



EXPLORING THE CHANCES AND CHALLENGES OF GREEN SUKUK IN INDONESIA: TOWS METHOD ANALYSIS

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Abstract

This study explores the opportunities and challenges of green sukuk in Indonesia through a comprehensive TOWS method analysis. By reviewing existing literature and conducting IFAS (Internal Factor Analysis Summary) and EFAS (External Factor Analysis Summary), the study identifies the internal strengths and weaknesses, as well as external opportunities and threats, affecting the green sukuk market in Indonesia. The findings suggest that an aggressive SO (Strength-Opportunity) strategy is most suitable for leveraging the country's strong government support and positive market response, while capitalizing on the increasing global demand for sustainable investments. The study recommends enhancing public and investor awareness, strengthening regulatory support, fostering collaborations with global financial institutions, and providing incentives for green projects. These strategic actions are essential for maximizing the potential of green sukuk as a sustainable financing instrument, driving Indonesia's economic growth, and reinforcing its leadership in the global Islamic finance market. This research contributes to the ongoing discourse on Islamic finance and green financing, offering strategic insights and recommendations for policymakers, investors, and stakeholders to advance Indonesia's environmental and economic goals.

Keywords: Green sukuk, Sustainable financing, TOWS analysis

Abstrak

Penelitian ini menelaah berbagai peluang dan tantangan dari green sukuk di Indonesia menggunakan pendekatan analisis TOWS. Dengan meninjau literatur terdahulu serta menganalisis faktor internal (IFAS) dan faktor eksternal (EFAS), penelitian ini mengidentifikasi kekuatan dan kelemahan internal serta peluang dan ancaman eksternal yang memengaruhi perkembangan pasar green sukuk di Indonesia. Hasil analisis menunjukkan bahwa strategi agresif SO (Strength-Opportunity) merupakan pendekatan yang paling tepat untuk memanfaatkan dukungan kuat dari pemerintah, respon positif dari pasar, serta peluang peningkatan permintaan global akan investasi hijau. Penelitian ini merekomendasikan beberapa langkah strategis untuk mengembangkan green sukuk di Indonesia, yakni: peningkatan kesadaran publik dan investor, penguatan dukungan regulasi, pengembangan kerja sama dengan lembaga keuangan global, serta penyediaan insentif untuk proyek-proyek ramah lingkungan. Langkah-langkah ini dianggap dapat mengoptimalkan potensi green sukuk sebagai instrumen pembiayaan berkelanjutan sekaligus mendukung pertumbuhan ekonomi Indonesia dan memperkuat posisi Indonesia sebagai negara terdepan dalam pasar keuangan Islam global. Penelitian ini juga memperkaya kajian terkait keuangan Islam dan pembiayaan hijau dengan memberikan wawasan strategis dan rekomendasi praktis bagi pembuat kebijakan, investor, dan pemangku kepentingan dalam mendukung tujuan keberlanjutan lingkungan dan ekonomi di Indonesia.

Kata kunci: Analisis TOWS, Pembiayaan berkelanjutan, Sukuk hijau

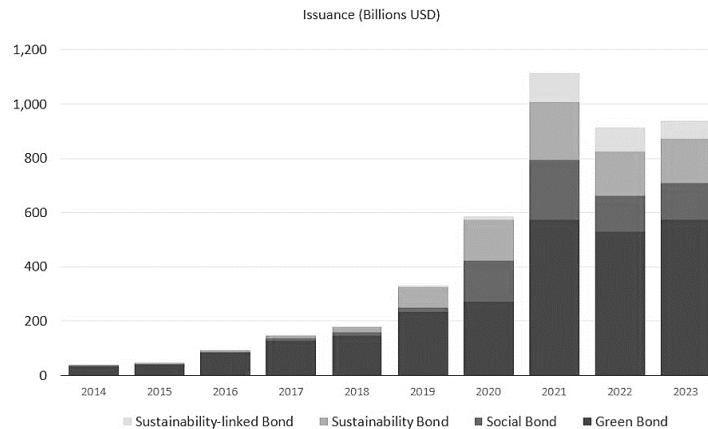
INTRODUCTION

Global warming and industrial development in the last century have caused climate change and contributed to increasing temperatures gradually (Arshad et al., 2024). Aligned with that, Amamou et al. (2024), proved that climate and environmental threats have become central concerns of policymakers for the risk they present to the quality of life. The global transition towards a more sustainable and environmentally-conscious economy has led to the rise of innovative financial instruments, such as green bonds, which play a crucial role in mobilizing capital for green projects and initiatives (Indriastuty et al., 2020). Kedia & Joshipura (2023) highlighted that since the adoption of the Paris climate agreement in 2015, the green bond markets have experienced rapid growth. According to data compiled by Bloomberg (2024) in Graph 1, the issuance of sustainable bonds surpassed a trillion dollars in 2023, driven by unprecedented levels of green bond sales. Impact bonds, including green, social, sustainability, and sustainability-linked bonds, totaled \$939 billion in 2023, marking a 3% increase from the



previous year. Although this is not a record—2021 saw issuance reach \$1.1 trillion—2023 did set a record for green bond sales by corporations and governments, which rose to \$575 billion, slightly exceeding the \$573 billion figure from 2021.

Graph 1. Global Issuance of Impact Bonds in 2023



Source: Bloomberg (2024)

Indonesia, like many other developing countries, faces significant environmental challenges as Pujiantoro et al. (2021) stated that Indonesia's wealth as a tropical country makes it potentially vulnerable to the negative impacts of climate change. The emergence of green sukuk, a type of green bond that complies with Islamic financing principles, has presented both opportunities and challenges in the country's quest for sustainable development (Hania et al., 2022). The country is striving to balance economic growth with environmental sustainability, and green sukuk offer a promising avenue for achieving this balance.

To address climate change, the first issuance of the Indonesian green sukuk in 2018 marked a significant milestone in the country's efforts (Siswantoro & Surya, 2021). The proceeds from the issuance of Indonesia's 2018 Green Sukuk, amounting to USD 1.25 billion, is exclusively allocated to environmentally friendly projects in accordance with the Green Framework of the Republic of Indonesia, marking it as the world's first sovereign Green Sukuk with investors distributed globally: 32% in the Islamic market, 25% in the Asian market, 15% in the EU, 18% in the US, and 10% in Indonesia (Kementerian Lingkungan Hidup dan Kehutanan, 2018). The successful issuance, which was oversubscribed, demonstrated the growing investor interest in green financial products, particularly those related to climate change mitigation (Siswantoro & Surya, 2021). The green sukuk offered a unique opportunity for Indonesia to fund environmentally-friendly projects, while also adhering to the principles of Islamic finance (Ramadhan & Wirdyanigsih, 2020).

Integral to the Indonesian green sukuk is the rigorous verification process required for the underlying projects, where an independent agent evaluates the green compliance of each initiative before it can be financed through the issuance (Siswantoro & Surya, 2021). The funds generated from the sale of green sukuk will be allocated to finance projects that fall into the 'green' category (Pujiantoro et al., 2021). The Indonesian government has defined several project types as 'green' or environmentally friendly. These include initiatives focused on energy efficiency, renewable resources, sustainable building practices, eco-tourism, disaster preparedness, clean transportation, waste reduction, resource conservation, and environmentally sound agriculture.

Despite its potential, the Indonesian green sukuk market faces significant obstacles that hinder its growth and development (Hariyani et al., 2020). These challenges include regulatory hurdles, limited awareness among investors, and the need for a robust verification process to ensure the environmental integrity of funded projects. Karina (2019) also stated that the



development of green sukuk in Indonesia in the future will be more promising if these emerging challenges are thoroughly evaluated and existing opportunities are maximized. This study aims to explore these chances and challenges comprehensively through the TOWS method analysis, providing strategic insights and recommendations for stakeholders.

The main difference between this study and previous research is its broader and more comprehensive approach to Indonesia as a whole, rather than focusing on a single case in conducting a literature review on the development of green sukuk in Indonesia. By utilizing the TOWS method, this study offers a strategic framework that identifies the strengths, weaknesses, opportunities, and threats related to green sukuk issuance in the country, as the TOWS analysis is expected to provide an overview of the potential benefits and challenges (Primadini & Gunadi, 2023). Additionally, it highlights the unique advantages of green sukuk in promoting sustainable development and environmental conservation while addressing the specific financial and regulatory framework of Indonesia. This study also adds to the ongoing discourse on Islamic finance and green financing by presenting empirical evidence and strategic recommendations that can guide policymakers, investors, and stakeholders in leveraging green sukuk as a viable tool for funding eco-friendly projects and advancing Indonesia's environmental goals.

LITERATURE REVIEW

Green bonds are becoming increasingly important in the climate change dialogue, as they may help construct a greener economy (Hasan et al., 2023). Saravade & Weber (2024) stated that the green bond market contributes to global sustainable finance flows and raises awareness about climate change. Moreover, Reboredo (2018) demonstrated that green bonds can effectively address the issue of insufficient capital for green investments, helping countries enhance renewable energy projects and improve energy efficiency, thereby reducing carbon dioxide emissions. Similarly, Wang et al. (2020) emphasized the importance of developing the green bond market to facilitate green financing support across various regions. Jakubik & Uguz (2021) argued that green bonds serve as a crucial policy tool for governments to attract private investors to participate in projects aimed at lowering carbon emissions. Flammer (2021) in Chuc & Rasoulinezhad (2021) also believes that green bonds are an effective mechanism for financing climate-aligned projects, particularly in contexts characterized by limited capital availability for sustainable and green initiatives.

Over the past few decades, green bonds have emerged as a prominent financial instrument for green investing and financing (Cheong & Choi, 2020). A variety of frameworks and standards have been developed to define green bonds, including internationally recognized benchmarks such as the Green Bond Principles and Climate Bond Standards (Chen & Zhao, 2021). The development of distinct green bond regulations by countries like China and India has raised concerns about the consistency and global credibility of these bonds (Azhgaliyeva et al., 2020; Tolliver et al., 2020). In the context of Indonesia, green bonds have become an integral part of the government's long-term development strategy. For instance, one of the missions in the RPJP (Long-Term National Development Plan) for 2005-2025 is to create a sustainable and green Indonesia by utilizing and conserving natural resources in a balanced manner (Cendekiawan & Firmansyah, 2024). The development of green bonds in Indonesia, guided by the Roadmap for Sustainable Finance in Indonesia 2015-2019, has progressed with the issuance of the Financial Services Authority Regulation No. 60/POJK.05/2017 on the Issuance and Terms of Green Bonds. This regulation aligns with the Strategic Framework for Development and Climate Change formulated by IOSCO and the Strategic Framework for Development and Climate organized by the World Bank.



Before the initiation of green bonds and green sukuk initiatives, the Indonesian government has previously issued a series of retail bonds (ORI), some of which can be considered early examples of green bonds (Karina, 2019). Most of these were three-year bonds that paid interest monthly at around 7%, which was deemed competitive compared to other financial instruments (Anugrahaeni, 2017). Indonesia has been recognized as a pioneer in the issuance of green bonds in the Southeast Asian region with the issuance of a five-year Green Sukuk worth US\$1.25 billion or approximately Rp16.75 trillion in March 2018 and offers a yield of 3.75% (Kementerian Lingkungan Hidup dan Kehutanan, 2018). According to Anggraini (2018), green sukuk has remained a key instrument for the government due to the positive market response to the initial issuance of green sukuk. This positive reception prompted the government to consider issuing green sukuk again in the following years. Anik & Prastiwi (2017) similarly found that the market has shown a highly positive response to sukuk issuances. The market has consistently demonstrated strong demand for sukuk, often oversubscribing issues, especially those backed by the government. As the first country to issue green sukuk, Indonesia has a favorable opportunity to develop green sukuk further, thereby strengthening its position in the global Islamic finance economy.

METHODS

This study employs a multi-faceted methodological approach to explore the chances and challenges of green sukuk in Indonesia. The search for published articles was conducted on *Emerald*, *Google Scholar*, *Portal Garuda*, *Scopus*, and *ScienceDirect*. The initial phase involves a comprehensive literature review, aiming to gather and synthesize existing research on green sukuk, focusing on both global and Indonesian perspectives. Following the literature review, the study employs the Internal Factor Analysis Summary (IFAS) to understand the internal environment affecting the green sukuk market and their impact on the success of green sukuk in Indonesia. To complement the internal analysis, the study utilizes the External Factor Analysis Summary (EFAS) to examine the external environment influencing the green sukuk market in Indonesia. This analysis focuses on identifying and evaluating external opportunities and threats that affect the market. Key factors considered include economic conditions, environmental policies, technological advancements, and market demand for sustainable finance products. The EFAS helps in understanding how these external factors can either facilitate or hinder the growth of green sukuk in Indonesia.

Building on the insights gained from the IFAS and EFAS, the study applies the TOWS Method Analysis. This strategic tool combines the internal and external factors to develop actionable strategies for enhancing the green sukuk market. The TOWS analysis involves cross-matching the identified strengths, weaknesses, opportunities, and threats to formulate strategies that leverage strengths to capitalize on opportunities, address weaknesses to mitigate threats, and turn weaknesses into strengths. By employing these interconnected methods, the study aims to offer a thorough analysis of the current state of the green sukuk market in Indonesia. It proposes strategic recommendations to overcome obstacles and leverage opportunities for sustainable development, ultimately enhancing the efficacy and appeal of green sukuk as a sustainable financing instrument in Indonesia.

RESULTS AND DISCUSSIONS

Based on the literature review conducted, the strengths, weaknesses, opportunities, and threats associated with green sukuk in Indonesia have been identified. To gain a comprehensive understanding of these factors, the Internal Factors Analysis Summary (IFAS) and the External Factors Analysis Summary (EFAS) were employed. The IFAS table details the internal strengths and weaknesses that impact the performance of green sukuk, while the EFAS table outlines the



external opportunities and threats that influence its growth and sustainability. By integrating these insights, the TOWS method was then applied to formulate strategic recommendations for enhancing the effectiveness and attractiveness of green sukuk as a sustainable financing instrument in Indonesia. The following Table 1 and Table 2 present the detailed IFAS and EFAS, along with the TOWS Analysis on Diagram 1.

Table 1. Internal Factors Analysis Summary (IFAS)

No	Description	Item	Weight	Rating	Score
1	Strength	Pioneering status in Southeast Asia	25.00%	2	0.5
		Strong government support	30.00%	4	1.2
		Positive market response	25.00%	4	1.0
		Alignment with global sustainability goals	20.00%	3	0.6
	Total Strengths		100%	3.3	
2	Weakness	Limited awareness among investors	25.00%	-3	-0.75
		Higher certification costs	25.00%	-3	-0.75
		Regulatory complexities	25.00%	-4	-1.0
		Limited domestic expertise	25.00%	-3	-0.75
	Total Weaknesses		100%	-3.25	
Total Internal Factors			100%	0.05	

Source: processed data (2024)

The total internal factors score is the sum of the total strengths and total weaknesses, resulting in a final score of 0.05. This table provides a quantitative analysis of internal factors, with the weights reflecting the importance of each factor, ratings indicating the positive or negative impact, and scores being the product of weight and rating. The final score offers an overall perspective on the internal conditions evaluated.

Table 2. External Factors Analysis Summary (EFAS)

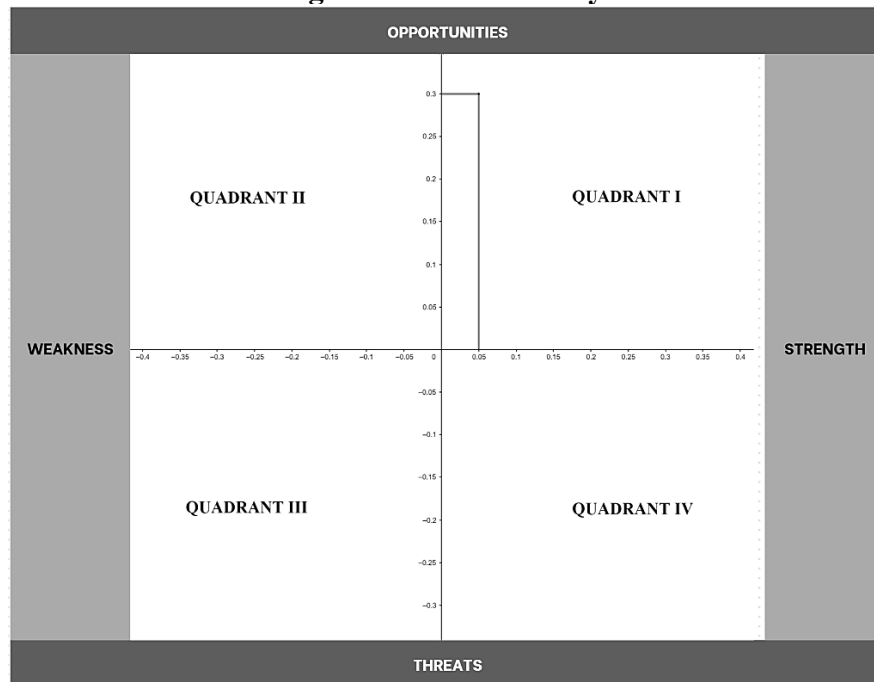
Table 2: External Factors Analysis Summary (EFAS)						
No	Description	Item	Weight	Rating	Score	
1	Opportunity	Increasing global demand for sustainable investment options	30%	4	1.2	
		Potential for attracting international investors	20%	2	0.4	
		Expanding green projects in renewable energy sectors	30%	4	1.2	
		Collaboration with global financial institutions	20%	4	0.8	
	Total Opportunity		100%	3.6		
2	Threat	Economic instability and market fluctuations	25%	-3	-0.75	
		Competition from other green financial instruments	25%	-3	-0.75	
		Regulatory changes and policy shifts	30%	-4	-1.2	
		Perceived risks associated with new financial products	20%	-3	-0.6	
	Total Threat		100%	-3.3		
Total External Factors			100%	0.3		

Source: processed data (2024)

The aggregate factor score, derived from the summation of opportunities and threats, yields a final value of 0.3. Factor weights reflect their relative significance with the overall score provides a numerical summary of the external conditions assessed.



Diagram 1. TOWS Analysis



Source: processed data (2024)

Based on the calculations from the IFAS and EFAS as well as the TOWS Analysis Diagram, it can be analyzed that the strategy employed by the government to support the success of green sukuk in Indonesia is an aggressive strategy (Strength-Opportunity or SO Strategy). This approach leverages the strengths to capitalize on the opportunities identified. The SO strategy that the government can implement includes the following actions.

1. Enhance public and investor awareness about the benefits and potential of green sukuk through targeted education and marketing campaigns. This can attract more investors who are interested in sustainable finance.
2. Develop and refine regulations that support the issuance and management of green sukuk, ensuring they are favorable and encourage participation from both domestic and international investors.
3. Collaborate with global financial institutions, environmental organizations, and other stakeholders to promote green sukuk and ensure robust verification processes. This can help maintain high standards of environmental compliance and attract a broader investor base.
4. Provide incentives for projects that qualify for green sukuk financing, such as tax breaks or subsidies. This can motivate project developers to adopt greener practices and seek funding through green sukuk.

Maximizing the potential of green sukuk in Indonesia is crucial for advancing sustainable development and reinforcing the country's leadership in the global Islamic finance market. The aggressive SO (Strength-Opportunity) strategy identified through the IFAS and EFAS analysis highlights the importance of leveraging strengths such as strong government support and positive market response, while capitalizing on opportunities like increasing global demand for sustainable investments. By implementing targeted strategies such as expanding awareness, strengthening regulatory support, fostering partnerships, and incentivizing green projects, the Indonesian government can effectively enhance the appeal and success of green sukuk. The insights from this study underscore the significant role that green sukuk can play in



achieving Indonesia's long-term sustainability goals and driving economic growth through environmentally responsible financing.

CONCLUSIONS

This study has utilized IFAS and EFAS analyses to identify various internal and external factors influencing the development of green sukuk in Indonesia. It was found that an aggressive SO (Strength-Opportunity) strategy is the most suitable method to support the success of green sukuk in Indonesia. By leveraging strengths such as strong government support and positive market response, along with opportunities like the increasing global demand for sustainable investments, Indonesia has significant potential to strengthen its position in the global Islamic finance market.

The conclusion drawn from this study is the importance of implementing an SO strategy to maximize the potential of green sukuk. The Indonesian government can enhance public and investor awareness about the benefits of green sukuk through targeted educational campaigns. Strengthening regulatory support is also necessary to ensure the smooth issuance and management of green sukuk, attracting participation from both domestic and international investors.

Additionally, collaborating with global financial institutions, environmental organizations, and other stakeholders is crucial for promoting green sukuk and ensuring rigorous verification processes. Providing incentives for projects that qualify for green sukuk financing, such as tax breaks or subsidies, can also motivate project developers to adopt greener practices.

Based on this analysis, it is recommended that the government continues to promote the issuance of green sukuk as a sustainable financial instrument. With the right strategies, green sukuk can not only serve as a tool for financing green projects but also significantly contribute to achieving Indonesia's sustainable development goals. Maximizing the potential of green sukuk is essential for supporting environmentally responsible economic growth and strengthening Indonesia's position as a pioneer in the sustainable Islamic finance market.

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