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Research Article

A Decade of Green Accounting in Indonesia and the UK : Implementation, Challenges, and Opportunities

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Abstract: Green accounting is one of the important approaches in sustainability reporting, where the concept of sustainability reporting integrates environmental factors into the traditional accounting process. This integration reflects the growing global awareness that environmental degradation and climate change must be addressed not only by governments and civil society but also by the corporate sector through transparency and accountability in financial disclosures. This article aims to comparatively analyze the implementation of green accounting in Indonesia and the United Kingdom (UK), focusing on the challenges faced and the opportunities for strengthening the practice in both countries. This research uses a qualitative literature review method by collecting, synthesizing, and analyzing scientific articles, regulatory frameworks, and institutional reports published between 2016 and 2025. The results show that the UK has implemented green accounting more comprehensively and systematically, supported by strong environmental regulations, mandatory disclosure requirements, and high awareness within the private sector. The UK's implementation is closely aligned with international standards such as the Global Reporting Initiative (GRI) and the Task Force on Climate-related Financial Disclosures (TCFD), which help ensure consistency and comparability of sustainability reporting across industries. In contrast, Indonesia is still in the developmental stage regarding green accounting adoption. Several challenges persist, including limited regulatory mandates, lack of technical expertise, minimal integration of environmental indicators in corporate reporting, and low levels of awareness among SMEs and regional stakeholders. Nevertheless, the country has shown growing interest in sustainable practices, especially following the issuance of green taxonomy and the development of ESG (Environmental, Social, Governance) investment frameworks.

Keywords: Environmental Accounting; Green Accounting; Implementation Challenges; Sustainability Reporting; Sus-tainability

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1. Introduction

In recent decades, the issue of environmental sustainability has become increasingly important in the global economic discourse. Climate change, environmental degra-dation, and exploitation of natural resources have prompted various countries, both developed and developing, to find ways to balance economic growth and environ-mental conservation. In this context, environmental sustainability is not only the responsibility of the state or certain institutions, but also the main concern of the business world (Sukmono et al., 2023). Companies are required to not only pursue profits in their business processes, but also pay attention to the impact of their ac-tivities on the environment. Therefore, there is a need to internalize environmental aspects into economic and business systems, one of which is through the environ-mental accounting approach or better known as green accounting.

Green accounting is generally present as an accounting approach that aims to integrate environmental factors into the financial reporting process (Amad Ramdhani & Pri-janto, 2024). In other words, green accounting helps companies to identify, measure, and report on the environmental impact of their operational activities. The role of ac-counting here is very important, because accounting is not only a reporting tool, but also a decision-making tool. When environmental costs are ignored in traditional financial reports, business decisions often do not reflect long-term sustainability (Erstiawan, 2024). Therefore, green accounting in this context tries to fill this gap by providing relevant non-financial information, especially those related to social and environmental responsibility.

In practice, the need for non-financial reporting is becoming increasingly urgent, especially amid increasing public attention to environmental issues. Investors, con-sumers, and other stakeholders are beginning to demand higher transparency from companies, not only in terms of profits, but also in terms of how companies contribute to or damage the environment (Melenia et al., 2023). This is where non-financial reporting becomes important as a form of corporate accountability to the environ-ment. Through sustainability reports, ESG reports, or other environmental impact reports, companies can demonstrate their commitment to sustainability principles.

Green accounting itself is not only aimed at reporting, but also has a larger purpose in the context of business policies and practices (Mustofa et al., 2020). This approach is expected to encourage changes in company behavior, from previously only prof-it-oriented to more concerned about ecological and social impacts. In addition, green accounting also supports the policy-making process at the government level, for ex-ample in terms of carbon tax formulation, environmental incentives, or sustainability reporting regulations (Afni et al., 2019).

In the global context in the world community, green accounting is often associated with the concept of ESG (Environmental, Social, and Governance) and the Sustainable Devel-opment Goals (SDGs). ESG and SDGs encourage companies to act more responsibly and sustainably in all aspects of their operations. Green accounting is one of the im-portant instruments for assessing and reporting on a company's performance in meeting ESG and SDGs indicators (Rangkuti et al., 2023). Thus, green accounting cannot be separated from the global development agenda that prioritizes sustainability.

However, green accounting practices are not uniform around the world. Developing countries and developed countries have different approaches, challenges, and readi-ness in implementing this concept (Harianja & Riyadi, 2023). For example, Indonesia as a developing country faces challenges in terms of regulation, environmental ac-counting literacy, and corporate commitment to sustainability issues (Wulandari et al., 2024). On the other hand, the UK as a developed country is relatively more prepared, both in terms of policies, awareness of business actors, and reporting infrastructure (Geels et al., 2022). This difference is interesting to explore further, especially since there is not much literature that explicitly compares the implementation of green ac-counting in developing and developed countries comprehensively and completely.

The literature on green accounting is still mostly focused on one country or on case studies of certain companies, without providing a complete cross-country picture (Wiranti, 2023). In fact, comparing two different country contexts such as Indonesia and the UK can provide a deeper understanding of the factors that support or hinder the success of green accounting. The limitations of this comparative study are the basis for writing this article.

The purpose of writing this article is to analyze comparatively green accounting practices in Indonesia and the UK in the past decade, focusing on implementation, challenges, and opportunities for strengthening in each country. Through this analysis, this article also aims to identify the main obstacles faced by both countries in adopting green accounting effectively, as well as explore potential strategies that can be used to strengthen this practice in the future.

The benefit of this paper is that it provides a cross-country perspective that can enrich the discourse on green accounting, especially in the context of developing countries. In addition, this article is also expected to be a conceptual and empirical foundation for stakeholders, both government, academics, and business actors, in designing stronger and more relevant environmental reporting policies and strategies in the future.

2. Literature Review

2.1. Accounting

Accounting can be defined as one of the important foundations in the modern economic world because it provides a systematic, relevant, and reliable information system regarding the financial condition of an entity (Aripin & Negara, 2021). Through the process of recording, classification, and reporting, accounting allows for a variety of parties. The parties in question can be internal or external, which is useful for making decisions based on accurate data. This information is essential, both to measure organizational performance, evaluate business strategy, and to meet legal and tax obligations.

In a business context, accounting is often understood as the universal language of the company. Financial statements generated by accounting are used by investors, creditors, governments, and other parties to assess the sustainability and growth potential of an entity. Accounting is the art of recording, classifying, and summarizing transactions and events of a financial nature in a systematic way, as well as interpreting the results (Hoesada, 2022). This shows that accounting not only dwells on record-keeping activities, but also provides interpretive value to the financial information produced.

The role of accounting has evolved in line with the complexity of economic activities and the need for transparency in resource management (Syamil et al., 2023). In the past, accounting might have been thought of only as an administrative tool for record-keeping and reporting. However, accounting has now become an integral part of the managerial process, including in strategic planning, budget control, and organizational performance assessment (Zulhelmy & Suhendi, 2021). In addition, accounting also has a public accountability function, especially in the government sector and non-profit organizations that are obliged to account for the use of funds to the public.

Not only that, accounting also has a normative aspect, namely related to internationally applicable standards and principles, such as IFRS (International Financial Reporting Standards) or local standards such as PSAK in Indonesia (Rinaldi & Nurhaliza, 2024). These standards ensure that financial reporting is conducted consistently and can be compared between time and between countries. Thus, the role of accounting has become increasingly strategic, not only in internal decision-making but also in creating public trust in the reporting entity.

However, even though accounting has developed rapidly, most of the existing reporting systems still tend to focus on financial information (Wibawa & Wahyuning, 2021). This raises critical questions about the extent to which accounting is able to reflect the broader realities of organizational activities, including social and environmental aspects. This challenge then gave rise to various new approaches in contemporary accounting.

2.2 Subbagian 2 Green accounting

The concept of green accounting, also known as environmental accounting, is a form of development of traditional accounting practices that seeks to integrate environmental issues into the process of recording, measuring, and reporting (Singh et al., 2022). This concept first emerged in response to the growing global awareness of the importance of environmental conservation as well as the demand for companies to not only focus on profits, but also pay attention to the ecological impact of their business activities. Although the term is still fairly new in a general context, green accounting has actually begun to be discussed since the 1970s, especially in developed countries that have faced environmental pressures due to industrialization (Gola et al., 2022).

Green accounting is an approach to improve the national accounting system by taking into account the destruction and utilization of natural resources in the production process (Khan & Gupta, 2025). In other words, this approach not only records conventional economic transactions, but also calculates negative externality costs such as pollution, environmental degradation, and exploitation of natural resources. The goal is to create an accounting system that better reflects ecological and social realities, so that the decision-making process becomes more sustainable.

In the company's practice in the field, green accounting encourages environmental cost reporting, disclosure of waste management policies, the use of renewable energy, and investment in environmentally friendly technology. Companies that take green accounting seriously usually include sustainability reports as a complement to their annual financial statements (Wenni Anggita et al., 2022). These reports generally refer to global standards such as the GRI (Global Reporting Initiative) or ESG (Environmental, Social, and Governance) principles.Through this kind of reporting, the company not only shows its performance in terms of finance, but also in terms of social and environmental responsibility (Sukmadilaga et al., 2023).

However, the implementation of green accounting at the company level is not always easy. One of the main challenges is that there is no universally applicable environmental accounting standard, so each country or organization can have a different approach (Gonzalez & Peña-Vinces, 2023). In addition, the required environmental data is often difficult to access, not quantitatively measurable, or has not yet become a priority in the company's reporting system. This causes comparisons between companies and between countries to be not always comparable and accurate.

Even so, green accounting is still considered an important approach in bridging the gap between financial reporting and sustainability. The presence of green accounting provides space for integration between economic goals and environmental sustainability, which ultimately encourages the creation of more responsible corporate governance (Dhar et al., 2022). With growing pressure from stakeholders, both regulators, investors, and consumers, the implementation of green accounting is expected to continue to increase in the future, including in developing countries such as Indonesia..

3. Methods

This study uses the literature review approach as the main method to explore the practice of green accounting in Indonesia and the United Kingdom. This approach was chosen because it allows to identify, evaluate, and synthesize a wide range of relevant literature without having to conduct direct field data collection (Kraus et al., 2022). Relying on credible written sources, this review aims to provide a comprehensive understanding of the implementation, challenges, and opportunities of green accounting in the context of two countries with different levels of economic development and environmental policies.

The data sources used in this study include scientific articles obtained from various academic databases, such as Science Direct, Google Scholar, and ProQuest. The literature reviewed is limited to publications published in the last ten years, namely from 2016 to 2025. The selection of this time frame is based on the assumption that green accounting practices have developed significantly in the last decade, both in terms of regulatory frameworks and implementing practices at the company level. In ad-dition, in recent years, there has also been an increase in global attention to sustain-ability issues which has also encouraged the integration of environmental aspects in the company's accounting system (Lim et al., 2022).

The inclusion criteria in this study include literature that explicitly discusses green accounting, sustainability reporting practices, or environmental policies related to ac-counting practices in Indonesia and the United Kingdom. Articles that only address environmental issues in general, have no clear connection to accounting, or that are not geographically relevant (e.g. focus on other countries), are not included in the analysis.

The literature search strategy was carried out using a combination of keywords such as: "green accounting", "environmental accounting", "sustainability reporting", "Indonesia", "UK", and "United Kingdom". The search technique also uses Boolean operators (AND, OR, NOT) to narrow down the results that appear and maximize the relevance of the source. For example, combinations such as "green accounting AND Indonesia" or "sustainability reporting AND UK" are used to get more focused results (Hadi & Afandi, 2021).

Then, once the relevant literature has been collected, the data is then analyzed the-matically by dividing the content into three main categories. This category is based on the purpose of the writing, namely the implementation, challenges, and opportunities of green accounting in each country. This approach helps to map key issues and sys-tematically compare practices in Indonesia and the UK. The results of the analysis are presented in the form of a narrative, complemented by data citations and supporting theories, in order to describe the dynamics and context of each region in more depth.

4. Results

Based on the results of a review of various academic literature from 2016 to 2025, a number of differences and similarities were found in terms of implementation, challenges, and opportunities for green accounting in Indonesia and the United Kingdom. These results are summarized in Table 1 below:

Table 1. Research Results

Aspects	Indonesia	English	Reference
Implementation	The implementation of *green accounting* in Indonesia is still in its early stages and tends to be limited to large companies, especially state-owned enterprises or public companies that have been listed on the stock exchange. PSAK has not explicitly regulated environmental reporting, so implementation is still voluntary and non-uniform. Some companies are starting to use the GRI *(Global Reporting Initiative) standard,* but it is not comprehensive and not integrated into the main accounting system.	In the UK, *green accounting* has been more systematically integrated into corporate reporting, particularly through sustainability reporting regulations and ESG standards set by the *Financial Reporting Council* (FRC). The majority of large companies have implemented environmental reporting as part of their annual reports, with the support of standards such as the TCFD *(Task Force on Climate-Related Financial Disclosures)* and GRI. Non-financial reporting obligations are also driving widespread adoption.	(Al-Shaer & Zaman, 2019; Anna & Dwi R.T, 2019; Boakye et al., 2020; Farhana & Adelina, 2019; Gunawan et al., 2022; Hummel & Rötzel, 2019; Kao & Liao, 2021; Kaspereit & Lopatta, 2016; Mohamed Adnan et al., 2018; Mulpiani, 2019; Permata Sari & Andreas, 2019; Rahmah et al., 2024; Tobing et al., 2019; Tong, 2017; Whittingham et al., 2023)
Challenge	The main challenges in Indonesia include low awareness and commitment from business actors, especially in the MSME sector, regarding the importance of environmental reporting. In addition, the limitation of human resources who have	Despite the more advanced implementation, the UK still faces challenges, such as the lack of consistency of ESG standards across industry sectors. High reporting costs are also a burden for small and medium-	

Aspects	Indonesia	English	Reference
	competence in the field of environmental accounting is also a serious obstacle. The enforcement of regulations and environmental incentives from the government is still weak, so it does not provide a strong incentive for the private sector to actively adopt *green accounting* .	sized companies. In addition, there are concerns about *greenwashing practices,* where companies report environmental achievements inaccurately or misleadingly to form a positive image. Strict regulations are a solution, but still pose compliance challenges.	
Chance	The opportunity for strengthening *green accounting* in Indonesia is quite large, especially with the increasing global attention to sustainability issues. The government is starting to encourage the green transition through national ESG policies, as well as opening up fiscal incentive opportunities for companies that adopt environmentally friendly practices. The market is also starting to show a preference for sustainable products and services, so that *green accounting* can be a strategic tool to increase competitiveness.	The UK has a great opportunity to become a leader in global *green accounting practices* . The development of digital-based reporting technology and automation allows for efficiency in the preparation of environmental reports. Pressure from global investors for ESG transparency is also increasing, prompting companies to improve the quality of reporting. Collaboration between the private and public sectors in sustainability initiatives opens up space for	

Aspects	Indonesia	English	Reference
		innovation in green reporting and financ-ing.	

The table shows that the UK has a higher level of maturity in terms of regulation and implementation of green accounting compared to Indonesia. This can be seen from the existence of clear ESG reporting guidelines, as well as the high number of companies that have implemented sustainability principles in their annual reporting. On the other hand, Indonesia is showing slower development, although some initi-atives such as the use of GRI Standards have begun to increase in recent years, par-ticularly in public companies and state-owned enterprises.

Challenges in Indonesia tend to be more fundamental, such as limited human re-sources who understand environmental accounting and lack of binding policy support. In the UK, however, the challenge is more on the harmonisation and quality of re-porting, which, although it has been going on for a long time, still faces issues related to greenwashing and financing.

Nevertheless, both countries have a great opportunity in pushing green accounting in a more strategic direction. Indonesia can leverage the momentum of global ESG trends to strengthen national policies, while the UK has the potential to develop more sophisticated and efficient sustainability reporting technologies

4.2 Discussion

4.2.1 Implementation of Green accounting

In general, the implementation of green accounting as part of sustainability reporting shows a fairly contrasting dynamic between developing countries such as Indonesia and developed countries such as the United Kingdom. In the global context, green accounting has become an important instrument to encourage companies to internalize environmental impact into financial and operational decisions. However, its realiza-tion in each country cannot be generalized because it is influenced by institutional, political, social, and technical factors of each actor involved. This is where the main differences between Indonesia and the UK lie that are the focus of this study.

In Indonesia, green accounting is still in the pioneering stage. Although the issue of sustainability has begun to be raised in the national discourse, especially since In-donesia has participated in the global agenda such as the SDGs (Sustainable Development Goals), the translation of the concept of sustainability into accounting practice has not been running optimally (Rahmah et al., 2024). Many companies have not considered environmental impact reporting important, especially because there is no firm legal obligation. The PSAK (Statement of Financial Accounting Standards) has so far not explicitly included environmental aspects in the financial statements, and there is no provision that obligatorily regulates the reporting of emissions, the use of natural resources, or the cost of environmental restoration in the annual report (Anna & Dwi R.T, 2019).

Some companies have indeed begun to compile sustainability reports based on standards such as the GRI (Global Reporting Initiative), but the implementation has not been standardized and is still limited to certain sectors, such as energy, mining, and large manufacturing (Farhana & Adelina, 2019). In fact, in practice, some sustaina-bility reports are used more as an imaging tool than as a reflection of a real com-mitment to environmental issues. This symbolic implementation shows that green accounting is not considered a strategic need, but rather a mere fulfillment of external demands or global trends. In addition, many small and medium-sized companies (MSMEs) are not even familiar with this concept, let alone implement it (Gunawan et al., 2022).

Another challenge in Indonesia is the limited human resources who understand the concept of green accounting in depth (Karlina et al., 2019). In many cases, accountants in companies are still not equipped with the knowledge of how to measure and report environmental impacts quantitatively and qualitatively. The training and curriculum of accounting education in higher education in higher education have also not fully touched the aspect of environmental accounting comprehensively. As a result, the application of this concept becomes uneven and lacks quality.

In contrast, the UK has shown more significant progress in integrating green accounting into its financial reporting system. Non-financial reporting regulations implemented by the government, such as the strengthening of the Companies Act 2006, as well as encouragement from institutions such as the Financial Reporting Council (FRC) have made sustainability reporting an obligation, not an option (Kaspereit & Lopatta, 2016). UK companies, especially large-scale and listed ones, are required to disclose in-formation related to sustainability, climate risk and social impact relevant to their business operations.

Reporting standards such as TCFD (Task Force on Climate-Related Financial Disclosures), SASB (Sustainability Accounting Standards Board), and GRI have been widely adopted among corporations in the UK. Not only that, environmental reporting no longer stands alone as a separate document, but is starting to be integrated into the company's annual reports, reflecting the awareness that sustainability issues are an important part of business strategy (Al-Shaer & Zaman, 2019). In addition to strong regulation, encouragement from investors and stakeholders also plays a big role in driving the adoption of green accounting. Institutional investors are increasingly paying attention to ESG performance as the basis for investment decision-making, so companies are automatically encouraged to report and manage environmental issues more seriously.

Furthermore, the UK also has better technological support in terms of environmental data collection and reporting. Companies can leverage sustainability reporting soft-ware and environmental management information systems (EMIS) to automate green accounting processes, which of course accelerates overall adoption. This is different from Indonesia, where the technological infrastructure for green accounting is still lim-ited and has not been widely used by companies (Whittingham et al., 2023).

Based on this comparison, the implementation of green accounting in the UK is more established and structured, both in terms of regulation, human resource readiness, and collective awareness of the importance of environmental reporting. Meanwhile, In-donesia still faces systemic obstacles, although opportunities for development remain open, especially if supported by regulatory reforms, human resource capacity building, and synergy between the government, the private sector, and academia. This differ-ence indicates that the strategy to strengthen green accounting in each country must be adapted to the local context.

4.2.2 Implementation Challenges

Furthermore, the implementation of green accounting in Indonesia and the United Kingdom faces various structural, cultural, and technical challenges. These challenges are not only related to the understanding and application of the concept of green ac-counting itself, but also to external factors that affect environmental policies and business policies in both countries. Although the UK has made better progress than Indonesia in terms of green accounting implementation, each country still faces a number of obstacles that need to be overcome to realize more effective and efficient green accounting. The following are the challenges in Indonesia.

a. Inadequate Regulations. One of the biggest challenges in the implementation of green accounting in Indonesia is the lack of adequate regulation. Although Indonesia has signed a number of international agreements related to environmental sustainability, such as the Paris Agreement and the SDGs, the implementation of policies related to environmental reporting at the national level is still limited. The absence of strict sustainability reporting obligations for companies, especially for companies that are not registered on the capital market, makes many companies feel that there is no urgency to conduct comprehensive and transparent reporting (Tobing et al., 2019). In addition, the lack of integration between environmental regulations and accounting standards in Indonesia is a major obstacle to the wider implementation of green ac-counting .
b. Limited Human Resource Capacity. Another major problem is the limited ca-pacity of human resources (HR) who understand green accounting. In many cases, ac-countants and financial professionals in Indonesia do not have adequate training on environmental accounting concepts. Higher education and professional training in the field of environmental accounting are still very limited, which leads to difficulties in implementing more complex green accounting methodologies (Farhana & Adelina, 2019). Without sufficient knowledge and skills, many companies struggle to measure and report environmental impacts accurately and credibly.
c. Lack of Infrastructure for Environmental Data Collection. Indonesia also faces challenges in terms of environmental data collection and management infrastructure.

Many companies, especially those outside of the large industrial sector, do not yet have adequate systems in place to measure natural resource use, carbon emissions, or other negative impacts on the environment. Without accurate and consistent data, sustainability reporting becomes opaque and less trustworthy. The limited technological infrastructure to support environmental data collection further exacerbates this challenge (Permata Sari & Andreas, 2019).

d. Awareness is still low. In Indonesia, corporate awareness of the importance of environmental reporting is also still relatively low. Although some large companies are starting to show a commitment to sustainability reporting, most companies, especially MSMEs, still consider environmental issues as issues that do not directly affect their business performance. This often leads to the idea that green accounting is an external obligation that only needs to be fulfilled in order to meet international standards or market demands (Gunawan et al., 2022). Therefore, the implementation of green accounting in Indonesia is not always driven by strong internal commitments, but is more often driven by less binding external regulations.

Meanwhile, the following are the challenges that exist in the UK.

a) The Gap Between Regulation and Practice in the Field. Although the UK has adopted stricter regulations on sustainability reporting, the gap between regulation and practice on the ground remains a challenge. Some large companies listed on the stock exchange have indeed reported sustainability information well, but there are still companies that try to avoid more in-depth reporting obligations by simplifying re-porting or disclosing information in a limited way (Kao & Liao, 2021). This happens because despite the obligation, supervision and enforcement of regulations are still not optimal, allowing for reporting that does not fully reflect the true environmental impact.

b) Reliance on Inconsistent Data. Although the UK has better access to reporting technology, reliance on inconsistent data is a serious problem in the implementation of green accounting. Sustainability reports compiled by companies often lack uniformity in terms of methodologies and categories used, making it difficult to compare sustainability performance between companies (Whittingham et al., 2023). In addition, environmental impact measurements such as carbon emissions and natural resource use are often estimative and are not always based on accurate data or independent verification. These limitations make the effectiveness of green accounting in the UK less than optimal, despite significant progress in sustainability reporting.

c) Slow Business Paradigm Change. Another challenge in the UK is the sometimes slow change in business paradigms, especially in traditional industrial sectors. Alt-hough green accounting in the financial and energy sectors is starting to become the norm, many companies in the manufacturing and other sectors still see sustainability reporting as an administrative obligation, rather than as part of a long-term strategy to achieve greater sustainability goals. Therefore, despite the push from regulators and investors, the implementation of green accounting has not fully become an integral part of business culture in all industry sectors (Hummel & Rötzel, 2019).

d) Expensive Technology and Infrastructure. The use of advanced sustainability reporting technology in the UK also has its own challenges, especially in terms of cost. Large companies that have the resources are more likely to access the software and infrastructure necessary for environmental data collection and analysis, while small and medium-sized companies often cannot afford to invest in these technologies. This adds to the burden for companies that want to implement green accounting more effectively, and widens the gap between large and smaller companies in terms of sustainability management (Tong, 2017).

4.2.3 Implementation Opportunities

The implementation of green accounting in Indonesia and the UK not only faces challenges, but also offers a number of opportunities that can be leveraged to drive sus-tainability practices further. This opportunity can increase the effectiveness of en-vironmental reporting and strengthen the contribution of the business sector to the achievement of global sustainability goals, as stated in the SDGs. Opportunities for the implementation of green accounting in these two countries can be obtained through policy improvements, the application of new technologies, and support from the community and the business sector. Here are the opportunities that exist in Indonesia.

- Improvement of Government Regulations and Policies. One of the biggest opportunities for the implementation of green accounting in Indonesia is the potential for more in-depth and comprehensive regulatory and policy improvements. The Government of Indonesia, through the Ministry of Environment and Forestry (MoEF) and other relevant agencies, has begun to design policies that support sustainability reporting, such as the obligation for public companies to report on their sustainability performance. Strengthening this regulation can create a more conducive climate for the adoption of green accounting in all economic sectors. In addition, there is also an opportunity to develop more inclusive regulations for companies in the informal sector and MSMEs to participate in sustainability reporting more systematically (Anna & Dwi R.T, 2019).
- Increasing Public and Company Awareness. Awareness of the importance of environmental sustainability among Indonesian people and companies is increasing. This can be seen from the increasing number of sustainability initiatives and movements initiated by the private sector, including large corporations that are starting to implement eco-friendly practices in their operations. This opportunity provides an impetus for more companies to adopt green accounting as part of their social responsibility and to meet the demands of consumers who are increasingly concerned about environmental issues. This increase in awareness can accelerate the implementation of green accounting with encouragement from various parties (Tobing et al., 2019).
- Technological Developments for Measurement and Reporting. With the rapid development of technology, Indonesia has the opportunity to utilize new tools and systems in the collection, processing, and reporting of environmental data. Digital technologies such as the Internet of Things (IoT), big data systems, and dedicated software for sustainability reporting can help companies to measure and report on their environmental impact in a more efficient and accurate way. This can reduce the cost burden that has been an obstacle for many small and medium-sized companies in implementing green accounting (Karlina et al., 2019). Technology can also facilitate better transparency and accuracy of reports, which in turn can increase public and investor trust.
- Support from International Institutions and Assistance Programs. Indonesia also has the opportunity to take advantage of the support of international institutions and assistance programs that often offer training, financing, and technical assistance for companies to implement sustainability and green accounting practices. Through cooper-ation with international institutions such as UNDP, the World Bank, and ASEAN, Indonesia can gain access to resources and knowledge that can accelerate the im-plementation of green accounting in various industrial sectors (Mulpiani, 2019).

Meanwhile, the following are the opportunities that exist in the UK:

- Strengthening Sustainability Regulations and Policies. The UK has a great op-portunity in strengthening existing regulations and expanding the scope of sustaina-bility reporting (Al-Shaer & Zaman, 2019). The UK government has implemented a range of policies related to climate change and environmental sustainability, such as ambitious carbon emission reduction targets and the implementation of stricter ESG reporting. However, there is still an opportunity to expand the scope of this regulation, by ensuring that more companies, especially in sectors not yet covered by regulation, are required to report their environmental impacts. Expanding these obligations will not only strengthen transparency, but also encourage companies to take greater responsibility when it comes to sustainability.
- Adoption of Advanced Technology for Green Accounting. In the UK, the use of advanced technology in sustainability reporting is already on the rise, with many companies starting to integrate technology-based reporting tools to support their green accounting practices. With technology becoming more affordable, there is an opportunity for companies across sectors to further optimize the use of sustainability reporting software and platforms that enable automated and more accurate data collection and analysis (Whittingham et al., 2023). Technological developments such as blockchain also offer opportunities to increase transparency and accountability in sustainability reporting, thereby strengthening the implementation of green accounting in the UK.

- Greater Involvement from the Private Sector. In the UK, the private sector has a very important role to play in driving change towards a greener economy. Many large companies have integrated green accounting into their business strategies, but there is still room for the smaller and medium-sized private sector to get on board with this practice. These opportunities can be encouraged through fiscal incentives and policies that encourage investment in green technology and more transparent reporting (Tong, 2017). On the other hand, institutional investors who increasingly prioritize sus-tainability aspects in their investment decisions can be a catalyst for companies to be more serious in implementing green accounting.
- Human Resource Development and Education. Another important opportunity is the development of skilled human resources in green accounting. In the UK, there are already educational programs that include sustainability accounting, but the oppor-tunity to expand education in this area is still very large. The development of curricula at the university level and professional training in the industrial sector can help create more competent experts in applying the principles of green accounting. With more experts understanding the green accounting methodology, implementation in the field can be carried out more effectively, resulting in more accurate and credible reports (Boakye et al., 2020).

5. Conclusion

The conclusion that can be drawn is that, in general, the UK has implemented green accounting better thanks to stronger regulations and high awareness in the private sector. On the other hand, Indonesia is still in the development stage, with some companies starting to adapt despite limitations in regulation and understanding. The main ob-stacles in Indonesia are inadequate regulations, low understanding of green accounting, and lack of infrastructure for environmental data collection and analysis. Meanwhile, in the UK, the biggest challenge is the gap between large companies that have im-plemented green accounting and small and medium-sized companies that have limited capacity. Both countries have the opportunity to strengthen green accounting. In Indo-nesia, the opportunity lies in strengthening regulations and policies as well as in-creasing public and corporate awareness. In the UK, the opportunity is focused on strengthening policies for small and medium-sized enterprises and leveraging tech-nology to improve reporting efficiency. With these steps, both countries can increase the implementation of green accounting to support environmental sustainability.

Recommendations

Based on the results of a comparative analysis of green accounting practices in Indonesia and the United Kingdom, there are several recommendations that can be applied to strengthen the implementation of green accounting in both countries. First, for Indo-nesia, there needs to be a strengthening of government regulations and policies that support green accounting, such as more comprehensive policy updates to encourage companies to implement sustainability reporting. In addition, more intensive educa-tion and training among companies, especially in the small and medium sectors, must be carried out so that the understanding of green accounting increases. The government also needs to encourage investment in adequate technological infrastructure for more efficient collection and analysis of environmental data.

Meanwhile, in the UK, attention should be focused on the inclusion of small and medium-sized companies in the implementation of green accounting. The government can introduce supportive policies by providing incentives or subsidies for technology that makes sustainability reporting easier. In addition, increasing access to technology and resources is also important to support companies in adopting green accounting more broadly. Finally, collaboration between the public and private sectors should be further enhanced to create programs that can strengthen the capacity of green accounting implementation, especially for companies with limited capacity. Overall, the two countries can also strengthen green accounting practices by increasing international collaboration, for example through the exchange of knowledge and experience be-tween Indonesia and the UK. Stricter oversight of supervisory bodies in individual countries will also be important to ensure compliance with green accounting practices and encourage companies to be more transparent in reporting their sustainability. With these measures, both Indonesia and the UK can face the challenges that exist and take advantage of opportunities to strengthen green accounting in order to support en-vironmental sustainability.

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