

Reflections On Ocean Accounting And Sustainability: Concept Study

Diyah Probowulan¹ and Bovalaphiane Sisouk^{2*}

¹Universitas Muhammadiyah Jember; diyahprobowulan@unmuhjember.ac.id

²National University of Laos ; Phiene25@gmail.com

*Correspondence: Diyah Probowulan
Email: diyahprobowulan@unmuhjember.ac.id

Accepted : Juli 2023
Published: September 2023



Copyright: © 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY NC) license (<http://creativecommons.org/licenses/by/4.0/>).

Abstract: Ocean accounting is reflected as a form of awareness of the sustainability needs for a clean and blue environment in marine areas that are different from green accounting inland areas. This is part of human efforts to protect the sea which is still rarely touched as a subject of research in accounting. If companies engaged in maritime affairs have not regulated or have not published environmental problems of the marine area while accounting products in the form of financial statements only contribute minimally to investors, non-financial information is needed in decision-making where factors that affect the marine environment are important considerations and issues that are debated in the implementation of their business so that an accounting concept is needed ocean. The methodology used is qualitative, with a critical paradigm approach. Literature studies are used to obtain data. The findings of this article notion establish a new paradigm of environmental accounting that provides financial and non-financial information for the marine/ocean environment. The function of conventional accounting must be modified to avoid environmental conflict, especially in marine ecosystems to prevent damage to marine ecosystems. The rise of environmental accounting and the accounting profession that cares about the ocean environment affect marine industry investor decision-making. Conceptual papers may help build ocean accounting into a sustainability report.

Keywords: Ocean Accounting, Sustainability, Non-Financial Information

INTRODUCTION

Accounting is not just about figures, but is strongly impacted by environmental variables [1]–[4] both the company's internal and outward environments. The development of accounting is identical to economic activities (business entities) related to numbers stated in monetary units, has a value, and is usually a matter of opinion [5]. Accounting is constantly moving towards evolution in harmony with nature. Various evolutions of social and environmental accounting are recorded starting from the concept of sustainability, triple bottom line, and sustainability reporting (GSBB, 2016), to the Pentaple Bottom Line phase [6]–[11] and this phase continues. Ocean accounting exists to fill the accounting void that has so far only prioritized financial aspects in business decision-making by prioritizing the environmental and social sustainability of the company where it is located but does not consider its impact on the marine/ocean. Because of this, ocean accounting puts the focus back on environmental accounting, which needs communication and knowledge about marine assets [12].

Stressing the idea of sustainability is the main goal of ocean accounting. The ability to meet the needs of the current generation while protecting the potential of future generations is referred to as sustainability, so ensuring the preservation of resources and the environment for long-term viability. The topic of sustainability garnered the interest of several stakeholders, including the United Nations (UN), leading to the organization's convening of an environmental Summit in 1972. There is now an acknowledgment of a contradiction

that has arisen between environmental ethics and development, marking a significant milestone in understanding this issue [12]. The use of traditional accounting and finance within global economic models presents a challenge in addressing sustainability concerns [12]. Certain experts claim that the fundamental origin of environmental issues may be attributed to anthropocentrism [13]. Anthropocentric is the human drive to achieve the goal of dominating nature, it can even trigger war, no longer a local conflict but a global one.

Hence, the Indonesian government strategically navigated at the 20th Rio Summit in Brazil, held from 3-14 June 1992, with the objective of establishing the maritime sector as a prominent industry that serves as a catalyst for the growth and development of other sectors. Indonesia, as the biggest archipelagic nation globally with around 13,487 islands, faces significant challenges pertaining to exploitation and depreciation, which in turn impose social costs on its community. Irresponsible human actions contribute to the occurrence of sustainability challenges in marine environments [14], [15]. The depletion of natural resources beyond sustainable levels has been seen to have a detrimental impact on the competitiveness of many sectors, as exemplified by the Dutch notion of "disease." Dutch illnesses have a gradual growth pattern among nations endowed with ample natural resources [16]. In the context of Indonesia, it is seen that the nation has a significant abundance of natural resources. However, there has been a noticeable deterioration in the competitiveness and sustainability of the natural environment. In the next section, the development of ocean accounting conceptual preparation will be explained, namely: part 2 explains the theoretical framework as a basis for development, part 3 discusses the development of several previous sources that explain similar problems, part 4 explains development opportunities, and part 5 conclusions.

RELATED THEORIES IN OCEAN ACCOUNTING PRACTICE

The idea of sustainability encompasses three fundamental dimensions, namely: economic, social, and environmental. [8], [10], [17], [18]. The concept of sustainable development was officially adopted during the World Summit in Johannesburg, South Africa, in 2002, giving rise to this crucial principle. The Sustainable Development Goals (SDGs) initiative was started by nations that are United Nations members.

Sustainable Development Goals (SDGs) implementation might be included into every aspect of a business's operations, drawing upon the triple bottom line framework [18], [19], this is known as sustainable development. Concerning SDG 14's objective regarding marine ecosystems, the Indonesian government aspires to make Indonesia's waters a prominent industry. The Central Bureau of Statistics explained that by 2020, at least ten percent of littoral and marine areas must be conserved in accordance with national and international laws and the finest available scientific data. President of the Republic of Indonesia Sutardjo stated in his 2012 report, "For Indonesia, the Blue Economy is Our Next Frontier" In contrast, the green economy emphasises on carbon reduction, natural resource efficiency, and labour efficiency, as well as spawning green accounting. Ocean Economy is a sustainable development that will bolster the green economy. "Sky Samudra - Ocean Ocean" is the motto of the ocean economy, where the economy develops, the people prosper, and the sky and sea remain blue. It can be concluded that the presence of the ocean economy reinforces the vital role of ocean accounting in nature conservation.

The primary objective of the firm is to optimise the financial well-being of its investors. The stakeholders of the firm include two categories: major stakeholders and secondary stakeholders, major stakeholders are individuals or entities that own an economic interest in the company and assume the associated risks. Secondary stakeholders are individuals or entities that do not have direct involvement with the firm, but their interactions with the company have an impact on each other [12]. The primary objective of stake-

holder practise is to cultivate a sense of inquisitiveness among managers on all aspects pertaining to stakeholder interests.

The organization's operations are not reliant on secondary stakeholders, but rather on the concept of legitimacy. The concept of stakeholder theory is elucidated by considering the collective influence of both public stakeholders and secondary stakeholders [12]. The activation of stakeholder power is influenced by specific circumstances represented by two properties of interactions in many domains, namely legitimacy and urgency. In some contexts, the presence of strength does not always ensure the establishment of positive relationships between stakeholders and managers. The concept of legitimacy theory is intricately connected to stakeholder theory, whereby the acquisition of power and authority is contingent upon legitimacy, and the exercise of power is facilitated by a sense of urgency [20], [21], and underlies corporate social responsibility [12]. The significance of stakeholder theory and CSR lies in their emphasis on the company obligation towards the community and society.

The subject of corporate social responsibility, which pertains to the environmental and societal considerations of corporations, has garnered significant attention and has been a matter of debate for the last thirty years. [22]. The assessment of sustainable development's efficacy is predicated upon achieving equilibrium among environmental, economic, and social dimensions. The social dimension is constrained mostly to the concept of corporate social responsibility (CSR). The notion is constructed upon the norms, beliefs, and culture of Western European and American societies. Various models of social responsibility have emerged, including classic conflicts, social economic accounting (SEA), and Social Investment responsibility. It is important to note that social components are not just limited to corporate social responsibility (CSR), but extend to a broader context. Corporate Social Responsibility (CSR) is a fundamental and longstanding idea within the realm of scholarly research on business and public relations [23]. The substantial expenses associated with Corporate Social Responsibility initiatives inherently impact the functioning of the environmental cost accounting system, specifically in relation to environmental costs. Environmental conservation expenses are to the financial resources given for the purpose of preventing, minimising, or avoiding environmental consequences, as well as mitigating the effects of disasters and engaging in other related activities (Ministry of Environment of Japan, 2005).

Corporate Social Responsibility (CSR) is the term used to describe the moral and ethical duties that businesses have to society and the environment. It encompasses the voluntary actions taken by businesses to the implementation of diverse legislation in Indonesia has led to the emergence of distinctive accounting principles that vary from those found in other nations. [24]The notion of green accounting has arisen as a reaction to environmental consciousness within the field of accounting. It involves assessing the costs and benefits associated with a policy in order to understand the financial implications of environmental considerations. The notion of green accounting had a surge in popularity throughout the 1970s inside continental Europe. The primary emphasis of green accounting is in the assessment of the environmental expenses that corporations must bear when conducting their operations [25]–[27]. The incorporation of several aspects is crucial in the formulation of the idea of green accounting [2], [28], namely;

- 1) The monetary expenditures associated with environmental conservation,
- 2) The economic advantages derived from conservation actions, quantified in monetary units,
- 3) The advantages of environmental conservation, as quantified by physical environment units, are significant.

The development of green accounting supports government accounting practices, financial accounting, cost accounting, and managerial-strategic accounting. The question arises what about marine management in

certain industrial businesses, especially in maritime relations, there is also a great potential for damage to the ecosystem. The need for submission to investors in the annual financial statements whether in general or presented separately as well as in green accounting statements. [12], [29] explains there are no usual parameters for disclosure of environmental issues but rather motivated by volunteerism [20], [21]. The regulation of funding for situations of environmental damage and demands, subject to certain conditions, is governed by accounting standards such as the Financial Accounting Standards Board (FASB) [30], legitimacy theory [20] and political economy theory [12], and agency theory.

OCEAN ACCOUNTING OPPORTUNITIES IN ACCOUNTING

Indonesia has not had a policy that specifically governs the sea since the United Nations Convention on the Law of the Sea was ratified, and the government of the Republic of Indonesia took part in creating Law Number 17 of 1985 concerning the Ratification of United Nations Convention on the Law of the Sea. It is a source of optimism since it is the world's biggest archipelagic nation, including coastline and marine regions, and it must be developed responsibly in order to flourish the whole country. The National Long-Term Development Plan (RPJPN) 2005–2025 is outlined in Law of the Republic of Indonesia Number 17 of 2007, which identifies 8 (eight) sectors to be developed.

"Realising Indonesia to become an archipelagic country that is developed, independent, influential, and based on domestic needs" is one among them. In order to carry out the direction of the growth of the National Sea, Indonesia, an archipelagic nation, is supported by 5 (five) primary pillars: marine culture, sea governance, maritime security, marine economics, and marine environment. Because the ocean economy is essentially a matrix of economic growth based on environmental ethics, these economic and environmental pillars are essential elements in the notion of ocean economies. Ocean economies and green economies are both developing and began with sustainable environmental ideals, yet they vary significantly. In contrast to the United Nations Environment Programme's embrace of a green economy, Gunter Pauli's introduction of the ocean economy in 2010 via his book *The Blue Economy* offers a subtlety.

It has been sufficient for the green economy to stimulate low-carbon capital practises, resource efficiency, hygiene, waste reduction, and environmental empowerment [2], [25], [26], [31]–[33]. Nevertheless, the fundamental issue remains unanswered: the prevailing economic system is seen as an inherent entity, whereas green economy goods and services sometimes incur higher costs due to their increased investment requirements. Moreover, the ongoing process of sustainable rejuvenation, facilitated by the adoption of environmentally-friendly goods and services, necessitates their acquisition at elevated costs, rendering them inaccessible to marginalised people. The field of Blue Economics is not necessarily limited to the Marine Economy; rather, it is particularly well-suited for the advancement and growth of the marine and fisheries industry.

The results of the study [15] showed that almost no catch data was submitted by member countries to the Food and Agriculture Organization. Scholars contend that the concept of ocean accounting prioritises the equitable consideration of environmental costs, safeguarding the interests of capital owners, while simultaneously ensuring a harmonious equilibrium between the requirements of living organisms and the capacity of natural resources to sustain them. Ocean Accounting is designed to provide assistance to the Indonesian government's initiative known as Blue Economics. [34] This aligns with the findings of the United Nations, which said that the many approaches to Blue Economics are contingent upon the specific national and local objectives and aspirations (UN, 2017). In this paper, the inclusion of ocean accounting is not intended to

contradict the inclusion of green accounting. Rather, it serves to supplement the research emphasis by addressing aspects that may be overlooked by green accounting.

The emergence of green accounting may be traced back to the 1970s, mostly in Europe. The emergence of green accounting may be attributed to a growing recognition among various stakeholders and mounting pressure on corporations to adopt environmental management practises [12], [20], [35]. Textually the presence of green accounting supports the movement of nature conservation in the company's daily activities [29]. Moreover, it is worth highlighting that green accounting refers to the practise of accounting that aims to identify, quantify, assess, and report the expenses linked with a company's environmental operations. According to Aniela (2012), there are distinctions between ocean accounting and green accounting. Ocean accounting is a field of study that primarily concerns itself with the examination and analysis of marine ecosystems, which encompass a substantial 72% of the Earth's total surface area. The concept of blue accounting emerged within the context of the Great Lakes and St. Lawrence River region, primarily addressing water quality concerns. This approach incorporates the triple bottom line framework, which encompasses economic, social, and environmental dimensions. There are five pilot project foci that aim to reflect diverse interests and stakeholders in the watershed. These focuses are as follows:

- 1) Types of fish in the waters,
- 2) Coastal wetlands,
- 3) Sea Transport,
- 4) Phosphorus control,
- 5) Water source.

[15], [36] explain ocean accounting is a valuable tool for the analysis of Blue Economics. The objective is to enhance public and organisational engagement with the organisation of marine ecosystems, which may be highlighted from many perspectives. Conversely, it has been disclosed that the utilisation of efficient marine spatial planning is imperative in identifying appropriate zones for aquaculture operations within the vicinity. This approach serves to mitigate the likelihood of conflicts arising between aquaculture and various other activities, including tourism, recreational fishing, commercial fishing, and nature conservation (WWF, 2016). The development of green accounting and ocean accounting is driven by the presence of sustainable principles that emphasise the integration of environmental, economic, and social considerations (triple bottom line) in order to achieve harmony with nature. Moreover, the ideas of green accounting and ocean accounting have played a significant role in the development of sustainability reporting, which involves the assessment of environmental costs.

The distinction between green accounting and ocean accounting pertains to the specific areas of investigation. Green accounting mostly centres on carbon/gas emissions, while blue accounting primarily centres on marine/maritime ecosystems. The word "ocean" is often described as the state or condition of water in the context of debates pertaining to the issue of "ocean economy", [15]. However, a state of perplexity exists within the hydrological field over the use of the phrase "green colour" or "deep ocean water" due to the absence of a precise delineation of its stock and flow characteristics, as well as its ability to accurately monitor water equilibrium over a given period [36]. Regardless of the terminology used, it is essential to establish a coherent linkage between a given phrase and its specific integration into a discernible stock or flow within the hydrological cycle. Henceforth, within the context of this scholarly article, the word "ocean" should denote the vast body of saltwater often known as the sea. Moreover, the word "accounting" pertains to the process of matching water-related choices with intended results.

The assets in ocean accounting, which is a method of thinking about the maritime, have the potential to be the marine economy's main engine but are still underappreciated by some (UNDESA, 2014). According [2], [32] based on financial statements, stakeholders who make funding and investment decisions in the maritime sector can make decisions regarding ocean accounting. The existence of ocean accounting strengthens environmental accounting's current standing. It is time for accountants to prioritise marine ecosystems that are abundant in natural resources but inadequately managed.

There are many prospects for accountants worldwide to engage in ocean accounting. It is anticipated that accountants will not just serve as score-recording professionals, since their initial job is mostly confined to the compilation of financial statements. Due to substantial environmental changes, accountants are required to assume the position of a strategist, with the capacity to function not just as generators of organisational profits. Particularly, management accountants have a consistent emphasis on enhancing organisational performance and profitability. Similarly, accounting professionals in the field of education who prioritise credit points find themselves assuming the role of numerical record keepers. [37], it has been discovered that accountants fulfil many responsibilities, namely as administrators, performers, drafters, and participants. Accountants are required to not only communicate financial information to stakeholders but also contribute to the enhancement of the use and durability of such information.

CONCLUSION

In contrast to green accounting, which concentrates on carbon emissions, ocean accounting focuses on marine ecosystem life. But both emphasise sustainability, which is the same point. Green accounting does not conflict with the existence of ocean accounting. Even more so, it supports environmental accounting's existing stance. The conceptual findings of this research have significance for the growth of environmental accounting and the accounting profession, which is anticipated to become an accountant who does more than just record transactions. In order to improve how ocean accounting practises may be implemented, future study can utilise the creation of ocean accounting principles as a guide, backed by fieldwork. The condition of countries with large and uncertain waters is a consideration for the possibility of greater expolarization of marine natural resources so disclosure in financial reports is needed by investors in decision making.

REFERENCES

- [1] T. Škrinjarić, "Empirical assessment of the circular economy of selected European countries," *J. Clean. Prod.*, 2020, doi: 10.1016/j.jclepro.2020.120246.
- [2] A. Ball, "Environmental accounting and change in UK local government," *Accounting, Audit. Account. J.*, vol. 18, no. 3, pp. 346–373, 2005, doi: 10.1108/09513570510600738.
- [3] C. Larrinaga and J. Bebbington, "The pre-history of sustainability reporting: a constructivist reading," *Accounting, Audit. Account. J.*, vol. 34, no. 9, pp. 131–150, 2021, doi: 10.1108/AAAJ-03-2017-2872.
- [4] J. A. Dixon and L. A. Fallon, "The concept of sustainability: Origins, extensions, and usefulness for policy," *Soc. Nat. Resour.*, vol. 2, no. 1, pp. 73–84, 1989, doi: 10.1080/08941928909380675.
- [5] A. I. Belousov, G. V. Mihajlova, F. M. Uzdanova, and L. V. Blizno, "Legal and economic components of modern accounting transformation," *Eur. Res. Stud. J.*, vol. 21, no. 1, pp. 34–40, 2018, doi: 10.35808/ersj/1156.
- [6] S. Rajgopal and T. Shevlin, "Empirical evidence on the relation between stock option compensation and risk taking," *J. Account. Econ.*, vol. 33, pp. 145–171, 2002.
- [7] M. Khaddafi, H. Aspan, Mohd. Heikal, Wahyuddin, Falahuddin, and Z. Humaira, "Effect of

- perception of facilities, intensity of conduct, and satisfaction of tax payers to submission of letter by E-filing notice on tax service," *Emerald Reach Proc. Ser.*, vol. 1, pp. 583–587, 2018, doi: 10.1108/978-1-78756-793-1-00001.
- [8] C. S. D. S. Lokuwaduge and K. M. De Silva, "ESG Risk Disclosure and the Risk of Green Washing," *Australas. Accounting, Bus. Financ. J.*, vol. 16, no. 1, pp. 146–159, 2022, doi: 10.14453/aabfj.v16i1.10.
- [9] S. Tatiana and S. Tatiana, "Advances in Economics, Business and Management Research, volume 104 Third International Economic Symposium (IES 2018)," vol. 104, no. Ies 2018, pp. 317–326, 2019.
- [10] I. Heras-Saizarbitoria, L. Urbieto, and O. Boiral, "Organizations' engagement with sustainable development goals: From cherry-picking to SDG-washing?," *Corp. Soc. Responsib. Environ. Manag.*, vol. 29, no. 2, pp. 316–328, 2022, doi: 10.1002/csr.2202.
- [11] L. Lakhani and S. L. Herbert, "Theoretical frameworks applied in integrated reporting and sustainability reporting research," *South African J. Econ. Manag. Sci.*, vol. 25, no. 1, pp. 1–12, 2022, doi: 10.4102/sajems.v25i1.4427.
- [12] R. Gray, "Accounting and environmentalism: An exploration of the challenge of gently accounting for accountability, transparency and sustainability," *Accounting, Organ. Soc.*, vol. 17, no. 5, pp. 399–425, 1992, doi: 10.1016/0361-3682(92)90038-T.
- [13] Y. K. Djamba and W. L. Neuman, *Social Research Methods: Qualitative and Quantitative Approaches*, vol. 30, no. 3. 2002. doi: 10.2307/3211488.
- [14] S. Syah, E. Saraswati, E. G. Sukoharsono, and Roekhudin, "Blue Accounting and Sustainability," vol. 144, no. Afbe 2019, pp. 502–508, 2020, doi: 10.2991/aebmr.k.200606.085.
- [15] D. Pauly, "A vision for marine fisheries in a global blue economy," *Mar. Policy*, vol. 87, no. October, pp. 371–374, 2018, doi: 10.1016/j.marpol.2017.11.010.
- [16] Y. Kajikawa, J. Yoshikawa, Y. Takeda, and K. Matsushima, "Tracking emerging technologies in energy research: Toward a roadmap for sustainable energy," *Technol. Forecast. Soc. Change*, vol. 75, no. 6, pp. 771–782, 2008, doi: 10.1016/j.techfore.2007.05.005.
- [17] T. Kuhlman and J. Farrington, "What is sustainability?," *Sustainability*, vol. 2, no. 11, pp. 3436–3448, 2010, doi: 10.3390/su2113436.
- [18] R. Klimko and Z. Juhászová, "Integrated Reporting Assessment from the User's Perspective Using the Integrated Report Quality Index," *Int. J. Digit. Account. Res.*, vol. 22, no. November 2021, pp. 71–96, 2022, doi: 10.4192/1577-8517-v22_3.
- [19] T. Creel and V. Paz, "Teaching Sustainability in an Accounting Classroom," *Discourse Commun. Sustain. Educ.*, vol. 9, no. 1, pp. 79–85, 2018, doi: 10.2478/dcse-2018-0006.
- [20] C. Deegan, M. Rankin, and J. Tobin, *An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory*, vol. 15, no. 3. 2002. doi: 10.1108/09513570210435861.
- [21] V. Magness, "Who are the stakeholders now? An empirical examination of the Mitchell, Agle, and Wood theory of stakeholder salience," *J. Bus. Ethics*, vol. 83, no. 2, pp. 177–192, 2008, doi: 10.1007/s10551-007-9610-2.
- [22] D. Jamali, "A stakeholder approach to corporate social responsibility: A fresh perspective into theory and practice," *J. Bus. Ethics*, vol. 82, no. 1, pp. 213–231, 2008, doi: 10.1007/s10551-007-9572-4.
- [23] D. Windsor, "THE FUTURE OF CORPORATE SOCIAL RESPONSIBILITY," *Int. J. Organ. Anal.*, vol. 9, no. 3, pp. 225–256, 2001.
- [24] A. Sanosra, A. R. Hakim, D. Cahyono, N. Qomariah, and M. Thamrin, "Role of Knowledge Sharing and Leadership Style in Improving Employee Performance With Work Culture As an Intervening

-
- Variable," *J. Apl. Manaj.*, vol. 20, no. 4, 2022, doi: 10.21776/ub.jam.2022.020.04.14.
- [25] M. Hynes, "The Social, Cultural and Environmental Costs of Hyper-Connectivity: Sleeping Through the Revolution," *Soc. Cult. Environ. Costs Hyper-Connectivity Sleep. Through Revolut.*, 2021, doi: 10.1108/9781839099762.
- [26] P. de Beer and F. Friend, "Environmental accounting: A management tool for enhancing corporate environmental and economic performance," *Ecol. Econ.*, vol. 58, no. 3, pp. 548–560, 2006, doi: 10.1016/j.ecolecon.2005.07.026.
- [27] G. Aras and D. Crowther, "Corporate sustainability reporting: A study in disingenuity?," *J. Bus. Ethics*, vol. 87, no. SUPPL. 1, pp. 279–288, 2009, doi: 10.1007/s10551-008-9806-0.
- [28] Xiao, Jones, and Lymer, "A Conceptual Framework for Investigating the Impact of the Internet on Corporate Financial Reporting," *Int. J. Digit. Account. Res.*, vol. 5, no. September, pp. 131–169, 2005, doi: 10.4192/1577-8517-v5_4.
- [29] F. Bell and G. Lehman, "Recent trends in environment accounting: how green are your accounts?," *Account. Forum*, vol. 23, no. 2, pp. 175–192, 1999, doi: 10.1111/1467-6303.00010.
- [30] I. E. Fisher, M. R. Garnsey, S. Goel, and K. Tam, "The role of text analytics and information retrieval in the accounting domain," *J. Emerg. Technol. Account.*, vol. 7, no. 1, pp. 1–24, 2010, doi: 10.2308/jeta.2010.7.1.1.
- [31] "The Challenge of Environmental Accounting."
- [32] C. L. Francisco, C. F. Javier, C. L. Francisco, and C. F. Javier, "The role of environmental accounting in organizational change An exploration of Spanish companies," *Accounting, Audit. Account. J.*, vol. 14, no. 2, pp. 213–239, 2001.
- [33] M. Bennett, S. Schaltegger, and D. Zvezdov, "Environmental management accounting," *Rev. Manag. Account. Res.*, pp. 53–84, 2011, doi: 10.1057/9780230353275.
- [34] N. Qomariah, U. M. Jember, E. B. Satoto, and U. M. Jember, "Improving Financial Performance and Profits of Pharmaceutical Companies During a Pandemic: Study on Environmental Performance, Intellectual Capital and Social Responsibility," *Qual. - Access to Success*, vol. 22, no. 184, 2021, doi: 10.47750/qas/22.184.20.
- [35] G. Lehman, "Corporate environmental reporting: Some critical thoughts," *Soc. Environ. Account. J.*, vol. 18, no. 1, pp. 9–11, 1998, doi: 10.1080/0969160X.1998.9651571.
- [36] A. Y. Hoekstra, "Green-blue water accounting in a soil water balance," *Adv. Water Resour.*, vol. 129, no. May, pp. 112–117, 2019, doi: 10.1016/j.advwatres.2019.05.012.
- [37] Devie, J. Tarigan, and Y. S. Kunto, "Application of accounting concepts in the workplace: a research of management accountant in Surabaya, Indonesia," *J. Int. Bus. Res.*, vol. 7, no. S3, pp. 89–104, 2008.