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The Impact of Carbon Emission Disclosure on Firm Value

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Abstract: This study illustrates the importance of corporate disclosure of carbon emissions as a strategy to increase firm value in a global context that is increasingly concerned with sustainability. Through a meta-analysis of five international journals, findings show that carbon emissions disclosure is positively correlated with increased firm value in several Asian countries such as Korea and Taiwan, where this transparency is supported by strict government oversight and media attention to environmental policies. However, challenges arise in China, where a lack of responsiveness to economic transformation and inadequate disclosure practices can negatively impact firm value by hindering access to funding and firms' risk management capabilities. The implementation of international standards such as ISO 14064 in carbon emissions management was also emphasized as key to improving transparency, corporate reputation in terms of sustainability, and attractiveness to investors who are increasingly prioritizing sustainable business practices.

Keywords: Carbon Emission Disclosure, Firm Value, ISO 14064

Introduction

Corporate disclosure of carbon emissions, known as Carbon Emission Disclosure, has become a very important topic in the era of sustainability and environmental transparency. Global warming and climate change are becoming urgent global issues to address. The main factors causing climate change are gas and oil exploration, coal mining, and power generation (Bedi, 2024d; Kong, 2024). With increasing awareness of the impact of global climate change, transparency in disclosing information related to carbon emissions is crucial not only as a social and environmental responsibility, but also as a strategy to influence overall corporate value (Bedi, 2024c; Li, 2024).

Among several countries in the Asia-Pacific region, nearly 50% of the sectors with the most carbon emissions are the power sector, followed by the industrial sector and the transportation sector (Bahriansyah & Lestari Ginting, 2022). This phenomenon reflects a significant challenge in climate change mitigation efforts, where rapid economic growth often goes hand in hand with increased energy demand and mobility, which in turn can increase greenhouse gas emissions (Bedi, 2024b; Singhania, 2024).

With the increasing risk of climate change today, companies' carbon emissions are under public scrutiny and criticism (Bedi, 2024a; Silaban, 2024). Global efforts that can be made to overcome climate change due to global warming is the holding of the Paris Agreement which aims to limit global warming to a maximum of 2°C until 2100 (Houqe, 2024; Karaman, 2024). Disclosure of carbon emissions by the company will tend to increase public trust in the company because it is considered to provide a positive signal so that it will increase the value of the company (Afni Nurul Nur Aeni & Murwaningsari, 2023).

Research conducted by (Rahmianingsih & Malau, 2022) shows a significant positive relationship between carbon emission disclosure and firm value. The results of this study are in line with research conducted by (Zhang & Yu, 2012) which explains that carbon emission disclosure can affect firm value by seeking a legal social position for the company and transferring efficient information to the capital market. Thus, the purpose of this study is to examine the effect of carbon emission disclosure on firm value.

Research Method

This research was conducted using the meta-analysis method by reviewing several articles in international journals. This meta-analysis research is research that uses secondary data in the form of data from previous research results. In this meta-analysis research, researchers used 5 articles as relevant samples in international journals on the effect of carbon emission disclosure on firm value. The data analysis technique used is descriptive analysis by comparing the results of research on previous researchers.

Result and Discussion

Research conducted by Lee & Cho (2021) shows a significant positive relationship between disclosure of carbon emissions and firm value. The act of companies in Korea voluntarily disclosing carbon emissions is due to significant control power, as these companies are under greater scrutiny from the government and receive intensive attention from the media for various company policies. The media and other institutions highly value the act of voluntary disclosure itself. To the extent that the amount of carbon emissions does not impair value, companies have a strong incentive to make their carbon emissions information public if they want to maintain their value in terms of environmental policy.

Based on research conducted by Han et al. (2023) also found that carbon emissions disclosure has a positive relationship with firm value in Taiwan. Some Taiwanese companies are required to report their carbon emissions to the government when carbon emissions exceed the officially set limit. Government enforcement and investor attitudes are important factors in reducing carbon emissions, thereby increasing firm value. International investors can also contribute to the reduction of carbon emissions by making global investments, but in this case Asian countries and Asian investors still lag behind those in the West.

Noor & Ginting (2022) revealed in their research that the disclosure of carbon emissions has a significant and positive impact on firm value. In achieving the company's main goal, namely maximizing profits, companies must continue to pay attention to other factors, especially environmental factors that support sustainability, so that they can have a positive impact on society and the business world itself. To increase firm value, industrial sector companies focus more on carbon emission disclosure strategies and do not consider ISO 14001 as an environmental performance standard.

Research conducted by Ho (2015) shows that the disclosure of carbon emissions has an influence on firm value. High levels of carbon emissions have a detrimental impact on firm value, with each additional thousand metric tons of carbon emissions associated with an average decrease of $212,000 in firm value. The disclosure of carbon emissions is factored into firm value by the capital markets and failure to implement "greener" initiatives will ultimately have a labor impact on firms.

In contrast to research conducted by Sun et al. (2022), they show that carbon emissions disclosure has a negative relationship with firm value. This suggests that if the company does not take action in response to economic transformation, it will face penalties inflicted by the capital market, as well as affect the company's future funding ability and risk response ability. In addition, carbon emissions disclosure should be listed as a strategic priority in corporate governance. This is the strategic layout of development that has been implemented in China as a whole.

Discussion

The disclosure of carbon emissions has become very important worldwide due to increasing attention to climate change and the need to manage risks associated with environmental impacts. This is regulated by ISO 14064, an international standard that addresses the quantification and reporting of greenhouse gas emissions and the verification of this information (Wintergreen & Delaney, n.d.). ISO 14064 assists companies in developing a structured management system to manage and monitor their gas emissions, as well as increasing transparency in their reporting of environmental impacts. The standard also contributes to global efforts to reduce the impact of climate change by encouraging sustainable business practices oriented towards reducing carbon emissions.

The ISO 14064 standard consists of three main parts, each of which addresses a specific aspect of carbon emissions management, namely:

1. ISO 14064-1, specifies general principles and requirements for the measurement and reporting of carbon emissions by companies.
2. ISO 14064-2, specifies the implementation of quantitative measurement and reporting of carbon emissions.
3. ISO 14064-3, specifies requirements and guidelines for verification and validation of carbon emission statements.

Implementation of ISO 14064 in carbon emission management can significantly increase company value. ISO 14064 demonstrates commitment to environmental sustainability, enhancing reputation in the eyes of stakeholders. Companies can access markets that favor sustainable products, and appeal to investors seeking sustainable investments. The focus on reducing carbon emissions also drives innovation and improves global competitiveness. Overall, ISO 14064 is not only regulatory compliance, but also a long-term investment strategy to increase corporate value through sustainability and a strong reputation.

Various studies on the relationship between carbon emissions disclosure and firm value provide mixed findings. Lee & Cho (2021) found that in Korea, voluntary disclosure of carbon emissions is positively related to firm value. They attribute this to significant control power and media attention to environmental policies. Han et al. (2023) found similar results in Taiwan, where carbon emissions disclosure was also positively associated with firm value, driven by government enforcement and investor attitudes towards sustainability. In contrast, Noor & Ginting (2022) support these findings by asserting that carbon emissions disclosure has a significant positive impact on firm value, especially in achieving sustainability goals. However, research by Ho (2015) shows that high levels of carbon emissions can hurt firm value by reducing their market value. Whereas (Sun et al., 2022) highlighted that in China, carbon emission disclosure has a negative relationship with firm value as a lack of response to economic transformation can draw down a firm's funding and risk response.

These studies show a complex relationship that can be understood through the principles in the ISO 14064 standard. ISO 14064 emphasizes the importance of accountability, integrity and transparency in carbon emissions management. Findings from studies (Han et al., 2023; Lee & Cho, 2021; Noor & Ginting, 2022) found that companies that voluntarily disclose carbon emissions tend to experience an increase in firm value, as this reflects a commitment to sustainability practices that is recognized by the government and supported by the media. They also show that strong accountability towards environmental practices, as mandated by ISO 14064, can enhance reputation and investor confidence.

On the other hand, research by Ho (2015) highlights that high levels of carbon emissions can be detrimental to firm value, suggesting the importance of integrity in carbon emissions management to maintain market confidence. The findings by Sun et al. (2022) add a different dimension by showing that in China, lack of response to economic transformation and inadequate disclosure of carbon emissions may reduce companies' ability to secure funding and manage risks in the future. In this sense, the implementation of ISO 14064 principles is not just about compliance with international standards, but also a strategy that can enhance corporate value through better management of carbon emissions, maintaining integrity, and meeting market expectations for transparency and sustainability.

Conclusion

Based on the research results, it can be concluded that corporate disclosure of carbon emissions has varying impacts on firm value, depending on the regional context and management implementation. Some studies show that companies that actively disclose carbon emissions experience an increase in firm value. For example, in Korea and Taiwan, these disclosures are associated with strict government oversight and media scrutiny of environmental policies, which helps to enhance the reputation and investor confidence in corporate sustainability. In contrast, negative findings from research conducted in China suggest that a lack of response to economic transformation and inadequate disclosure of carbon emissions may hinder companies' ability to secure funding and manage future risks, which in turn may negatively affect firm value.

International standards such as ISO 14064 play a crucial role in managing carbon emissions in a transparent and effective way. Implementation of these standards not only complies with regulations, but also has the potential to enhance a company's trust and reputation for sustainability. This can be a long-term strategy that supports a company's global competitiveness, by attracting investors who are increasingly concerned about environmental issues and expanding market access for sustainable products. Thus, carbon emissions disclosure is not just about a company's legal and ethical obligations, but also an important factor in creating long-term added value through responsible management of carbon emissions and effective responses to global environmental challenges.

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