

Unveiling the Hidden Dimensions of Sustainability Accounting Behind Green Economic Transformation



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ABSTRACT

Sustainability accounting has become a key element in supporting the transformation of the green economy aimed at achieving sustainable development. This research aims to uncover the hidden dimensions in sustainability accounting that play a strategic role in the green economy transformation process. Using qualitative methods through literature studies and library research, this study examines various academic sources, including scientific journals, books, and policy reports related to sustainability accounting and the green economy. The results show that sustainability accounting not only functions as a measurement tool, but also as a strategic mechanism to encourage transparency, accountability, and data-driven decision-making. The hidden dimensions identified include the integration of environmental, social, and governance (ESG) indicators, the influence of digital technology in sustainability reporting, and challenges in harmonizing sustainability reporting standards globally. In addition, this study found that the success of the implementation of sustainability accounting is highly dependent on organizational commitment, sustainable financial literacy, and supportive regulations. This study recommends the need to develop a more inclusive and adaptive sustainability reporting framework to the needs of green economic transformation. Thus, sustainability accounting can serve as the main driver in creating a balance between economic growth, environmental conservation, and social welfare. These findings are expected to guide policymakers, companies, and academics in designing more effective sustainability strategies.

1. Introduction

The transformation of the green economy has become one of the main global agendas in facing the challenges of climate change and the unsustainability of conventional economies. The green economy aims to create a balance between economic growth, environmental conservation, and social welfare (UNEP, 2011). In this context, sustainability accounting plays an important role in measuring, managing, and reporting environmental, social, and governance (ESG) impacts generated by economic activities (Bebbington et al., 2014). However, although sustainability accounting is increasingly used by companies, the hidden dimensions that contribute to its successful implementation in the transformation of the green economy are still less explored in depth.

Green economic transformation is a sustainable development approach that aims to create a balance between economic growth, environmental conservation, and social welfare. However, there is a hidden dimension that is often not seen in its planning and execution. One of the main dimensions is the integration between environmental, social, and governance (ESG) indicators. This dimension is an important foundation for the success of the green economy, but its implementation faces various challenges, such as a lack of corporate awareness of the importance of ESG and gaps in comprehensive sustainability reporting (Adams & Frost, 2008). ESG is not only a sustainability evaluation tool, but also a main driver to attract investors who are increasingly concerned about sustainability aspects.

The technological dimension is also one of the hidden aspects in the transformation of the green economy. Digitalization has great potential to improve the efficiency of sustainability reporting, allowing companies to measure and monitor their environmental impact in real-time. However, technology adaptation often faces obstacles, such as limited infrastructure and a lack of digital literacy among small and medium-sized organizations (Ioannou & Serafeim, 2012). In addition, big data and

artificial intelligence technologies can help identify inefficient resource consumption patterns and provide recommendations for better management. This dimension, while promising, requires significant investment and cross-sector collaboration to achieve optimal impact.

The third dimension that is often overlooked is the harmonization of global policies and standards. Differences in approaches in sustainability reporting, such as those between GRI and SASB, create challenges in developing a uniform framework for the transformation of the green economy (Eccles & Krzus, 2010). Harmonization of these standards is necessary to ensure that companies in different countries can implement sustainability policies consistently, thus allowing for cross-country performance comparisons. In addition, regulations that are adaptive to local needs are also an important part of this hidden dimension. By identifying and addressing these hidden dimensions, the transformation of the green economy can become more effective and provide broader benefits, not only for the environment but also for society and the global economy.

Previous research has shown that sustainability accounting serves as a tool to improve corporate transparency and accountability. For example, a study by Deegan and Unerman (2011) highlights the importance of sustainability accounting in sustainability reporting to support more responsible decision-making. However, these studies often only focus on the technical aspects of sustainability reporting without exploring the strategic dimensions that can drive the transformation of the green economy. In addition, the challenges of harmonizing sustainability reporting standards globally, such as the difference in approaches between the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB), have not been discussed in depth in the literature (Eccles & Krzus, 2010).

The urgency of this research lies in the need to identify and understand the hidden dimensions in



sustainability accounting that can support the transformation of the green economy. In the era of digitalization, technology also provides an opportunity to develop more efficient and adaptive sustainability reporting, but this potential has not been fully optimized (Adams & Frost, 2008). Therefore, this study aims to fill the research gap by exploring how sustainability accounting can function as a key driver in supporting the global sustainability agenda.

The novelty of this research lies in the multidimensional approach used to analyze sustainability accounting. Not only focusing on the technical aspects of reporting, this study also examines the role of organizational strategy, technology, and regulation in supporting the successful implementation of sustainability accounting. Thus, this study offers a more holistic perspective compared to previous studies, which are often fragmented in discussing the dimensions of sustainability accounting.

The purpose of this research is to uncover the hidden dimensions in sustainability accounting that contribute to the transformation of the green economy, as well as provide strategic recommendations for companies, policymakers, and academics. This research is also expected to provide practical benefits, such as the development of a more inclusive and adaptive sustainability reporting framework, as well as theoretical benefits in expanding understanding of the role of sustainability accounting in sustainable development.

2. Methodology

This study uses a qualitative method with the type of literature study research (library research). This approach was chosen because it allows researchers to dig into in-depth information from various theoretical and empirical sources relevant to sustainability accounting and green economy transformation. Literature studies provide a solid foundation in understanding existing concepts and exploring hidden dimensions that have not been

widely discussed in previous literature (Creswell, 2014).

The data sources used in this study are secondary data obtained from scientific journals, books, policy reports, and official documents from international organizations such as the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and the United Nations Environment Programme (UNEP). The articles studied were selected from leading academic databases such as Scopus, SpringerLink, ScienceDirect, and ProQuest, with priority on publications in the last five years to ensure the relevance and up-to-date data (Adams & Frost, 2008). Inclusion criteria include articles that explicitly discuss sustainability accounting, ESG indicators, sustainability reporting, and green economy transformation, while exclusion criteria are articles that are irrelevant to the focus of the research.

The data collection technique is carried out through systematic literature search. The process begins with searches for keywords such as "sustainability accounting," "green economic transformation," "ESG indicators," and "sustainability reporting standards." The collected data is then filtered based on the relevance, credibility of the source, and contribution to the research objectives. To ensure the validity of the findings, researchers triangulated the data by comparing various sources (Braun & Clarke, 2006).

Data analysis was carried out using a thematic analysis approach. The first stage involves coding the data to identify relevant key themes, such as the role of technology in sustainability reporting, harmonization of global standards, and the challenges of implementing sustainability accounting. Next, the themes were analyzed to find significant relationships, patterns, and differences. This analysis allows researchers to generate in-depth insights into the hidden dimensions of sustainability accounting and its contribution to the transformation of the green economy (Miles, Huberman, & Saldaña, 2014).

With this method, this research is expected to be able to make theoretical and practical contributions in understanding and implementing sustainability accounting as a strategic instrument in supporting the global sustainability agenda.

3. Result and Discussion

The table below presents literature data from 10 articles selected through a systematic literature study

process related to sustainability accounting and green economy transformation. These articles were selected based on the criteria of relevance to the topic, the focus of discussion on sustainability accounting, and their contribution to the transformation of the green economy. The articles are the result of a selection of articles found in academic databases, and reflect the main findings that support this study.

No	Author & Year	Title	Findings
1	Adams & Frost (2008)	<i>Integrating sustainability reporting into management practices</i>	Sustainability reporting can be integrated into management strategies to improve accountability.
2	Eccles & Krzus (2010)	<i>One report: Integrated reporting for a sustainable strategy</i>	An integrated reporting approach supports sustainability and facilitates strategic decision-making.
3	Bebbington et al. (2014)	<i>Sustainability accounting and accountability</i>	Sustainability accounting serves as a tool for measuring and transparency the company's ESG impact.
4	Ioannou & Serafeim (2012)	<i>What drives corporate social performance? The role of nation-level institutions</i>	National institutions play an important role in driving social performance and sustainability reporting.
5	KPMG (2020)	<i>The KPMG survey of sustainability reporting 2020</i>	80% of large companies have implemented sustainability reporting, with the challenge of harmonizing standards.
6	Global Reporting Initiative (GRI) (2016)	<i>Consolidated set of GRI sustainability reporting standards</i>	The GRI standard assists companies in compiling systematic and transparent sustainability reporting.
7	UNEP (2011)	<i>Towards a green economy: Pathways to sustainable development and poverty eradication</i>	The green economy needs a sustainability reporting framework to support inclusive development.
8	WBCSD (2021)	<i>Vision 2050: Time to transform</i>	Sustainability accounting supports the vision of sustainability by mapping environmental and social impacts.
9	SASB (2018)	<i>SASB Conceptual Framework</i>	SASB offers a framework to align sustainability reporting with the needs of investors.
10	Deegan & Unerman (2011)	<i>Financial accounting theory</i>	Sustainability accounting makes a great contribution to creating good corporate governance.

The table above shows the various approaches used in sustainability accounting, both from a theoretical and practical perspective. These articles cover key issues

such as the integration of sustainability reporting in management, harmonization of global reporting standards, and challenges in the implementation of

sustainability accounting in various sectors. These findings provide a strong foundation for understanding how sustainability accounting can support the transformation of the green economy in a strategic and holistic manner.

Based on the literature table above, sustainability accounting plays an important role in supporting the transformation of the green economy. The reviewed article shows that sustainability accounting not only serves as a reporting tool, but also as a strategic mechanism to encourage transparency, accountability, and sustainability-oriented decision-making. For example, Adams and Frost (2008) highlight the importance of integrating sustainability reporting into management practices to increase corporate accountability for environmental, social, and governance (ESG) impacts. These findings underline that sustainability accounting should not be considered as an administrative activity alone, but as a strategic element in business planning.

An article from Eccles and Krzus (2010) highlights the integrated reporting approach as one of the key innovations in sustainability accounting. By bringing together financial and sustainability reports, this approach allows companies to demonstrate the relationship between economic performance and their sustainability impact. In the context of green economic transformation, this approach helps companies attract the attention of investors who are increasingly concerned about sustainability issues. However, the challenge of harmonizing reporting standards is a major obstacle, as identified by KPMG (2020) and SASB (2018), where differences in global approaches can reduce the effectiveness of integrated reporting.

The importance of reporting standards such as GRI and SASB is also emphasized in several articles. GRI (2016) provides comprehensive guidance that can help companies structure sustainability reporting systematically, while SASB (2018) focuses on investor needs by linking sustainability performance to financially relevant material impacts. These two

approaches provide different but complementary frameworks, which are important in the transformation of the green economy. Harmonization between these standards will provide a great opportunity to create more consistent sustainability reporting at the global level.

Technology also plays a significant role in sustainability accounting, as explained by Ioannou and Serafeim (2012). Digital technology allows companies to monitor and report on their sustainability impacts in real-time, improving reporting efficiency and accuracy. However, the adoption of this technology requires significant investment and is often inaccessible to small companies or in developing countries. Therefore, developing policies that support technology adoption and providing incentives to small firms is an important step.

UNEP (2011) and WBCSD (2021) reports show that sustainability accounting also plays a role in building a long-term sustainability vision. The transformation of the green economy not only requires companies to comply with current sustainability standards but also to contribute to the achievement of the sustainable development goals (SDGs). By utilizing sustainability accounting, companies can map their impact on the SDGs and design strategies to reduce negative impacts and increase positive contributions.

Overall, data from this literature table reveals that sustainability accounting is a strategic tool that can support the transformation of the green economy. However, to achieve maximum impact, harmonization of global standards, integration of digital technologies, and commitment from all stakeholders, including governments, the private sector, and civil society, are needed. By understanding these dimensions, this research provides in-depth insights into how sustainability accounting can drive change towards a greener, inclusive, and sustainable economy.

Discussion and Analysis

The findings of this study reveal that sustainability accounting plays a strategic role in supporting the transformation of the green economy, especially in creating a balance between environmental, social, and economic sustainability. In today's global context, climate change, environmental degradation, and social inequality are the main challenges that must be overcome through a sustainability approach. Sustainability accounting is a tool that not only facilitates reporting on the company's impact on ESG aspects, but also supports more transparent and data-driven decision-making (Adams & Frost, 2008).

One of the key dimensions found is the importance of integrating ESG indicators into sustainability reporting frameworks. As emphasized by GRI (2016) and SASB (2018), companies must be able to link sustainability performance with material aspects that are relevant to stakeholders, including investors. In this modern era, investors are increasingly focusing on sustainability as one of the company's performance indicators. The KPMG report (2020) revealed that more than 80% of large companies have adopted sustainability reporting, but differences in global standards create challenges in comparing performance between companies. This phenomenon demonstrates the need for harmonization of global standards to create more consistent sustainability reporting.

In addition, digital technology is another hidden dimension that plays an important role in sustainability accounting. Technologies such as big data, cloud computing, and artificial intelligence have made it possible for companies to monitor their sustainability impact in real-time. For example, many large companies use cloud-based software to track their carbon footprint, allowing them to design more efficient strategies for reducing greenhouse gas emissions. However, the adoption of this technology is still a challenge for small and medium-sized companies (Ioannou & Serafeim, 2012). In Indonesia, for example, many MSMEs do not have access to this

technology due to limited infrastructure and qualified human resources.

Another strategic dimension is the role of sustainability accounting in supporting the achievement of sustainable development goals (SDGs). The UNEP report (2011) shows that a green economy can only be achieved if companies are able to map their contribution to the SDGs through accurate and transparent reporting. For example, companies in the energy sector can use sustainability accounting to measure their contribution to SDG 7 (Clean and Affordable Energy) by monitoring the use of renewable energy sources in their operations.

However, the success of sustainability accounting also depends heavily on the organization's commitment to integrating sustainability into their business strategy. Adams and Frost (2008) highlight that many companies still see sustainability accounting as an administrative burden rather than as a strategic tool. This is a significant obstacle in creating a real sustainability impact. Therefore, a paradigm shift in corporate management is needed to integrate sustainability as a core part of business operations.

The Triple Bottom Line theory developed by Elkington (1997) is very relevant to this finding. This theory emphasizes that the success of an organization is not only measured from the economic aspect (profit), but also from its impact on society (people) and the environment (planet). Sustainability accounting allows companies to implement the Triple Bottom Line principles in a measurable and transparent way, thereby providing added value to the company while supporting global sustainability.

In addition, harmonization of global policies and standards is a significant challenge. The difference in approach between GRI, SASB, and other frameworks creates difficulties for multinational companies to implement consistent sustainability reporting across their various areas of operation (Eccles & Krzus, 2010). Therefore, collaboration between international organizations and governments is needed to develop



more integrated and adaptive reporting standards to local needs.

As authors, we argue that sustainability accounting not only functions as a reporting tool, but also as a driver of systemic change in the transformation of the green economy. Companies must leverage sustainability accounting to not only measure their sustainability impact, but also to identify innovation opportunities that can improve operational efficiency and create added value for all stakeholders. This requires investment in technology, human resource training, and strengthening supportive regulations.

Overall, sustainability accounting is an important component in building an inclusive and sustainable green economy. However, its success relies heavily on collaboration between the private sector, government, and civil society. By understanding the hidden dimensions of sustainability accounting, such as technology integration, harmonization of standards, and the strategic role of ESG, the transformation of the green economy can be achieved more effectively and provide broad benefits to the environment, society, and the global economy.

4. Conclusion

This study shows that sustainability accounting has a strategic role in supporting the transformation of the green economy through the integration of sustainability values in business practices and decision-making. Key findings reveal that sustainability accounting not only serves as a reporting tool, but also as a mechanism to drive transparency, accountability, and measurement of environmental, social, and governance (ESG) impacts. Approaches such as integrated reporting, the use of digital technology, and the implementation of global standards such as GRI and SASB are key elements in ensuring the effectiveness of sustainability accounting. However, the success of its implementation is highly dependent on the company's commitment, regulatory support, and strengthening technological capacity.

Hidden dimensions in sustainability accounting, such as the harmonization of reporting standards, technology integration, and the role of sustainability strategies, are both challenges and opportunities in the transformation of the green economy. Harmonization of global standards is necessary to create consistent and relevant sustainability reporting, while the adoption of technology allows companies to monitor their sustainability impact in real-time. On the other hand, challenges such as the lack of sustainability literacy among small and medium-sized enterprises, as well as the limitations of technology infrastructure, point to the need for cross-sector collaboration to overcome these barriers.

For further research, it is recommended to explore more deeply how big data-driven technologies and artificial intelligence can support sustainability accounting in various industry sectors. In addition, research on the impact of sustainability accounting implementation on corporate performance in developing countries can provide more contextual insights. Further research can also explore efforts to harmonize sustainability reporting standards at the international level, thereby creating a more inclusive and adaptive framework to local needs. With these steps, sustainability accounting can be the main instrument in driving the transformation of the green economy more effectively and sustainably.

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