. This demonstrates how the environmental costs that palm oil companies face and the expenditures associated with product recycling and environmental development and research impact sustainable development.

Then, H2 provides data to support its claim that environmental performance affects sustainable development. According to the structural equation model, the predicted value of the coefficient or path coefficient for the environmental performance variable is 0.285, indicating a positive direction. Hence, as environmental performance rises, sustainable development also rises. Consequently, because the p-value is smaller than the 0.05 level of significance, environmental performance affects sustainable development.

The findings of this study support Dowling and Pfeffer (1975) legitimacy hypothesis, which holds that a company's level of social and political legitimacy has a beneficial impact on its willingness to do corporate environmental audits. In addition, these findings align with what Al Hanini (2021) found when he examined internal environmental audits in relation to environmental compliance, environmental management systems, and environmental financial reporting that impact sustainable development.

The study's findings concur with those of Ningsih et al. (2020), Al Hanini (2021), and Lu et al. (2020). The better the company's environmental performance, the more sustainable development will be achieved, as shown by acquiring an environmental certificate. This is consistent with the efforts of palm oil producers in Indonesia and Malaysia to promote sustainable palm oil through the acknowledgment of environmental certifications like the RSPO, ISPO, and MSPO. The percentage of environmental certifications that palm oil companies in Indonesia and Malaysia have obtained is also rising from 80% in 2019, 89% in 2020, to 93% in 2021. This indicates that Malaysian and Indonesian palm oil producers continue to monitor their environmental and social policies and the environment, fostering sustainable growth in both the palm oil sector and development.

H3, which claims that CSR disclosure moderates green accounting for sustainable development, provides data to support this hypothesis. The SEM model indicates a positive direction. The predicted value of the coefficient or path coefficient is 0.293 as the association between the usage of green accounting and sustainable development increases along with the disclosure of CSR. Therefore, disclosure of CSR moderates or improves the use of green accounting for sustainable development because the p-value is 0.001, which is smaller than the acceptable threshold of significance of 0.05.

The findings align with those of Dhar et al. (2020), who assert that CSR disclosure increases the connection between the adoption of green accounting and sustainable growth. Companies that practice green accounting at their palm oil plantations in Indonesia and Malaysia will be more transparent about the social and environmental initiatives they take. This will increase the number of people who use the company's financial statements, which will ultimately improve the company's economic success. Additionally, stakeholders and users of financial statements will become more interested in the company, increasing its worth. As a result, businesses must disclose their social and environmental initiatives. Programs that are being implemented, business objectives, and costs incurred to prepare and disclose environmental hazards must all be fully disclosed in reports on policy information.

The available data support the statement in H4 that CSR disclosure moderates the impact of environmental performance on sustainable development. According to the structural equation model, where the predicted value of the path coefficient is 0.150, this is in line with an increase in the relationship between environmental performance and sustainable development as well as the disclosure of CSR. Therefore, the disclosure of CSR moderates or increases environmental performance in the direction of sustainable development because the p-value is 0.037, which is lower than the threshold of significance of 0.05.

This is consistent with Parmar et al. (2010) and stakeholder theory, which claimed that busi-

nesses should take stakeholder interests seriously, particularly those of the environment and society. Notably, the disclosure of CSR gives stakeholders, including the environmental auditor, an overview of business environmental and social information. Environmental auditors need much environmental information to execute their jobs, which include assessing the company's environmental performance. Information from CSR disclosure will make it easier to assess environmental performance because sustainable growth depends on sound environmental performance. The amount of information included in CSR disclosures strengthens the link between environmental performance and sustainable development. The findings of this study corroborate those of Ackers (2016), Dineva (2019), and Rahim and Vicario (2015), who found a relationship between CSR and internal audit or environmental audit.

CONCLUSION

This study aims to assess the use of green accounting and environmental performance for sustainable development by palm oil plantation companies listed on the Indonesia Stock Exchange (IDX) and the Malaysia Stock Exchange in 2019–2021. The application of green accounting and environmental performance significantly influences sustainable development. Green accounting consequently influences sustainable development, whose components are evaluated by environmental costs, product recycling costs, development costs, and environmental research in the annual report. The increase in sustainable development will be impacted by how much money is dedicated to the environment. The environmental performance, which is determined by having ISO 14001, PROPER, and ISPO/MSPO environmental certificates, is also a factor in sustainable development. The increase in awards for corporate environmental certificates proving good environmental performance will impact the improvement of sustainable development in palm oil firms in Indonesia and Malaysia.

Additionally, this study discovered that CSR disclosure supports sustainable growth through green accounting. The impact of green accounting on sustainable development will grow as CSR disclosure increases, and vice versa, as CSR disclosure by corporations decreases the impact of green accounting on development. Sustainable CSR disclosure improves the environmental performance in the direction of sustainable development. This implies that greater CSR disclosure will affect how much environmental performance influences sustainable development, and conversely, less CSR disclosure will affect how much environmental performance influences sustainable development.

By creating and including additional independent variables that are relevant to environmental issues, such as the Material Flow Cost Accounting (MFCA) variable, it is required to revisit the consistency of the study's conclusions. This is done in light of the research findings, limitations, and recommendations for the future development of this study. Apart from palm oil companies, other research objects can be expanded, and samples included in future studies.

AUTHOR CONTRIBUTIONS

Conceptualization: Meilda Wiguna, Sri Indarti. Data curation: Meilda Wiguna, Sri Indarti, Thamrin, Andreas. Formal analysis: Meilda Wiguna, Sri Indarti, Thamrin. Investigation: Thamrin. Methodology: Meilda Wiguna, Sri Indarti, Thamrin, Andreas. Project administration: Andreas. Resources: Meilda Wiguna, Andreas. Software: Meilda Wiguna, Sri Indarti. Supervision: Sri Indarti. Validation: Sri Indarti, Thamrin. Writing – original draft: Meilda Wiguna, Sri Indarti. Writing – review & editing: Meilda Wiguna, Sri Indarti.

REFERENCES

- Ackers, B. (2016). An exploration of internal audit's corporate social responsibility role – Insights from South Africa. Social Responsibility Journal, 12(4), 719-739. https:// doi.org/10.1108/SRJ-01-2016-0003
- Abdillah, W., & Jogiyanto. (2015). Partial least square (PLS) alternatif structural equation modeling (SEM) dalam penelitian bisnis (1st ed.). Yogyakarta. (In Indonesian).
- Al Hanini, E. A. (2021). Does the environmental internal audit impact the achieving of sustainable development in industrial companies listed on the Amman Stock Exchange? *International Journal of Financial Research*, 12(3), 220-229. https:// doi.org/10.5430/ijfr.v12n3p220
- Andayani, & Riduwan, A. (2011). Tanggungjawab lingkungan dan peran informasi biaya lingkungan dalam pengambilan keputusan manajemen: Studi dualitatif. Simposium Nasional Akuntansi XIV Aceh 2011 (pp. 1-30). (In Indonesian). Retrieved from https://docplayer.info/34998546-Tanggungjawab-lingkungan-danperan-informasi-biaya-lingkungan-dalam-pengambilan-keputusan-manajemen-studi-kualitatif. html
- Andi, K. P. L., A., Alimuddin, H. H., Mediaty, & Andi, M. K. (2020). Green accounting and its implementation in Indonesia. *Efektor*, 7(1), 59-72. https://doi.

org/10.29407/e.v7i1.14414

- Aras, G., & Crowther, D. (2009). Corporate sustainability reporting: A study in disingenuity? *Journal* of Business Ethics, 87, 279-288. https://doi.org/10.1007/s10551-008-9806-0
- Astuti, A. D., & Nugroho, P. I. (2016). Concern and knowledge businesses on green accounting Kepedulian dan pengetahuan pelaku bisnis mengenai green accounting. *Jurmal Bisnis & Ekonomi, 14*(1), 35-45. Retrieved from https://journal.unimma. ac.id/index.php/bisnisekonomi/ article/download/122/75/
- Azapagic, A. (2003). Systems approach to corporate sustainability: A general management framework. *Process Safety and Environmental Protection*, 81(5), 303-316. https://doi. org/10.1205/095758203770224342
- Bebbington, J. (2001). Sustainable development: A review of the international development, business and accounting literature (University of Aberdeen Accounting, Finance & Management Working Paper No. 00-17). https://doi.org/10.2139/ ssrn.257434
- Begum, H., Choy, E. A., Alam, A. S. A. F., Siwar, C. I., & Ishak, S. (2019). Sustainability practices framework of the palm oil

milling sub-sector: A literature survey. International Journal of Environment and Sustainable Development, 18(4), 387-408. https://doi.org/10.1504/ IJESD.2019.103473

- 11. Betahita, R. (2019, September 17). Jikalahari: Review izin perkebunan sawit asal Malaysia. Betahita. (In Indonesian). Retrieved from https://www.betahita.id/news/ detail/3974/jikalahari-review-izinperkebunan-sawit-asal-malaysia. html.html
- Broman, G. I., & Robèrt, K. H. (2017). A framework for strategic sustainable development. *Journal* of Cleaner Production, 140, 17-31. https://doi.org/10.1016/j. jclepro.2015.10.121
- Burhany, D. I., & Nurniah, N. (2013). Akuntansi manajemen lingkungan, alat bantu untuk meningkatkan kinerja lingkungan dalam pembangunan berkelanjutan. *Jurnal Ekonomi Dan Keuangan*, *17*(3), 279-298. (In Indonesian). https://doi. org/10.24034/j25485024.y2013. v17.i3.262
- Chasbiandani, T., Rizal, N., & Satria, I. I. (2019). Penerapan green accounting terhadap profitabitas perusahaan di Indonesia. *AFRE (Accounting and Financial Review)*, 2(2), 126-132. (In Indonesian). https://doi. org/10.26905/afr.v2i2.3722

- Cohen, N., & Robbins, P. (Eds.). (2012). Green business: An A-to-Z guide. SAGE Publications, Inc. https://doi. org/10.4135/9781412973793
- Damayanti, D., & Pentiana, D. (2013). Global warming in the perspective of environmental management accounting (EMA). *Jurnal Ilmiah ESAI*, 7(1). Retrieved from https://jurnal.polinela.ac.id/ESAI/article/view/993
- Datta, R., & Deb, S. K. (2012). Green accounting: What? Why? Where we are now and where we are heading – A closer look. *European Journal of Business and Management*, 4(4), 99-110. Retrieved from https://iiste.org/ Journals/index.php/EJBM/article/ view/1434
- Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures – A theoretical foundation. Accounting, Auditing & Accountability Journal, 15(3), 282-311. https://doi. org/10.1108/09513570210435852
- Dhar, B. K., Sarkar, S. M., & Ayittey, F. K. (2020). Impact of social responsibility disclosure between implementation of green accounting and sustainable development: A study on heavily polluting companies in Bangladesh. *Corporate Social Responsibility and Environmental Management, 29*(1), 71-78. https:// doi.org/10.1002/csr.2174
- Dineva, V. (2019). The role of internal audit in corporate social responsibility strategies. *Economic Alternatives*, *2*, 287-295. Retrieved from https://www.unwe.bg/uploads/Alternatives/11_Dineva_Alternatives_en_2_2019.pdf
- Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *The Pacific Sociological Review*, 18(1), 122-136. https://doi. org/10.2307/1388226
- Effendi, M. (2018). The power of good corporate governance teori dan implementasi (2nd ed.). Jakarta: Salemba Empat. (In Indonesian).
- 23. Elkington, J. (1997). *Cannibals* with forks: The triple bottom line

of 21st century business. United Kingdom: Capstone.

- 24. Endiana, I. D. M., Dicriyani, N. L. G. M., Adiyadnya, M. S. P., & Putra, I. P. M. J. S. (2020). The effect of green accounting on corporate sustainability and financial performance. *The Journal* of Asian Finance, Economics and Business, 7(12), 731-738. https:// doi.org/10.13106/Jafeb.2020.Vol7. No12.731
- Fitrah, M. (2015). Pelaksanaan corporate social responsibility di Pt. pertamina (persro) cabang bima. Jurnal IUS Kajian Hukum dan Keadilan, 3(2), 264-281. (In Indonesian). https://doi. org/10.12345/ius.v3i8.212
- Ghozali, I., & Chariri, A. (2007). *Teori akuntansi*. Semarang: Universitas Diponegoro. (In Indonesian).
- 27. Ghozali, I., & Latan, H. (2015). Partial least square: Konsep, teknik dan aplikasi menggunakan program SmartPLS 3.0 untuk penelitian empiris. Semarang: Badan Penerbit Universitas Diponegoro. (In Indonesian).
- Gonzalez, C. C., & Mendoza, K. H. (2020). Green accounting in Colombia: A case study of the mining sector. *Environment*, *Development and Sustainability*, 23(4), 6453-6465. https://doi. org/10.1007/s10668-020-00880-1
- Hackston, H., & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. Accounting, Auditing & Accountability Journal, 9(1), 77-108. https://doi. org/10.1108/09513579610109987
- 30. Hadi, N. (2014). *Corporate social responsibility*. Jakarta: Graha Ilmu.
- Lako, A. (2018). Akuntansi hijau: Isu, teori dan aplikasi. Jakarta: Salemba Empat. (In Indonesian).
- Lingyu, K. (2021, June 4). Who gets to define sustainable palm oil? China Dialogue. Retrieved from https://chinadialogue.net/en/food/ who-gets-to-define-sustainablepalm-oil/
- 33. Lu, H., Wei, Y., Yang, S., & Liu, Y. (2020). Regional spatial

patterns and influencing factors of environmental auditing for sustainable development: Summaries and illuminations from international experiences. *Environment, Development and Sustainability, 22*(4), 3577-3597. https://doi.org/10.1007/s10668-019-00357-w

- Nabila, R. (2021). Green accounting for sustainable development: Case study of Indonesia's manufacturing sector. *Akuntansi Dewantara*, 5(1), 1-10. https://doi.org/10.26460/ ad.v5i1.9147
- 35. Nayenggita, G. B., Raharjo, T. S., & Resnawaty, R. (2019). Praktik corporate social responsibility di Indonesia. *Focus: Jurnal Pekerjaan Sosial*, 2(1), 61-66. (In Indonesian). https://doi.org/10.24198/focus. v2i1.23119
- Nekhili, M., Nagati, H., Chtioui, T., & Rebolledo, C. (2017). Corporate social responsibility disclosure and market value: Family versus nonfamily firms. *Journal of Business Research, 77*, 41-52. https://doi.org/10.1016/j. jbusres.2017.04.001
- Nga, N. T. H., Ha, H. T. V., & Loan, N. T. T. (2019). Green accounting and sustainable development of listed Vietnamese enterprises. *Journal of Asian Review of Public Affairs and Policy*, 4(1), 26-42.
- Ningsih, D. F., Junaid, A., & Mursalim, M. (2020). Environmental audit analysis to support sustainability development. *Point of View Research Accounting and Auditing*, 1(3), 101-109. https:// doi.org/10.47090/povraa.v1i3.48
- Ogbonna, G. N., Onuoha, T. E., Igwe, J. C., & Ojeaburu, F. (2021). Environmental accounting and sustainability development in Nigeria. West African Journal of Business and Management Sciences, 9(4), 62-89. https://doi. org/10.17632/kzsm6nsn4y.2
- Parmar, B. L., Freeman, R. E., Harrison, J. S., Wicks, A. C., Purnell, L., & de Colle, S. (2010). Stakeholder theory: The state of the art. *Academy of Management Annals*, 4(1), 403-445. https://doi.or g/10.1080/19416520.2010.495581

- Platonova, E., Asutay, M., Dixon, R., & Mohammad, S. (2018). The impact of corporate social responsibility disclosure on financial performance: Evidence from the GCC Islamic banking sector. *Journal of Business Ethics*, *151*(2), 451-471. https://doi. org/10.1007/s10551-016-3229-0
- Prihatiningtias, Y. W., & Dayanti, N. (2014). Corporate social responsibility disclosure and firm financial performance in mining and natural resources industry. *The International Journal* of Accounting and Business Society, 22(1), 35-59. Retrieved from https://ijabs.ub.ac.id/index.php/ ijabs/article/view/245
- Rahim, M. M., & Vicario, V. (2015). Social audit: A mess or means in CSR assessment? In M. Rahim & S. Idowu (Eds.), *CSR, Sustainability, Ethics and Governance* (pp. 1-13). Springer. https://doi.org/10.1007/978-3-319-15838-9_1
- 44. Rogers, P. P., Jalal, K. F., & Boyd, J. A. (2010). *An introduction to sustainable development*. London, UK: Earthscan.

- Sadou, A., Alom, F., & Laluddin, H. (2017). Corporate social responsibility disclosures in Malaysia: Evidence from large companies. *Social Responsibility Journal*, *13*(1), 177-202. https://doi. org/10.1108/SRJ-06-2016-0104
- Salsiah, Alisjahbana, A., & Endah, M. (2018). *Tujuan pembangunan* berkelanjutan di Indonesia: Konsep, target dan strategi implementasi. Jatinangor: Unpad Press. (In Indonesian).
- Suharto, E. (2017). Menggagas standar audit program CSR. Jakarta: Financial Club. (In Indonesian).
- Susanto, A., & Purnomo, D. (2017). Audit lingkungan. Tanggerang Selatan: Universitas Terbuka. (In Indonesian).
- Syahza, A., Irianti, M., Suwondo, & Nasrul, B. (2020). What's wrong with palm oil, why is it accused of damaging the environment? *Journal of Physics: Conference Series*, 1655(1), 012134. https://doi.org/10.1088/1742-6596/1655/1/012134

- Tu, J. C., & Huang, H. S. (2015). Analysis on the relationship between green accounting and green design for enterprises. *Sustainability*, 7(5), 6264-6277. https://doi.org/10.3390/su7056264
- Wacana Edukasi. (2022). Sunga tercemar, risiko kian lebar. (In Indonesian). Retrieved from https://www.wacana-edukasi.com/ sungai-tercemar-risiko-kian-lebar/
- 52. Yoga, I. G. A. P., & Sastri, I. I. D. A. M. (2020). Green accounting: An environmental pollution prevention effort to support business continuity. *Jurnal Ekonomi & Bisnis Jagaditha*, 7(2), 128-137. https://doi.org/10.22225/ jj.7.2.2488.128-137
- Yusuf, M. Y. (2017). Islamic corporate social responsibility (I-CSR) pada lembaga keuangan syariah (LKS): Teori dan praktik. Depok: Kencana. (In Indonesian).
- Zaili, R., Adianto, & Dadang, M. (2020). Pembangunan berkelanjutan dalam bingkai otonomi daerah. Pekanbaru: Taman Karya. (In Indonesian).