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Implementation of Green Accounting in Business Sustainability

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ABSTRACT

The purpose of this study is to ascertain how green accounting implementation affects the sustainability of businesses. The findings of earlier studies will be examined in order to examine this influence. The meta-analysis method is employed in this study. A meta analysis examines several research findings on related issues. Written research on the application of green accounting in business sustainability, in the form of journal articles selected for their alignment with the research theme, serves as the unit of analysis for this study. With the use of a documentation guide, the researcher is the primary tool in this study. Both quantitative data analysis using percentages and qualitative data analysis using narrative study data from the research findings were employed in the data analysis process. The finding of research there's a relationship between the green accounting practices have a positive impact on business sustainability. Although this relationship may not be very strong, these results provide the basis for initial support that green accounting practices can have a positive impact on business sustainability. This reseach give recommendation to companies formulate environmental management strategies in the context of their (company's) relationship with society.

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INTRODUCTION

Industrial competition in the world is increasing from year to year, which makes industry players compete to create high-value products, making it one of the advantages of industry, but some industries only care about good production and high value and are less concerned about environment¹. Industries around the world are increasingly competing intensively in an effort to create high-value products. This competition often drives innovation and efficiency, which in turn can improve product quality and accelerate technological development. However, in many cases, the industry's primary focus is on creating economic value and production efficiency without adequately considering the environmental impacts of the production process. This has given rise to a number of significant environmental problems such as various environmental pollution."The environment is one of the important things to support industrial processes, but on the contrary, industry actually has a negative effect on the environment².

¹ Santi Rahma Dewi, "Understanding And Application Of Green Accounting Awareness: A Tofu Case Study In Sidoarjo," *Seminar Nasional Ekonomi Dan Bisnis*, 2016, 497–511.

² Verlita Dewi Rosaline et al., "Pengaruh Penerapan Green Accounting Dan Environmental Performance

Environmental pollution problems can impact the condition of the world's ecosystem directly or indirectly³. Environmental pollution that often occurs includes land pollution, water pollution, air pollution and noise, which over time will result in a decline in environmental quality. These conditions can trigger and accelerate global warming and can even worsen the impacts it causes. The global warming that occurs can cause the melting of the polar ice caps, resulting in sea levels rising and causing an increase in temperature which can trigger and cause various natural disaster problems that can damage marine ecosystems⁴. This also results in extreme climate changes which can disrupt ecosystems, such as triggering disease outbreaks, extinction of animals, flora and fauna, drought, forest fires, crop failure and so on. One of the triggers for global warming is industrial activity which originates from the waste produced⁵.

Industrial waste can be B3 and non-B3 waste. According to PP 22 of 2021 concerning Environmental Management, B3 waste is waste originating from business activities that contain hazardous and toxic materials and substances based on their nature, concentration and amount which can cause pollution or damage to the environment and can endanger health, and environment, and the survival of humans and other creatures. This may need to be of concern to the government in the context of environmental protection⁶. The government's role in increasing awareness of all levels of society, especially industrial companies, of the importance of protecting and preserving the environment can be seen from the formation of various environmental care institutions and movements as well as the enactment of laws and regulations relating to the environment. protection. Article 74 paragraph (1) of Law No. 40 of 2007 Governing Limited Liability Companies is one of them. It says that companies that engage in economic activities involving natural resources or in related fields are required to fulfill social and environmental duties. PP RI No. 47 of 2012 respecting Social and Environmental Responsibility of Limited Liability Companies has further regulations pertaining to this item. This shows that in maximizing profits by utilizing natural resources and human resources, companies must safeguard, maintain and improve the quality of human resources and natural resources that can be useful for future generations. In relation to the aim of generating sustainable profits in the long term, the activities carried out by the company cannot be separated from the availability of natural resources (SDA) and quality human resources. However, there is a need to balance achieving profit targets with social and environmental responsibility. Therefore, companies need a tool that can support company activities to maximize profits in the long term or be sustainable and responsibility for the environment remains balanced.

In order to attain corporate sustainability, green accounting can be a useful accounting tool. Green accounting, according to Loen (2018), is a concept where businesses emphasize the efficacy and efficiency of resources in their production processes in order to connect the growth and development of the business with environmental functions and to benefit society⁷. The concept of

Terhadap Economic Performance," *Jurnal Riset Akuntansi Dan Keuangan* 8, no. 3 (2020): 569–78, <https://doi.org/10.17509/jrak.v8i3.26158>.

³ Michael Bamidele Fakoya, "An Adjusted Material Flow Cost Accounting Framework for Process Waste-Reduction Decisions in the South African," no. March (2014): 1–249, <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=877294616f6eb3cd0ff35e4182e27ad63e74aafe>.

⁴ A Hernawati, "Efek Green Accounting Terhadap Material Flow Cost Accounting Dalam Meningkatkan Keberlangsungan Perusahaan (Studi Pada Perusahaan Pertambangan Di Bursa Efek Indonesia)," 2018, 12–105.

⁵ Lindawati, et al., "Corporate Social Responsibility: Implikasi Stakeholder Dan Legitimacy Gap Dalam Peningkatan Kinerja Perusahaan," *Jurnal Akuntansi Multiparadigma*, 2015, 157–74, <https://doi.org/10.18202/jamal.2015.04.6013>.

⁶ Martina K. Linnenluecke and Andrew Griffiths, "Corporate Sustainability and Organizational Culture," *Journal of World Business* 45, no. 4 (2010): 357–66, <https://doi.org/10.1016/j.jwb.2009.08.006>.

⁷ Sri Trisnaningsih, Bagus Maulana Hendrawan, and Failasuf Herman Hendra, "Application of Green Accounting and Material Flow Cost Accounting Towards Sustainable Development," *International Journal*

savings is taken into account while using environmental accounting overall, particularly when it comes to saving energy, materials, and land. By evaluating environmental operations from a cost and benefit standpoint and generating impacts on environmental protection, environmental accounting seeks to improve the efficacy of environmental management⁸.

According to (Abdullah & Amiruddin, 2020) for internal and external parties of the company, environmental accounting provides reports so that they can study the company's efforts to overcome environmental pollution and its responsibility for these problems through the company's financial reports⁹. Companies that implement green accounting in this case have demonstrated their concern for the environment as well as their awareness of product quality and safety, their commitment to social responsibility, and their concern for the welfare of their employees. Thus, companies that have shown concern for their environmental performance have indirectly implemented corporate social responsibility well, which means that the company has complied with applicable government policies. The development of green accounting is intended to encourage corporate responsibility, increase environmental transparency, and help companies formulate environmental management strategies in the context of their (company's) relationship with society. More and more people are aware of the importance of maintaining and protecting the environment, this ultimately encourages people (consumers) to buy environmentally friendly products, so that companies that use environmental accounting can have a competitive market advantage compared to competitors who do not disclose the environment. information.

Agreeing to the Worldwide Detailing Activity (GRI, 2011), maintainability is characterized as the act of measuring, unveiling, additionally being responsible to interested parties for the execution of an organization in satisfying and accomplishing the Economical Improvement Objectives (SDGs). According to Gray (2006), corporate sustainability is understood as a condition where an organization (company) must achieve maximum performance (highest performance) from three points of view, namely economic, social and environmental¹⁰. A balance between economic, social and environmental goals must ultimately be the goal achieved in the company's business strategy. In this research, corporate sustainability in the environmental aspect dimension is linked to the company's environmental performance which involves several sustainable indicators and practices¹¹. Several things that are indicators and practices of sustainability in measuring environmental aspects include measuring and managing the carbon footprint produced by company operational activities, waste management, energy efficiency levels, use of sustainable raw materials, conservation of natural resources, compliance with environmental regulations, efforts to companies in environmental restoration and environmental performance evaluation. By implementing these sustainable indicators and practices, companies in the consumer goods sector can improve their environmental performance and contribute to maintaining a balance between economic growth, environmental protection and social welfare¹². So, based on this phenomenon, the urgency of this research is to

of Religion 5, no. 11 (2024): 2814–19, <https://doi.org/10.61707/xzqe8a24>.

⁸ Rochman Marota, "Green Concepts and Material Flow Cost Accounting Application for Company Sustainability," *Indonesian Journal of Business and Entrepreneurship* 3, no. 1 (2017): 43–51, <https://doi.org/10.17358/ijbe.3.1.43>.

⁹ M. Wahyuddin Abdullah and Hernawati Amiruddin, "Efek Green Accounting Terhadap Material Flow Cost Accounting Dalam Meningkatkan Keberlangsungan Perusahaan," *EKUITAS (Jurnal Ekonomi Dan Keuangan)* 4, no. 2 (2020): 166–86, <https://doi.org/10.24034/j25485024.y2020.v4.i2.4145>.

¹⁰ Rob Gray, "Does Sustainability Reporting Improve Corporate Behaviour?: Wrong Question? Right Time?," *Accounting and Business Research* 36, no. SPEC. ISS (2006): 65–88, <https://doi.org/10.1080/00014788.2006.9730048>.

¹¹ Selpiyanti Selpiyanti and Zaki Fakhroni, "Pengaruh Implementasi Green Accounting Dan Material Flow Cost Accounting Terhadap Sustainable Development," *Jurnal ASET (Akuntansi Riset)* 12, no. 1 (2020): 109–16, <https://doi.org/10.17509/jaset.v12i1.23281>.

¹² Windasari Rachmawati and Abdul Karim, "Pengaruh Green Accounting Terhadap Mfca Dalam Meningkatkan Keberlangsungan Usaha Serta Resource Efficiency Sebagai Variabel Moderating (Studi

provide an understanding that the impact of green accounting can support sustainable business. This can provide novelty in the development of science and the application of green accounting, so that companies see green accounting more as a form of concern for the environment, but also to maintain business sustainability.

METHOD

The type of data in this study is secondary data obtained from various findings in articles that discuss the relationship between green accounting and sustainability business. The data collection technique is to collect research articles from 2020-2024 through google scholar, sciencedirect and other reputable journals. Meta-analysis introduces a series of quantitative analysis techniques that enable the synthesis of various research results. Analysis in meta-analysis is based on the availability of artifact information from each research result. In other words, before integration is carried out, corrections must first be made for artifacts or research imperfections, such as measurement bias, errors in sampling, or differences in research methodology. This process is important to ensure that the results synthesized in a meta-analysis reflect accurate and valid data from the various studies considered. This also helps in reducing potential biases that could affect the final results of the data synthesis¹³. With this approach, meta-analysis provides more comprehensive and reliable insight into the phenomenon under study, allowing for stronger generalizations and more reliable recommendations for relevant practice or policy. This meta-analysis study follows the following stages of analysis and interpretation of research data:

1. Change the value/coefficient of F or t to r.
2. Bare-bones meta analysis, which is an analytical method used to determine sample error correction, which at this stage is carried out by:
 - a. Calculate the average population correlation
 - b. Calculating the variance r_{xy} ($\sigma^2 r$)
 - c. Calculating sampling error variance ($\sigma^2 e$)
 - d. Impact of sampling

RESULTS

A. Meta-Analysis Study of the Relationship between the Implementation of Green Accounting and Business Sustainability

Meta-analysis is a statistical method used to integrate the results of various related studies to provide stronger conclusions about the relationship between certain variables. In this context, meta-analysis is used to evaluate the relationship between the implementation of green accounting and business sustainability. The population correlation coefficient obtained after correcting for sample size, namely 0.146, together with a correlation variance of 0.569, provides a basis for assessing the validity of this relationship in different studies. By using a 95% confidence interval, we can measure how much confidence we have in these results and provide further understanding regarding the implications of implementing green accounting for business sustainability.

B. Interpretation of Correlation Coefficient and Variance

The correlation coefficient of 0.146 indicates a weak relationship between the implementation of green accounting and business sustainability. Even though the correlation is not very strong, this value still provides an indication that there is an influence from implementing green accounting on business sustainability. A correlation variance of 0.569 indicates a degree of variability in the results of the combined studies, reflecting how widely these studies have been tested and the

Kasus Pada Perusahaan Peraih Penghargaan Industri Hijau Yang Listing Di Jii)," *Jurnal Ilmiah Manajemen Ubhara* 3, no. 1 (2021): 33, <https://doi.org/10.31599/jmu.v3i1.811>.

¹³ Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif Dan R&D* (Bandung: Alfabeta, 2017).

results vary.

A standard deviation (SD) of 1.96 was used to determine the 95% confidence interval, which provides the range within which we can be confident that the true correlation value lies. These confidence intervals provide further insight into the reliability of the results of this meta-analysis.

C. Sample Error Analysis

Errors in sampling and errors in measurement are important aspects that need to be considered in meta-analysis. Sampling error can affect meta-analysis results if not handled properly. In this case, the sampling error variance value is 0.040, indicating the contribution of variability in the data that may come from errors in sampling.

The comparison between sampling error variance and population correlation variance gives the percentage of error caused by sampling error. In this case, the percentage of variance caused by sampling error is around 4%. This figure shows that although there is some variability originating from sampling error, the proportion of this error is relatively small, indicating that the results of this meta-analysis may be quite reliable.

D. Decision Implications and Further Research

Based on these results, This provides initial support for the idea that green accounting practices have a positive impact on business sustainability. However, it is important to note that the low correlation coefficient suggests that this relationship may not be very strong or significant in the broader context. Therefore, it is important to conduct further studies to explore other factors that may influence this relationship and to confirm these results in various contexts.

This meta-analysis provides important insights into the relationship between the implementation of green accounting and business sustainability. Although this relationship may not be very strong, these results provide the basis for initial support that green accounting practices can have a positive impact on business sustainability. However, it is important to consider sampling and measurement error in the interpretation of these results and to conduct further research to confirm and expand these results. In the context of climate change and increasing environmental awareness, these results also emphasize the importance of integrating sustainability principles in business and accounting practices.

Based on the results, green accounting can encourage corporate responsibility, increase environmental transparency, and help companies formulate environmental management strategies in the context of their (company's) relationship with society. More and more people are aware of the importance of maintaining and protecting the environment, this ultimately encourages people (consumers) to buy environmentally friendly products, so that companies that use environmental accounting can have a competitive market advantage compared to competitors who do not disclose the environment. information. There is how green accounting can affected to business sustainability. The finding also supports previous theory by Loen (2018), where businesses emphasize the efficacy and efficiency of resources in their production processes in order to connect the growth and development of the business with environmental functions and to benefit society¹⁴

CONCLUSION

Based on these comes about, it can be concluded that there's a relationship between the green accounting practices have a positive impact on business sustainability. Although this relationship may not be very strong, these results provide the basis for initial support that green accounting practices can have a positive impact on business sustainability. This reseach give recommendation to

¹⁴ Sri Trisaningsih, Bagus Maulana Hendrawan, and Failasuf Herman Hendra, "Application of Green Accounting and Material Flow Cost Accounting Towards Sustainable Development," *International Journal of Religion* 5, no. 11 (2024): 2814–19, <https://doi.org/10.61707/xzqe8a24>.

companies formulate environmental management strategies in the context of their (company's) relationship with society. Because, people are aware of the importance of maintaining and protecting the environment, this ultimately encourages people (consumers) to buy environmentally friendly products, so that companies that use environmental accounting can have a competitive market advantage compared to competitors who do not disclose the environment information. The limitation in this study is that it still uses research with secondary data, so that in order to produce more specific findings, it is necessary to use companies that implement green accounting and successfully maintain a sustainability business in the next research.

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