

Empowering Waste Banks as a Pro-Sustainability Effort through Capacity Building in Environmental Cost Identification and Accounting

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ABSTRACT

This community service aimed to provide waste banks in Kupang (Indonesia) with an understanding of identifying environmental costs and recording them in financial statements based on Environmental Management Accounting (EMA). The training helped waste bank managers recognize and efficiently manage environmental costs. Six waste banks participated: Bank Sampah Anggrek, Bank Sampah Muara Abu, Bank Sampah Nelayan Bersatu, Yayasan Pikul, Bank Sampah Stasasi, and Bank Sampah Mutiara Timor. Activities included understanding EMA-based financial reporting, practical exercises, green credit education, and evaluating the waste banks' knowledge. The financial statements prepared were the income statement, environmental physical dimension and benefits report, balance sheet, and cash flow statement. This enhanced environmental cost management, sustainability, and access to green credit.

INTRODUCTION

Environmental accounting has emerged as a response to pressures from non-governmental organizations and the growing public awareness of the importance of addressing environmental issues (Nianty, dkk.2023; Pentiana, 2016; , Pratiwi, dkk, 2024). Its primary aim is to encourage companies to shift their focus beyond mere profit generation toward responsible environmental management. Environmental accounting plays a crucial role in identifying, measuring, reporting, and disclosing the indirect costs and benefits associated with the environmental and social impacts of corporate activities, as well as in supporting informed decision-making (Yuliana dan Sulistyawati, 2021; Manehat dan Sonbay, 2024).

The increasing public awareness of environmental concerns – evident from the growing consumer demand for environmentally friendly products and services – has led businesses to become more interested in adopting sound environmental practices (Susanto,dkk;2022). One example of sustainable business practices can be found in Waste Bank operations. Waste Banks are initiatives that support the circular economy, wherein collected waste is recycled into useful new products, representing a form of resource reutilization aimed at minimizing waste (Amaral, dkk, 2023; Ndun, dkk, 2023). By sorting and recycling waste, Waste Banks contribute to reducing the volume of waste sent to landfills, while also helping to prevent soil, water, and air pollution.

Waste Banks not only contribute to reducing the negative impact on the environment but also enhance public awareness regarding the importance of environmentally friendly waste management. With these characteristics, Waste Banks are often associated with sustainability-oriented enterprises. However, does this perception align with the actual business processes conducted by Waste Banks? For instance, in the processes of sorting, cleaning, and recycling waste, do Waste Bank operations take into account resource efficiency, the use of renewable energy, and waste reduction, as reflected in the allocation of environmental costs in their financial reports? Furthermore, as a means of reinforcing their environmental commitment, have Waste Banks begun to calculate and disclose costs related to water and energy usage, waste management, and the economic impact of carbon emissions generated?

In reality, this is not the case. The Mutiara Timor Waste Bank (BSMT) in the city of Kupang-East Nusa Tenggara (Indonesia), for instance, as stated by its owner in an interview, has not yet fully implemented environmentally oriented business processes. Due to limitations in human resource capacity, BSMT has been unable to identify and record which expenses qualify as environmental costs associated with waste management activities. The Waste Bank has not yet applied environmental accounting practices in accordance with the framework of Environmental Management Accounting (EMA), which consists of two dimensions.

The physical dimension includes the calculation and recording of: the quantity or percentage of materials derived from recycled inputs, the amount of energy consumed, the amount of energy saved, the amount of water extracted from nature, the amount of water recycled for reuse, the amount of water discharged or wasted, the volume of gas emissions produced, the amount of waste generated, the amount of waste recycled, and the amount of waste disposed of. The monetary dimension involves the calculation and recording of: costs for acquiring waste processing equipment, evaluation/depreciation of such equipment, costs for developing or designing environmentally friendly processes/products, employee training on environmental issues, development of environmental management systems, environmental audit costs, production process inspections, emissions testing, hazardous waste content analysis, hazardous waste treatment and disposal, maintenance of waste processing equipment, recycling of residual materials for reuse, water recycling for reuse, and land restoration/conservation costs (Manehat, dkk, 2024; Burhany, 2012).

Such recording is essential for Waste Banks, as in their operation as sustainability-oriented enterprises, they also generate environmental impacts. BSMT receives approximately 17 to 25 tons of waste per month from its main contributors, including 17 organizational units, 78 individual customers, and 20 scavenger households. To clean the incoming waste, the Waste Bank requires a minimum of 4,200 liters of water per month (1,200 liters per week $\times$ 4 weeks). The water used for washing at the Waste Bank may become contaminated with dirt, detergents, or chemicals used during the cleaning process. If this wastewater is discharged without proper treatment, it may pollute local water sources and harm the surrounding ecosystem. Hence, there is a need to allocate costs for addressing these environmental risks.

In its operations, BSMT also uses diesel fuel for its machinery, consuming approximately 60 liters per week, or 240 liters per month. This results in an estimated carbon emission of around 7.05 tons per year. From a sustainability accounting perspective, such environmental impacts and their mitigation costs must be recorded. With proper management, wastewater and gas emissions can be treated in a way that not only reduces environmental harm but also maintains the Waste Bank's image as an environmentally responsible entity.

Another important cost component is employee health expenditure. BSMT employs 12 workers. From an accounting standpoint, there should be a dedicated allocation for employee health to ensure their safety and well-being. Workers handling plastic waste are potentially exposed to various physical and chemical hazards that may negatively affect their health. Therefore, the Waste Bank must allocate a budget for health and safety programs, including the provision of personal protective equipment and related measures. Thus, this community service is conducted to empower waste banks as a pro-sustainability effort by providing knowledge on the identification, allocation, and recording of environmental costs in its financial statements based on EMA. It is expected that with this allocation, the waste bank can also develop its business through green credit.



Figure 1. Existing Condition of Mutiara Timor Waste Bank

Thus, this community service activity was conducted to provide an understanding of how to identify environmental cost types at waste banks and how to record them in the financial statements of the waste bank. This training enables waste bank managers to clearly understand which costs arise due to the environmental impacts of their activities and how to manage these costs efficiently. The identification and recording process is based on Environmental Management Accounting (EMA). With a better understanding of environmental costs, the waste bank can identify necessary environmental costs, recognize opportunities to reduce unnecessary expenditures, enhance operational efficiency, and optimize waste management processes. This will support the sustainability of the waste bank as an environmentally-friendly business. Furthermore, this training also strengthens the managerial and financial capacity, which can help the waste bank operate in a more sustainable manner.

IMPLEMENTATION AND METHODS

This community service was carried out in collaboration with six waste banks in Kupang City, involving 12 managers who represent each of the aforementioned waste banks. The methods used in this community service included: 1) providing an understanding of the importance of EMA-based financial reporting, 2) practical exercises in identifying environmental costs and preparing EMA-based financial statements, 3) educating on green credit, and 4) evaluating the waste banks' understanding of EMA-based financial statements and green credit.

At the beginning of the process, there was a discussion on how financial reporting is currently being handled by each waste bank. Following that, the identification of environmental costs was discussed based on the context of each specific waste bank, ensuring that the financial reporting method aligns with their operational realities. Additionally, to enrich the method, discussions on challenges faced by waste banks in financial reporting and environmental management practices could be added, along with case studies of successful waste banks that have leveraged EMA-based reports to gain access to green credit. This approach is aimed at deepening the waste bank operators' knowledge of environmental-based financial reporting using EMA, and strengthening the position of waste banks as pro-environmental businesses.

RESULTS AND DISCUSSION

This community service background emphasizes the importance of implementing environmental accounting, specifically through the Environmental Management Accounting (EMA) approach, in the operations of the Waste Bank in Kupang. Waste banks, as environmentally-oriented institutions, need a commitment to implement this in their activities, such as waste sorting, recycling, and resource conservation, as reflected in their financial reports. Despite its sustainability goals, waste bank has not fully implemented accounting practices that effectively identify and manage environmental costs and benefits. Therefore, the training provided aims to enhance their understanding of EMA-based environmental accounting so that they can immediately apply this system in their operational activities. EMA encompasses the collection, analysis, and reporting of information related to environmental costs and benefits to support managerial decision-making (Manehat, dkk, 2024; Burhany, 2012).

The United Nations, through the Expert Working Group, encourages the implementation of Environmental Management Accounting (EMA) to assist institutions, including waste banks, in systematically identifying and managing environmental costs. EMA integrates data from financial accounting, cost accounting, and mass balance to improve material efficiency, reduce environmental impact, and lower environmental protection costs. The main focus of EMA is to calculate the total annual costs spent on waste management, environmental protection, and the purchase value of materials wasted during the production process. With this approach, waste banks can assess the efficiency of their operations and design data-driven savings strategies. Through EMA-based financial reporting, waste banks not only demonstrate financial transparency but also strengthen their role as environmentally responsible institutions supporting cleaner production.

The training was attended by representatives from six Waste Banks, namely Bank Sampah Anggrek, Bank Sampah Muara Abu, Bank Sampah Nelayan Bersatu, Yayasan Pikul, Bank Sampah Stasasi, and Bank Sampah Mutiara Timor. It is hoped that through this training, each Waste Bank will be able to manage environmental costs more effectively, improve transparency, and strengthen their accountability in supporting environmental sustainability. In the initial discussion before the presentation of the material, it was found that the majority of waste banks record the amount of incoming waste and outgoing money manually. There was no understanding of the allocation of environmental costs. The form of this record can be seen in the following image.

Figure 2. Waste Bank Financial Recording Model

As part of sustainability efforts and more effective waste management, providing an understanding of financial accounting is an essential step to enhance transparency and accountability for waste banks. Proper and systematic bookkeeping will not only assist waste banks in managing the funds they receive but also provide a better understanding of managing environmental costs and benefits, which is highly relevant in the context of Environmental Management Accounting (EMA). With clear and EMA-based bookkeeping, waste banks can record all transactions related to their operational activities, including revenue from waste sales, expenses for waste management, and potential environmental costs arising from their operations. In this way, waste banks can not only maintain their financial sustainability but also evaluate the environmental impact of each of their activities (Jasch, 2003).

382



Figure 3. Presentation of Material During the Community Service Activity

EMA-Based Financial Reporting Format for Waste Banks

EMA-based financial reporting integrates environmental cost and benefit information into traditional financial accounting. Below is the financial report format that waste banks can use to identify environmental costs and benefits related to waste management. This format includes two main sections: the environmental cost report and the environmental benefit report.

1. EMA-Based Profit and Loss Statement

This statement presents the operational results of the waste bank by including environmental costs and benefits.

Table 1. EMA-Based Profit and Loss Statement

Account Item	Amount (IDR)
Revenue	
Revenue from Waste Sales (plastics, metals, paper, etc.)	X
Revenue from Grants/Donations	X
Total Revenue	X
Operating Costs	
Waste Transportation Costs	X
Waste Sorting and Processing Costs	X
Waste Bank Infrastructure Maintenance	X
Total Operating Costs	X
Environmental Costs	
Wastewater Management Costs	X
GHG Emission Costs (fuel use)	X
PPE and Worker Health & Safety Program	X
Equipment Acquisition and Depreciation	X
Water Recycling for Reuse	X
Waste Material Recycling Process	X

Land Restoration/Green Space Maintenance	X
Total Environmental Costs	X
Environmental Costs	

This simple income statement highlights the key financial aspects of a small-scale waste bank, including revenue, operating costs, and environmental costs. By incorporating environmental costs such as wastewater management, GHG emissions, and worker health & safety, the statement reflects a more holistic approach to financial reporting. According to Burritt and Schaltegger (2010), integrating environmental costs into financial statements helps organizations track their sustainability performance while maintaining profitability. Hansen and Mowen (2005) emphasize that accounting for these costs allows businesses to make informed decisions on resource allocation and risk management. Additionally, Manehat (2024) discusses the challenges of low commitment in hospitals to implement Environmental Management Accounting (EMA), stressing the importance of improving awareness and practices in sustainability accounting, which can be similarly applied to small enterprises like waste banks.

2. Environmental Physical Dimension and Benefits Report of Waste Bank

This report identifies and records the environmental benefits created by the waste bank's waste management activities.

Table 2.Environmental Physical Dimension and Benefits Report of Waste Bank

Account Item	Amount (IDR / Unit)
PHYSICAL DIMENSION	
Amount or Percentage of Materials from Recycled Inputs	X % / X kg
Amount of Energy Consumed	X kWh / X liters of diesel
Amount of Energy Saved	X kWh
Amount of Water Extracted from Natural Sources	X liters
Amount of Water Recycled for Reuse	X liters
Amount of Water Discharged or Wasted	X liters
Volume of Gas Emissions Produced	X tons CO ₂ e
Amount of Waste Generated	X kg
Amount of Waste Recycled	X kg
Amount of Waste Disposed	X kg
ACHIEVED ENVIRONMENTAL BENEFITS	
Reduction in Waste Volume Sent to Landfills	X kg / X tons
Reduction in Plastic Waste	X kg
Reduction in Paper Waste	X kg
Reduction in Metal Waste	X kg
Reduction in Greenhouse Gas (GHG) Emissions	X tons CO ₂ e

Account Item	Amount (IDR / Unit)
Waste Reuse or Recycling	X kg
Recycled Waste (by weight or volume)	X kg / liters
Other Achieved Benefits	...
Improvement in Environmental Quality (Clean Areas, etc.)	X areas / X improvement level
Conservation of Natural Resources (energy, etc.)	X kWh / X liters of water
Total Environmental Benefits	X IDR

Incorporating physical and monetary dimensions in environmental reporting allows Waste Banks to monitor environmental impacts and enhance accountability. Burritt et al. (2011) emphasize that physical data supports efficiency and transparency. Hansen and Mowen (2005) highlight the role of environmental accounting in uncovering hidden costs. In the Indonesian context, the Ministry of Environment and Forestry (KLHK, 2017) encourages the implementation of environmental accounting for sustainable resource management, including in community-based enterprises such as Waste Banks.

3. EMA-Based Balance Sheet

This balance sheet shows the waste bank's financial position at a specific point in time, integrating assets, liabilities, and equity, including environmental costs.

Table 3. EMA-Based Balance Sheet

Account Item	Amount (IDR)
Assets	
Current Assets	
Cash and Cash Equivalents	X
Receivables	X
Waste Inventory	X
Non-Current Assets	
Waste Processing Equipment	X
Environmental Equipment	X
Water Recycling Systems	X
Environmental Intangible Assets	X
Total Assets	X
Liabilities	
Short-Term Liabilities	
Loans and Accounts Payable	X
Long-Term Liabilities	
Loans for Equipment Purchase	X
Environmental Liability Reserve	X

Account Item	Amount (IDR)
Environmental Debt	X
Total Liabilities	X
Equity	
Owner's Equity	X
Retained Earnings	X
Environmental Contribution	X
Total Equity	X

This balance sheet reflects the integration of *Environmental Management Accounting* (EMA) elements. In addition to standard assets and liabilities, the inclusion of environmental-related items such as Environmental Equipment, Water Recycling Systems, and Environmental Liability Reserve provides a more accurate picture of the business's environmental commitment. By incorporating environmental liabilities, like those for future cleanup costs or equipment purchase for environmental improvements, companies can better manage long-term sustainability risks. According to Burritt and Schaltegger (2010), integrating environmental costs into financial reporting helps organizations address sustainability concerns and manage both financial and ecological impacts. Schaltegger & Wagner (2017) argue that environmental accounting is essential for improving decision-making and ensuring transparent, accountable corporate practices. Additionally, Manehat (2024) highlights the need for improved commitment to EMA in small businesses and hospitals, further underlining the importance of integrating sustainability into business operations.

4. EMA-Based Cash Flow Statement

This report shows the inflows and outflows of cash related to waste management activities, including operating costs and environmental benefits.

Table. 4 EMA-Based Cash Flow Statement

Account Item	Amount (IDR)
Cash Flow from Operating Activities	
Revenue from Waste Sales	X
Payments for Waste Processing Costs	X
Payments for Environmental Costs	X
Cash Flow from Investing Activities	
Purchase of Waste Processing Equipment	X
Cash Flow from Financing Activities	
Loans for Equipment Purchase	X
Payments for Environmental Improvements	X
Investment in Environmental Projects	X
Net Cash Flow	X

This cash flow statement based on *Environmental Management Accounting* (EMA) includes relevant additions such as Payments for Environmental Improvements and Investment in Environmental Projects. These elements are crucial for demonstrating the waste bank's commitment to sustainability and providing a clearer picture of expenditures related to environmental impacts. This addition aligns with the findings of Burritt and Schaltegger (2010), which emphasize the importance of recording environmental costs in the cash flow statement, as well as Schaltegger and Wagner (2017), who explain how EMA supports more sustainable investment and financing decisions. Rosyidah & Munir (2021) also highlight the relevance of EMA implementation to enhance transparency and operational sustainability in the waste bank sector.

EMA-based financial reporting for waste banks helps not only to record traditional financial transactions but also to identify and manage the environmental impacts of their activities. With these financial reports, waste banks can measure their operational effectiveness, report environmental benefits, and enhance accountability to the public and other stakeholders. Furthermore, the implementation of EMA can open opportunities for waste banks to secure financial support through environmental incentives such as green credits or grants.



Figure 4. EMA Training for Waste Bank Operators in Kupang City
Easier Access to Green Credit with EMA-Based Financial Reporting

EMA-based financial reporting, incorporating environmental costs and benefits, can facilitate access to green credit for waste banks. Green credit refers to financing provided to support environmentally beneficial projects like waste management, carbon emission reductions, and resource conservation. Waste banks that adopt EMA-based reports can demonstrate their sustainability efforts, making them eligible for green credit.

1. Transparency and Accountability:

According to Gray and Milne (2002), transparent financial reporting on environmental costs fosters accountability and demonstrates a commitment to reducing environmental impacts, crucial for securing green credit.

2. **Measuring and Evaluating Environmental Impact:**
Schaltegger and Burritt (2010) argue that EMA enables organizations to measure and document their environmental impact, which is vital when applying for green credit, as lenders require detailed environmental data.
3. **Increased Trust from Financial Institutions:**
Schaltegger and Wagner (2017) emphasize that financial institutions are more likely to trust entities with structured, verifiable financial reports, making EMA reports an asset for waste banks seeking green credit.
4. **Alignment with Green Financing Criteria:**
Burritt et al. (2011) highlight that EMA-based reports align with green financing criteria, increasing the likelihood of meeting requirements for green credit programs.
5. **Environmental Incentives:**
Lohse and Schaltegger (2020) mention that green credit programs often offer incentives like lower interest rates for projects with measurable environmental benefits, which waste banks can access using EMA.
6. **Green Credit Access in Indonesia:**
Gunawan and Widyantoro (2021) state that businesses in Indonesia with well-documented environmental performance, including using EMA for financial reporting, have a higher chance of securing green credit, as financial institutions increasingly value environmental sustainability.
7. **EMA and Green Financing in Indonesia:**
Syarif and Soetomo (2019) argue that the application of EMA in Indonesia helps organizations align with the criteria set by green financing programs, making it easier to gain access to financing options such as green credit.



Figure 5. EMA Training for Waste Bank Operators in Kupang City

Measuring Knowledge After the Community Service

After the community service activities, waste bank operators demonstrated a deeper understanding of environmental costs and their implications for financial reporting. Through training and hands-on guidance, they were able to identify and allocate environmental costs such as waste management, emission reductions, and resource conservation, all of which are crucial for applying EMA-based financial reporting. Interviews conducted at the end of the program revealed that the majority of participants now understand the importance of integrating EMA into their financial statements, seeing it as a key step toward accessing green credit.

These insights also highlight that operators are increasingly aware of how EMA-based financial statements can enhance transparency and help them meet green financing criteria. By adopting this approach, waste banks can better demonstrate their commitment to sustainability, improving their chances of securing green credit. The evaluations confirmed that understanding environmental costs and the role of structured financial reporting will support waste banks in their efforts to access funding for environmentally beneficial projects, helping them scale their operations sustainably.

CONCLUSIONS AND RECOMMENDATIONS

The community service conducted for waste bank operators in Kupang City successfully provided a deeper understanding of how to identify environmental costs and incorporate them into Environmental Management Accounting (EMA)-based financial statements. Through the training, waste bank operators were taught to prepare four types of reports: income statement, physical dimension and environmental benefits report of the waste bank, balance sheet, and cash flow statement based on EMA. With this understanding, waste banks can manage environmental costs more transparently and demonstrate their commitment to sustainability. Additionally, the implementation of EMA-based reporting strengthens the waste bank's position as an environmentally-oriented business, facilitating easier access to green credit.

Moving forward, the community service activities will focus on the technicalities of applying for green credit from conventional banks. Waste banks need to be trained to prepare application documents that meet the standards and requirements set by the banks, as well as to understand the evaluation and approval process for green credit. With support in the green credit application process, waste banks are expected to leverage EMA reports to secure funding that will support the development of their sustainability-focused operations.

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REFERENCES

- Annisa Pratiwi, dkk. 2024. Green Accounting: Peduli Lingkungan Berkelanjutan Pada Organisasi Non Profit. ETAM: Jurnal Pengabdian kepada Masyarakat, Vol. 4, No. 2, Juni 2024, pp. 144 – 152.
- Beatrix Yunarti Manehat, dkk. 2024. Rendahnya Komitmen Implementasi Akuntansi Lingkungan: Studi Kasus Pengolahan Sampah Medis. Jurnal Riset dan Aplikasi: Akuntansi dan Manajemen. Vol.7, No.2.
- Beatrix Yunarti Manehat, Yolinda Yanti Sonbay. 2024. Apakah Pelaku UMKM Di Daerah Tertinggal Memahami Dan mempraktikkan Environmental Management Accounting? Jurnal Ilmiah Manajemen Ekonomi dan Akuntansi, Vol. 8, No.3, <https://journal.stiemb.ac.id/index.php/mea/article/view/4655>.
- Burhany di. 2012. Akuntansi Manajemen Lingkungan, Alat Bantu untuk Meningkatkan Kinerja Lingkungan dalam Pembangunan Berkelanjutan. Ekon Dan Keuang 2012;17: 279–98.
- Burritt, R. L., & Schaltegger, S. (2010). Sustainability accounting and reporting: Fad or trend? Accounting, Auditing & Accountability Journal, 23(7), 829–846. <https://doi.org/10.1108/09513571011080144>.
- Burritt, R. L., Schaltegger, S., & Zvezdov, D. (2011). Carbon management accounting: Explaining practice in leading German companies. Australian Accounting Review, 21(1), 80–98. <https://doi.org/10.1111/j.1835-2561.2010.00121.x>.
- Destia Pentiana. 2016. Environmental Management Accounting and Innovation in Proper Participants Company in Lampung Province. Jurnal Ilmiah ESAI Volume 10, No.2, Juli 2016.
- Hansen, D. R., & Mowen, M. M. (2005). Cost management: Accounting and control (4th ed.). South-Western College Pub.
- Heri Susanto, dkk. 2022. Pelatihan Penyusunan Laporan Keuangan Berbasis Akuntansi Lingkungan Pada Ukm Di Kota Dan Kabupaten Bogor. Jurnal Abdi Inovate, Vol. 1, No.1, <https://ejournalunb.ac.id/index.php/abdi/article/view/396>.
- Jasch, C. (2003). The use of Environmental Management Accounting (EMA) for identifying environmental costs. Journal of Cleaner Production, 11(6), 667–676. [https://doi.org/10.1016/S0959-6526\(02\)00107-5](https://doi.org/10.1016/S0959-6526(02)00107-5).
- Kementerian Lingkungan Hidup dan Kehutanan. (2017). Panduan Penerapan Akuntansi Lingkungan pada Usaha Kecil dan Menengah (UKM). Jakarta: Direktorat Jenderal Pengendalian Pencemaran dan Kerusakan Lingkungan, KLHK.
- Maria Aprilia Velangkani Ndun, dkk. 2023. Menabung Sampah Plastik Sebagai Upaya Pemberdayaan Ekonomi Dan Lingkungan di Kota Kupang. Jurnal Pengabdian Masyarakat LPPM Universitas Pahlawan Tuanku Tambusai, Vol.4 No 6.
- Maria Augustin Lopes Amaral, dkk. 2023. Iptek Bagi Masyarakat: Pemberdayaan Bank Sampah Berbasis Teknologi Informasi, Pemasaran Dan Akuntansi. Jurnal Kreativitas Pengabdian Kepada Masyarakat (Pkm), Vol. 6 No. 11 Tahun 2023, Hal 5056-5066.
- Ministry of Environment and Forestry. (2017). Guidelines for Implementing Environmental Accounting in Small and Medium Enterprises (SMEs). Jakarta: Directorate General of Pollution and Environmental Damage Control, MoEF).
- Nianty, D. A., Rachma, N., Susanti, A., & Nurfaulia, N. (2023). Green Accounting Terhadap Kinerja Keuangan Dengan Environmental Performance Sebagai Variabel Intervening. Jurnal Manajemen STIE Muhammadiyah Palopo, 9(2), 205–219.
- Schaltegger, S., & Wagner, M. (2017). Sustainability accounting: A fresh perspective. Springer.