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Green Accounting and Environmental Investment as Determinants of Governance Quality and Long-Term Profitability

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Abstract

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Green accounting is a modern accounting approach that aims to internalize environmental impacts into a company's financial reporting system. Through this approach, financial statements not only reflect economic performance but also demonstrate the organization's contribution to environmental preservation in a more comprehensive manner. This study examines the relationship between green accounting, environmental investment, corporate financial governance, and budgeting systems in promoting profitability and long-term business sustainability. The method employed is a Systematic Literature Review, conducted by analyzing relevant scientific articles published within the last five years. The findings indicate that the implementation of green accounting enhances resource-use efficiency, strengthens reporting transparency, and improves environmental accountability. Furthermore, strong financial governance plays a crucial role in ensuring the effective adoption of green accounting practices, while environmental investment provides long-term added value that supports corporate profitability. The integration of environmentally oriented budgeting further reinforces the position of green accounting as a strategic instrument for achieving both economic and ecological sustainability.

1. Introduction

Green accounting or environmental accounting is an approach that focuses on the recognition and measurement of environmental impacts within the financial accounting system. Unlike conventional accounting, which only assesses performance based on economic indicators, green accounting broadens the perspective by incorporating environmental costs and benefits into financial reporting. This approach helps companies assess the extent to which their operational activities contribute to environmental preservation and long-term sustainability. According to Kaur et al. (2022), green accounting plays an important role in providing relevant information for management to balance economic objectives with social and ecological responsibilities.

In the modern business era, characterized by increasing public pressure for environmental responsibility, the implementation of green accounting becomes a strategic necessity. Many companies are beginning to realize that sustainability is no longer just a moral imperative, but also a source of competitive advantage. Through the application of green accounting, companies can identify resource use efficiency, reduce waste, and minimize legal and reputational risks arising from environmental damage. Furthermore, green accounting allows companies to calculate long-term savings from investments in green technology, such as renewable energy and eco-friendly production systems (Latan et al., 2018).

The relationship between green accounting and profitability is often debated in sustainability accounting research. Some conservative views assess that environmental investment is an additional cost that reduces profit margins.

However, empirical evidence shows that well-managed environmental expenditure can create economic value through increased efficiency and brand reputation. A study by Kraus et al. (2020) found that companies consistently applying environmental accounting principles have higher levels of profitability and investor confidence. Thus, green accounting is not just a reporting tool, but an integral part of a sustainable business strategy.

Besides profitability, the application of green accounting also heavily relies on good corporate governance. Effective governance creates a framework of transparency, accountability, and integrity that supports the implementation of green accounting. The board of directors and management play a crucial role in ensuring that environmental information is disclosed accurately and reliably. According to Manning et al. (2019), strong governance strengthens the company's legitimacy in the eyes of stakeholders and increases public trust in sustainability reports. Thus, the relationship between green accounting and governance is synergistic mutually reinforcing each other to create a sustainable reporting system.

Financial budgeting also has a close connection with the application of green accounting. Through environmentally sensitive budgeting, companies can allocate resources for sustainable initiatives more effectively. Information from green accounting can be used as a basis in the budgeting decision-making process, so that every expenditure considers its ecological impact. This approach creates a reciprocal cycle: budgeting supports the implementation of green accounting, while green accounting provides data for creating more sustainability-oriented budgets. Thus, budgeting acts as a strategic instrument for integrating economic and environmental dimensions into long-term financial planning.

Green accounting represents the evolution of the accounting system toward a sustainability paradigm. In practice, the success of green accounting implementation heavily depends on management commitment, strong governance support, and integration with the company's financial policies. This study aims to systematically examine the nexus between green accounting, environmental investment, corporate governance, and budgeting systems in enhancing profitability and sustainable performance. Through a Systematic Literature Review (SLR) approach, this research seeks to provide an in-depth understanding of how the integration of these four elements can form a financial management model adaptive to current environmental challenges.

2. Literature Review

2.1. Concept and Implementation of Green Accounting

Green accounting or environmental accounting is an accounting system that aims to integrate environmental factors into corporate financial reporting. The goal is not only to measure economic performance but also to assess the impact of business activities on the environment. The application of green accounting allows companies to calculate the costs and benefits of eco-friendly actions such as waste management, energy efficiency, and natural resource conservation (Adu et al., 2022). In the context of modern business, green accounting is an important element in corporate sustainability strategy because it helps companies balance financial and ecological aspects. A study by Kaur et al. (2022) emphasizes that the implementation of green accounting not only increases reporting transparency but also strengthens stakeholder confidence in the company's environmental commitment. Furthermore, green accounting functions as a managerial tool that assists in the effective planning and control of environmental costs.

The implementation of green accounting requires clear measurement standards and an integrated reporting system. Companies that successfully implement this system generally have a systematic environmental data collection mechanism and are supported by internal policy support. According to Setiawati et al. (2021), the success of green accounting is highly determined by the top management's awareness of the importance of sustainability and a supportive, pro-environmental organizational culture. Thus, green accounting acts as a bridge between traditional accounting and long-term value-oriented environmental management.

2.2. Relationship between Green Accounting, Environmental Investment, and Profitability

One of the key issues in green accounting research is the relationship between environmental investment and corporate profitability. Many companies consider environmental investment to be a cost burden that can reduce profit. However, this view has shifted as increasing empirical evidence shows that environmental expenditures, when well-managed, can create new economic value. For example, waste reduction and energy efficiency result in long-term operational cost savings (Kaur et al., 2022). Research by Sudaryati et al. (2020) found that environmental investment has a significant positive relationship with financial performance, especially in companies with strong sustainability strategies. This indicates that environmentally friendly actions are not just moral obligations but profitable business strategies. Environmental investment also improves the company's reputation in the eyes of investors and consumers, thus impacting market value appreciation.

Moreover, the application of green accounting helps companies assess the effectiveness of environmental investment by providing accurate quantitative data on the impact of environmental costs and benefits. Through this information, management can make more rational and sustainability-oriented investment decisions. Kraus et al. (2020) also affirm that the integration between green accounting and environmental investment is capable of strengthening corporate innovation and resource efficiency. Thus, the relationship between green accounting, environmental investment, and profitability is synergistic: environmental investment improves financial performance, while green accounting provides the informational basis for measuring its success.

2.3. The Role of Financial Governance and Budgeting on Green Accounting

Good Corporate Governance (GCG) is a key element in the successful implementation of green accounting. A strong governance system creates transparency, accountability, and oversight of environmental reporting. According to Manning et al. (2019), an independent and participatory board structure encourages companies to disclose environmental information more openly and accurately. Furthermore, good governance ensures that environmental policies are not merely formalities but are an integral part of the business strategy. Financial governance is also closely related to the budgeting system. Environmentally oriented budgeting allows for the optimal allocation of resources to support sustainable projects, such as the use of clean energy or integrated waste management. Green accounting provides quantitative data on the environmental cost impact which serves as the basis for the planning and budgeting process (Latan et al., 2018). With this information cycle, companies can set financial priorities that focus not only on short-term profitability but also on long-term sustainability.

Furthermore, the integration between green accounting and budgeting creates a more comprehensive decision-making system. Akbari et al. (2021) explain that when environmental accounting data is used in budgeting, companies are able to realistically assess the external environmental costs that have historically not been reflected in traditional financial reports. This helps companies design financial strategies that are more adaptive to regulatory changes and social pressures related to environmental issues. Thus, governance and budgeting not only support the implementation of green accounting but also ensure corporate sustainability through responsible financial planning. The literature review shows that green accounting is not merely a reporting tool but also a strategic mechanism that connects environmental responsibility with financial performance and good governance. The reciprocal relationship between green accounting, environmental investment, governance, and budgeting strengthens the company's position in facing sustainability challenges in the modern era.

3. Methods

This research applies a Systematic Literature Review (SLR) approach to examine the nexus between green accounting, environmental investment, financial governance, and budgeting systems in the context of enhancing profitability and corporate sustainability. The SLR approach was chosen because it can provide a comprehensive overview of conceptual developments, trends in findings, and research gaps in previous studies. According to Snyder (2019), SLR offers a systematic methodological framework for identifying, filtering, and synthesizing scientific evidence in a structured manner, resulting in a more objective, transparent, and replicable review. The execution of the SLR in this research involves four main stages: (1) literature identification, (2) article selection, (3) thematic analysis and synthesis, and (4) drawing conclusions.

The first stage was carried out by searching various scientific databases, particularly Google Scholar, Garuda or Elsevier with a five-year publication range as the time limit. The search process used the keywords "green accounting," "environmental investment," "corporate governance," "financial budgeting," and "profitability" to ensure that the collected literature was relevant to the research focus. The second stage consisted of initial screening and final selection based on inclusion and exclusion criteria. Included articles were publications discussing green accounting and having a connection with financial aspects or corporate sustainability dimensions. Meanwhile, articles not written in English, those not subjected to a peer-review process, or those lacking substantial relevance to the research topic were excluded. After a strict selection process, a number of articles meeting the criteria were retained for deeper analysis.

The third stage involved content analysis and thematic synthesis by grouping articles into main themes: (1) the concept and implementation of green accounting, (2) the relationship between green accounting and profitability and environmental investment, and (3) the role of governance and financial budgeting mechanisms. This process aimed to identify patterns of findings, differences in methodological approaches, and conceptual contributions offered by each study. The final stage involved drawing conclusions by integrating the synthesis results into a conceptual model regarding the relationship between variables. This SLR approach not only maps the development of scientific studies comprehensively but also uncovers research areas that still require further exploration. Thus, the SLR method ensures that the research is structured systematically, transparently, and based on strong empirical evidence (Paul et al., 2021).

4. Results

The results of the SLR indicate that green accounting is evolving into a fundamental approach in modern financial reporting practice that seeks to balance corporate economic goals with ecological responsibilities. Based on the analyzed articles, the majority of research asserts that green accounting plays a crucial role in improving transparency, operational efficiency, and long-term profitability. This review also identified that the integration of financial reporting with environmental information not only brings social benefits but also generates significant economic value through resource use efficiency and mitigation of environmental risks (Dalle et al., 2021). Thus, green accounting is understood not merely as a reporting tool but as a managerial strategy oriented toward sustainability.

One of the main findings from this literature synthesis is the existence of a positive and consistent relationship between the implementation of green accounting and increased corporate profitability. Companies that systematically implement environmental accounting are able to manage costs associated with ecological impacts, such as waste management, carbon emission reduction, and the use of alternative energy. These practices are proven to lower long-term operational costs while increasing productivity. For example, investment in energy-efficient technology is proven to create a more efficient cost structure compared to companies that do not adopt such technology. In addition to cost implications, increased credibility and public trust through the disclosure of environmental information also encourages the strengthening of the company's reputation and competitive position in the market (Latan et al., 2018).

The analysis also affirms that the success of green accounting is strongly influenced by the quality of corporate governance. Good corporate governance plays a critical role in creating oversight mechanisms and internal control systems that ensure environmental reporting is done accurately and accountably. Research shows that an independent board and the existence of a sustainability committee are factors that encourage the comprehensive execution of green accounting. According to Adnan et al. (2018), companies with strong governance mechanisms have a higher tendency to implement green accounting due to a commitment to transparency, accountability, and responsible reporting.

Besides corporate governance, the financial budgeting system also acts as an important element in facilitating the successful implementation of green accounting. Budgeting that considers environmental aspects helps companies allocate resources for eco-friendly activities more efficiently and structuredly. The literature synthesis indicates that the use of environmental information in the budget preparation process enables management to make more strategic and sustainable investment decisions. For example, environmental management accounting provides the necessary environmental cost information to assess the effectiveness of waste management or energy efficiency programs (Akbari et al., 2021). This integration creates an adaptive policy mechanism, where the results of green accounting reporting become a reference in the subsequent budget cycle.

The research findings also indicate that environmental investment contributes significantly to the improvement of corporate financial performance. Companies that allocate funds for sustainability initiatives, such as renewable energy, waste treatment, and resource conservation, experience an increase in company value and consumer loyalty. Sudaryati et al. (2020) show that environmental investment not only increases profitability through operational efficiency but also strengthens the company's image and reduces non-financial risks such as regulatory sanctions or reputational damage. Thus, environmental investment is viewed not as a burden, but as a strategic asset that drives long-term competitive advantage.

Another factor influencing the implementation of green accounting is the level of organizational awareness and commitment from top management. Companies that possess a pro-sustainability organizational culture tend to be more prepared to adopt a comprehensive environmental reporting system. This awareness and commitment encourage the integration of sustainability values into day-to-day operational activities. Setiawati et al. (2021) emphasize that the involvement of all management levels in the environmental reporting process contributes significantly to strengthening the application of green accounting in business practice.

However, this research also identified a number of challenges that hinder the application of green accounting. One is the lack of uniform environmental reporting standards at the global level. Although guidelines such as the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) are available, companies still face difficulty in determining the precise quantitative indicators to measure environmental impact. Another challenge is data limitations and a lack of professional personnel with specific expertise in environmental accounting. Adu et al. (2022) indicate that uncertainty in environmental valuation methods can impede managerial decision-making, especially in industrial sectors with significant ecological impacts.

Despite these various obstacles, the trend in the implementation of green accounting continues to show an increase. This is influenced by regulatory pressure and rising public awareness regarding sustainability issues. Governments in various countries encourage companies to disclose environmental information through sustainability reporting policies and the provision of fiscal incentives. These policies accelerate the adoption of green accounting and encourage the creation of a more transparent and responsible business environment. Strong regulatory support also helps companies internalize environmental costs into their accounting systems, thereby strengthening long-term economic sustainability.

Furthermore, the results of the literature synthesis show that green accounting not only functions as a reporting tool but also plays an important role as an instrument for strategic decision-making. Environmental information obtained from the reporting process can be used to evaluate the effectiveness of sustainability programs, identify risks, and find new efficiency opportunities. For example, the use of water consumption and carbon emission indicators in financial reports helps companies recognize the activities that consume the most resources. In this way, green accounting supports the adjustment of business strategies to the dynamics of the market and environmental regulations. In the context of the relationship between green accounting and profitability, this review found a consistent positive correlation. Companies that invest in eco-friendly practices show improved financial performance in the medium to long term.

Factors contributing to this increase include operational efficiency, increased productivity, and heightened loyalty from consumers with high ecological awareness. Additionally, companies that prioritize sustainability have broader access to green financing, which provides economic benefits through a reduction in the cost of capital. This shows that green accounting creates a synergy between economic efficiency and sustainability that is mutually reinforcing. The results of this review confirm that green accounting is a crucial component of modern financial governance systems. Its implementation requires strong support from organizational structure, budgeting mechanisms, and a commitment to sustainable environmental investment.

Going forward, the integration of green accounting with digital technologies such as big data analytics and artificial intelligence is predicted to increase reporting accuracy and accelerate the decision-making process. Companies capable of comprehensively adopting this approach will have a competitive advantage in facing market demands that increasingly emphasize social and environmental responsibility. Thus, it can be concluded that green accounting not only contributes to the improvement of financial performance but also strengthens the foundation for long-term corporate sustainability. The combination of good governance, an adaptive budgeting system, and focused environmental investment forms a business ecosystem that is more resilient to environmental challenges and global economic dynamics.

5. Discussion

The results of the systematic review indicate that the implementation of green accounting has strategic implications for profitability, governance, and corporate financial budgeting systems. From a conceptual perspective, green accounting does not only function as a reporting instrument but also as a managerial device that integrates economic, social, and environmental dimensions into the decision-making mechanism. This position aligns with Dalle et al. (2021) who affirm that environmental accounting broadens the scope of corporate accountability from a financial efficiency orientation toward the creation of sustainable value.

In the domain of financial governance, the application of green accounting is proven to strengthen the principles of transparency and accountability. Effective governance encourages the disclosure of environmental information that is more comprehensive, measurable, and verifiable, thereby increasing the trust of stakeholders. The findings of Manning et al. (2019) show that companies with a board of directors having a strong commitment to sustainability issues are more likely to adopt green accounting practices and expand sustainability reporting. Thus, the relationship between green accounting and GCG is mutually reinforcing good governance facilitates green accounting practices, while green accounting provides richer information to support the processes of oversight, risk evaluation, and strategic decision formulation.

From a budgeting perspective, the study findings indicate that a budget system sensitive to environmental issues can enhance the effectiveness and efficiency of resource utilization. Green budgeting allows for the integration of environmental indicators into the fund allocation process, so that every financial decision considers the ecological impact and potential long-term benefits. Akbari et al. (2021) suggest that environmental management accounting provides an essential data basis for sustainability-oriented financial planning. Thus, budgeting and green accounting interact synergistically to build a corporate financial system that is more sustainable and accountable. The SLR findings also show that environmental investment contributes significantly to long-term profitability. Companies that proactively invest resources in eco-friendly technology, energy efficiency, or sustainable production systems gain various advantages, such as improved reputation, consumer loyalty, and reduced operational costs. This supports the findings of Sudaryati et al. (2020), who state that environmental investment functions as a driving engine for sustainable innovation and the appreciation of corporate value.

Nevertheless, this review also identified several challenges, including the absence of uniform reporting standards and limitations in human resource capacity to manage environmental accounting. Therefore, continuous collaboration among regulators, academics, and business practitioners is needed to strengthen the sustainability reporting framework and expand the application of green accounting across various industrial sectors (Pizzi et al., 2022). The results of the analysis affirm that the success of green accounting is not solely determined by the technical aspects of reporting but also by management commitment, an organizational culture that supports sustainability, and a governance system that places the environmental aspect as an integral part of the long-term corporate strategy.

6. Conclusion

This research confirms that green accounting is a strategic instrument that plays a vital role in integrating economic, social, and environmental dimensions into a company's financial management system. Based on the results of a SLR of literature from the last five years, it was found that the application of green accounting significantly increases transparency, efficiency, and long-term profitability. This practice helps companies recognize environmental costs and benefits more accurately, while strengthening public accountability. Furthermore, green accounting has a close connection with GCG. Transparent and accountable governance is the primary foundation that ensures environmental reporting is carried out with high integrity and reliability. On the other hand, a budgeting system that is adaptive to sustainability issues allows for the more effective allocation of resources toward eco-friendly activities. This reciprocal relationship forms a sustainability-oriented financial management ecosystem.

Environmental investment is also proven to have a positive impact on financial performance through increased operational efficiency and corporate reputation. However, challenges still arise in terms of non-uniform reporting standards and limitations in human resource competency in the field of environmental accounting. Therefore, synergy is needed among companies, government, and academics in developing a regulatory framework and green accounting education. The implementation of green accounting is not merely an ethical obligation, but a sustainable business strategy that strengthens corporate competitiveness and financial stability in the long term.

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