

Green Sukuk Development Strategy in Indonesia: ANP-SWOT Approach

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Abstract

Green sukuk proposed financing programs for eco-friendly projects and initiatives. However, since the issuance of this instrument, the number of green sukuk remains relatively small compared to securities issued by other countries. This study aims to identify strengths, weaknesses, opportunities, and threats and formulate strategies for green sukuk development in Indonesia. The Analytic Network Process (ANP) is employed with a SWOT (Strength-Weakness-Opportunity-Threat) network to examine the priority strategy for the advancement of green sukuk. Five experts in their respective areas are involved, including academics, regulators, and practitioners. The results indicate that opportunities are a top priority in supporting the development of green sukuk. In addition, the most influential variables of strength, weakness, opportunity, and threat are the impact of green sukuk on reducing greenhouse emissions and preserving the environment; the limited number and types of projects funded; the increment of public awareness regarding eco-friendly sustainable lifestyle trends; and the risk to reputation, respectively. The priority strategy for developing green sukuk in Indonesia is to increase awareness of climate change. Thus, these findings specifically contribute to the policymakers' strategies for expanding green sukuk.

Keywords: *ANP, green sukuk, development strategy, SWOT*



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INTRODUCTION

Issues related to climate change have encouraged countries worldwide to develop economic growth by paying attention to environmental concerns. Indonesia is prone to hydrometeorological disasters exacerbated by climate change conditions and the deterioration of environmental quality, mainly caused by human activity. Consequently, Indonesia is predicted to suffer an ongoing rise in surface temperatures due to climate change. The highest projected average temperature increase in Indonesia has the potential to reach 1.5°C – 4°C by 2100 (Ministry of National Development Planning, 2019)

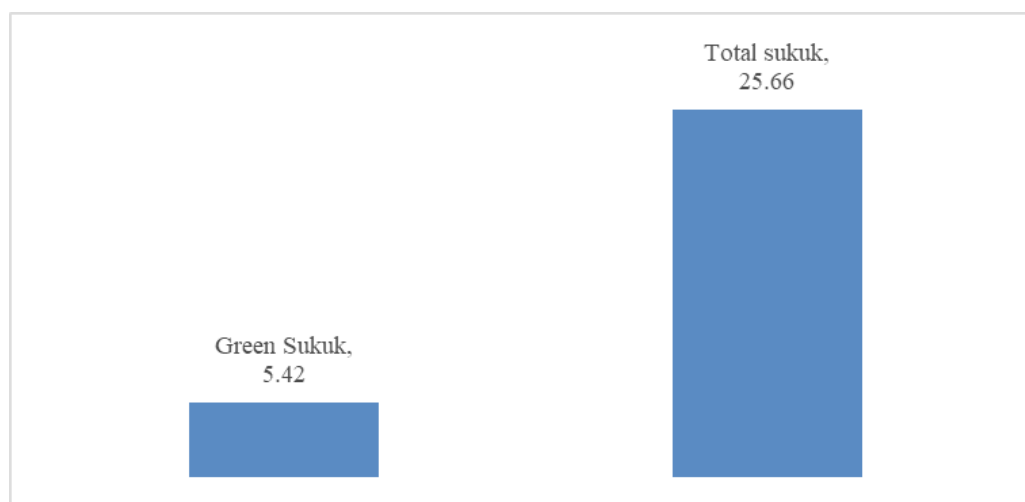
The budget tagging policy is one of the Indonesian government's initiatives to address climate change. A total of 88.1% of government spending expenditure is spent on green infrastructure. The results of the budget tagging process are used to initiate new financial instruments for tackling climate change in the form of green bonds and *sukuk* (Islamic bonds). In this case, Indonesia uses green bonds and *sukuk* to finance sustainable development (BKF, 2019).

Green *sukuk* are Islamic bonds for financing or refinancing green projects contributing to climate change adaptation, mitigation, and biodiversity conservation (UNDP, 2019). Green *sukuk* aligns with Indonesia's goal to achieve the Sustainable Development Goals (SDGs). Green *sukuk* is an investment instrument innovation that allows investors to invest in projects that aim to achieve economic, social, and environmental goals in a manner that complies with *sharia* or Islamic jurisprudence (Tabassum *et al.*, 2019b).

In addition to being in line with the SDGs, green *sukuk* also aligns with the fulfillment of *maqashid sharia*, which aims to protect religion (*hifdzu ad-din*), protect the soul (*hifdzu an-nafs*), guard the mind (*hifdzu al-aql*), protect offspring (*hifdzu an-nasl*) and protect property. (*hifdzu al-mal*) (Rohmah *et al.*, 2020). Islam teaches that humans have a balanced relationship with nature (*hablum minal alam*) in preserving and maintaining nature (Bashirun *et al.*, 2020).

According to the Ministry of Finance (2020), the issuance of green *sukuk* amounting to USD1.25 billion in March 2018, USD0.75 billion in February 2019, and USD0.75 billion in June 2020 made Indonesia listed as the initiator in the issuance of green *sukuk* in the Southeast Asia region. Notwithstanding

the critical importance of green *sukuk*, its progress remains sluggish. Based on the Ministry of Finance (2020), the Indonesian government only issued two retail green *sukuk* series, the ST-006 and ST-007 savings *sukuk* series, until December 2020. In addition, when viewed from the side of outstanding green *sukuk*, the proportion of outstanding green *sukuk* is 21% compared to other *sukuk* from August to December 2020 (see Figure 1). It indicates that the proportion of green *sukuk* is still relatively small.



Source: Central Bank of Indonesia 2021 (processed)

Figure 1 Outstanding individual *sukuk* for the period August to December 2020 (in trillion rupiah)

Prior studies have comprehensively discussed green *sukuk* in several aspects (Abubakar & Handayani, 2020; Endri *et al.*, 2022; Fitrah & Soemitra, 2022; Karina, 2019; Lestari, 2020; Munir *et al.*, 2020; Siswantoro & Surya, 2021). Most of the prior studies emphasize the concept of green *sukuk* as sustainable financing and its challenges and opportunities. However, prior studies on opportunities and challenges can be extended by constructing a comprehensive strategy to expand green *sukuk*. Moreover, the study regarding the development strategy of green *sukuk* in Indonesia is relatively scanty in the academic literature.

Therefore, this study aims to analyze the strengths, weaknesses, opportunities, and threats of green *sukuk* in Indonesia and formulate a strategy for developing green *sukuk* in Indonesia. In addition, the author applies the Analytical Network Process (ANP) with the Strengths, Weaknesses,

LITERATURE REVIEW

Green *Sukuk* and Its Development in Indonesia

Islamic bonds, also termed *sukuk*, are defined as long-term securities that comply with Islamic principles issued by issuers to *sukuk* holders according to the fatwa of the National Sharia Council of the Indonesian Ulema Council (DSN-MUI) 2002 No.32/DSN-MUI/IX/2002. Therefore, *sukuk* must be free from usury, *gharar* (uncertainty), and *maysir* (gambling). Another distinction from conventional bonds is that *sukuk* requires underlying assets in which the investor becomes a partial owner and receives a proportional share of the income generated by the asset. Therefore, it serves as evidence of ownership of a tangible asset or benefit rights that comply with Islamic tenets (Fatah, 2011).

In line with the environmental and economic sustainability trend, *sukuk* are also evolving. Significant funding was needed for Indonesia to realize its sustainable economy targets. The Indonesian government is committed to reducing greenhouse gas (GHG) emissions by 26% in 2020 and 29% to 41% with international support in 2030 (UNDP, 2019). Based on the Second Biennial Update Report 2018, the estimated funding requirements to achieve the emission reduction target in 2030 is as much as USD247.2 billion (approximately IDR3.46 trillion) or around USD20.6 billion (approximately IDR288.4 trillion) annually. It is also estimated that the climate funding needs in Indonesia are generally in the range of USD2.8 billion to USD20.6 billion per year (UNDP, 2019). In December 2018, Indonesia became the first to issue green *sukuk* to support the funding.

Green *sukuk* are valuable green certificates issued by corporations or governments to finance projects that fit the eligible green project category following Islamic principles (UNDP, 2020). Green *sukuk* is an innovative Sharia-based financial instrument to support Indonesia's commitment to fighting climate change. Nine sectors can be financed by green *sukuk*, including renewable energy, sustainable natural resource management, energy efficiency, green tourism, resilience to climate change, green buildings, sustainable transportation, sustainable agriculture, and waste and energy

management waste. According to the Ministry of Finance Indonesia (2020), green *sukuk* has been issued with a wakalah contract structure. The issuance is guided based on the Green Bond and Green *Sukuk* Framework and has been audited and rated as medium green shade by CICERO, an international independent rating agency.

Green *sukuk* are issued through a climate budget tagging process. The budget tagging system supports tracking agency activities and programs toward strategic planning for climate change mitigation and adaptation. It is proceeded by the Indonesia Fiscal Policy Agency (BKF, *Badan Kebijakan Fiskal*) and then used by the Directorate General of Budget Financing and Risk Management (DJPPR, *Direktorat Jenderal Pengelolaan Pembiayaan dan Risiko*) of the Ministry of Finance as a reference to determine the fundamental assets for each green *sukuk* issuance. The National Development Planning Agency (Bappenas, *Badan Perencanaan Pembangunan Nasional*) or The Ministry of National Development Planning used data from climate budget tagging to monitor the achievement of low-carbon development programs. This climate budget marking data is synchronized with the National Registry System (SRN) owned by the Ministry of Environment and Forestry and green *sukuk* data to find the achievement of GHG emission reductions from each K/L project finances the use of green *sukuk* (BKF, 2020).

Since its first issuance, Indonesia's green *sukuk* has gained interest from issuers and investors. The results of the first green *sukuk* issuance in 2018 reached USD1.25 billion with investors spread worldwide, such as 32% Islamic market, 25% Asian market, 15% EU, 18% US, and 10% Indonesia. According to Ministry of Finance (2023), in 2022, Indonesia issued its fifth global green *sukuk*, raising USD6.9 billion. The issuance marked several notable achievements amidst the uncertainty of the global economy, including the most significant green *sukuk* tranche ever issued globally and the first green *sukuk* tranche with a maturity of 10 years. In addition, Indonesia also issued its first project-based green *sukuk* and retail green *sukuk* (ST 009) for the domestic market in the same year.

Despite its great potential, the development of green *sukuk* continues to encounter some challenges, particularly in Indonesia (Prisandy & Widyaningrum, 2022). First, the number of issuers and issuance is relatively tiny despite being the largest issuance size of green *sukuk* in the ASEAN market. Issuers of green *sukuk* face extra expenses to ensure the alignment

with green *sukuk* principles. These costs involve obtaining consultant reviews, verification, certification, and ratings from reputable third-party organizations. Unfortunately, these expenditures are solely the issuers' responsibility, creating a hurdle for those undertaking small transactions (less than USD300 million). There is also insufficient awareness and limited understanding regarding green *sukuk* among prospective issuers and investors.

Another hurdle is the perceived risks of green projects, such as low profitability and limited cash flows, as well as the absence of a track record due to the restricted number of previous issuers. It is coupled with low international credit ratings and liquidity, particularly in the secondary market. Thus, it makes purchasing the green *sukuk* by potential investors less appealing. The present regulations in Indonesia also make it difficult and expensive for foreign investors to manage their exposure to foreign exchange, thus resulting in limited availability for currency hedging.

RESEARCH METHODS

Data Types and Sources

This study mainly employed primary data. Primary data was obtained from in-depth interviews and the results of filling out questionnaires by experts, including academics, practitioners, and authorities or regulators who are experts in Islamic economics and finance. Secondary data was also applied in this study. It was obtained from the DJPPR, the BKF, the Central Bank of Indonesia (Bank Indonesia), the Green *Sukuk* reports, and literature studies.

Respondent Collection Method

Respondents were taken using a non-probability sampling technique with a purposive sampling method. Criteria included respondents with knowledge and/or experience regarding the object under study. Respondents were academics, practitioners, and regulators who deeply understood green *sukuk* in Indonesia. In the Analytical Network Process (ANP) method, the number of respondents is not essential, but respondents are competent in their fields. This study took five respondents: Islamic economics academics from the University of Indonesia and IPB University, experts from the DJPPR

of the Ministry of Finance, experts from the Fiscal Policy Agency, and experts from the Ministry of Environment and Forestry.

Data Analysis

The analysis in this study applied the Analytical Network Process (ANP) with the Strengths, Weaknesses, Opportunities, and Threats (SWOT) approaches and was processed using Super Decisions Software and Microsoft Excel 2019. ANP is a qualitative study approach that can combine intangible values such as valuation subjective with statistical data and other tangible factors. Thus, ANP is a method that can be used to solve complex problems and requires feedback (Saaty & Vagas, 2008).

In the result analysis stage, the results are analyzed by inputting the results of the questionnaires that have been filled out by the respondents into the Super Decisions software, then calculating the geometric mean (GMC) and estimating Kendall's Coefficient of Concordance value, which is a measuring tool for calculating the rater agreement. The results of individual research from each respondent and the results of opinions in a group are obtained by calculating the geometric mean (Saaty & Vagas, 2008). Questions in pairwise comparisons from the respondents will be combined to create a consensus. Rater agreement is a parameter that describes respondents' level of conformity (R_1-R_n) to one problem in one cluster. The tool used to calculate the rater agreement is Kendall's Coefficient of Concordance ($(W; 0 < W \leq 1)$). $W=1$ indicates a perfect match (Ascarya, 2010).

Then, there is also the calculation of the inconsistency ratio. The inconsistency ratio is used to identify possible errors in the assessment, such as if A is more important than B and B is more important than C and then says that C is more important than A, then it is judged to be inconsistent. The inconsistency ratio must generally be less than 0.1 or 10% to be accepted and considered relevant (Saaty, 2016).

RESULTS AND DISCUSSION

This study identifies the strengths, weaknesses, opportunities, and threats of green *sukuk* by involving 19 internal and external factors and formulating eight alternative strategies. The internal factors are aspects originating from strengths and weaknesses, while the external factors are opportunities

and threats that affect the development of green *sukuk* in Indonesia. These factors are determined through a literature study and in-depth interviews with experts who understand green *sukuk* in Indonesia.

SWOT Analysis

Strengths

- a. Green *sukuk* with retail schemes that can reach new customer groups, namely green investors (S1)

This aspect is obtained through in-depth interviews with experts and the results of literature studies. In developing green *sukuk*, one of the strengths is that green *sukuk* with retail schemes can reach new customer groups or diversify investors, namely green investors. Therefore, green *sukuk* investors are Islamic and green, positively impacting financial inclusion (UNDP, 2019).

- b. Green *sukuk* has an impact on reducing greenhouse emissions and preserving the environment (S2)

The results of the literature study and in-depth interviews show that green *sukuk* is one of the innovative financial instruments that finance eco-friendly projects, such that project financing can support the reduction of carbon emissions and greenhouse gas emissions. It is a bargaining point and an aspect of the strength of retail green *sukuk*.

- c. Green *sukuk* are in line with the Sustainable Development Goals (S3)

One aspect of the strength of green *sukuk* is that it is in line with the SDGs. It aligns with an expert statement from the DJPPR of the Indonesian Ministry of Finance, which states that it corresponds with Sustainable Development Goals 7, 8, 9, 11, and 13. The issuance of green *sukuk* aligns with the government-established SDGs. Six essential elements are committed to the SDGs to improve the environment: Planet, People, Dignity, Prosperity, Justice, and Partnership.

- d. Green *sukuk* as an alternative to Islamic financing (S4)

Green *sukuk* are state Islamic securities whose issuance proceeds are intended to finance or refinance green projects. According to experts, green *sukuk* can be an alternative instrument for Islamic financing.

- e. Green *sukuk* contributes to financing the state budget deficit (S5)

Based on Law No. 19/2008, the issuance of State Islamic Securities (SBSN, *Surat Berharga Syariah Negara*) is to finance the State Budget (APBN, *Anggaran Pendapatan dan Belanja Negara*) and project financing. Therefore, according to experts, green *sukuk*, which are SBSN instruments, contribute to financing the APBN deficit.

Weaknesses

- a. Lack of socialization about green *sukuk* (W1)

The literature study and in-depth interviews with experts investigate one weakness of green *sukuk*, which is the lack of socialization by the government. The expert explained that the socialization of green *sukuk* is still not optimal and requires special attention since socialization is one of the primary keys to obtaining opportunities to develop green *sukuk*.

- b. The limitations of green *sukuk* product innovation (*aqd*) (W2)

Based on an in-depth interview with the experts and the literature study, retail green *sukuk* in Indonesia has only been issued under the *wakalah* contract. It can be seen on the official website of the Ministry of Finance that the ST006 and ST007 green *sukuk* series were issued using the *wakalah* contract scheme.

- c. The limited number and types of projects funded (W3)

The literature study and in-depth interviews show that green *sukuk* can finance various projects, ranging from solid waste management to sustainable land use to biodiversity conservation. However, the number of eco-friendly projects financed using green *sukuk* is still inadequate.

- d. The issuance of a green *sukuk* report requires much effort (W4)

The results of an in-depth interview with the experts indicate that tremendous effort is required. In addition, the higher cost is incurred because publishing a green *sukuk* report requires coordination with many parties. It is a challenge for issuers willing to publish green *sukuk* reports.

- e. The issuance of green *sukuk* is complicated (W5)

In an in-depth interview, an expert from the DJPPR of the Indonesian Ministry of Finance explained that issuing green *sukuk* requires more effort, incorporating cost. Efforts include coordinating with green *sukuk* stakeholders, while costs are intended for special auditors, special teams, and others. Based on in-depth interviews with academic experts, issuing green *sukuk* is complicated because the issuer must monitor and ensure that the output is as promised.

Opportunities

- a. Increasing public awareness of eco-friendly sustainable lifestyle trends (O1)

According to the Indonesian Sharia Financial Report (2020) published by Bank Indonesia, green *sukuk* issuance simultaneously increases public awareness of eco-friendly sustainable lifestyle trends. A green lifestyle or eco-friendly lifestyle is a lifestyle that includes elements of concern for nature and the environment, which means that everyone is expected to maintain a balance between daily needs and natural preservation (Islamiati & Saputra, 2021). Therefore, with increasing public awareness of eco-friendly lifestyle trends, green *sukuk* in Indonesia will also increase.

- b. The positive trend in investor demand to invest in green *sukuk* instruments (O2)

Based on an in-depth interview with one of the experts and the literature study, investor demand for green *sukuk* shows a positive trend from year to year (Suwanan *et al.*, 2021). According to information from the DJPPR of the Indonesian Ministry of Finance, DJPPR has set the total volume of orders for retail green *sukuk* ST006 at IDR1.46 trillion with a total of 7,735 investors, and it increases in the issuance of green *sukuk* series ST-007.

- c. Indonesia's population is predominantly Muslim (O3)

Green *sukuk* is a securities innovation providing investment opportunities for Muslim and non-Muslim investors in Indonesia. The expert explained that this could be an opportunity to develop green *sukuk* in Indonesia. Karina (2019) states that Indonesia has the

world's largest Muslim population; thus, it provides the potential for rapid development of the Islamic finance industry.

d. Increased demand for renewable energy supplies (O4)

A significant increase in the population can increase the demand for energy funding and become a form of investment to finance renewable energy efficiency to meet the population's needs in the future. The increasing demand for clean and efficient energy will align with population growth. The prospects for demand for energy, water, transportation, urban development, and infrastructure are also improving. Experts consider this an opportunity for green *sukuk* instruments, considering that green *sukuk* are Islamic financing instruments used to finance eco-friendly projects supporting energy efficiency.

e. Indonesia's vulnerability to climate change (O5)

Based on an in-depth interview with one of the experts, Indonesia's vulnerability in facing climate change is an opportunity for green *sukuk*. It is because green *sukuk* can be a means of reducing carbon and greenhouse gas emissions that are the cause of disasters due to climate change. Green *sukuk* can answer government policies as a form of climate change adaptation and mitigation action.

Threats

a. Greenwashing risk

Greenwashing is the act of a company claiming to be responsible for the environment to gain profit from it when it does not issue green investment instruments (UNDP, 2020). This greenwashing risk impacts the emergence of negative perceptions among investors, where investors who are aware of claims related to environmental issues that are not appropriate will assume that eco-friendly claims are just a marketing strategy carried out by the issuers or specific parties. Consumers' negative perceptions due to greenwashing activities can harm issuers or truly green product-oriented institutions. As a result, investor confidence in green-based products or instruments, including green *sukuk*, could be negatively impacted.

b. Product competition

Based on an in-depth interview with an expert and the literature study, one aspect that poses a threat is competition with other investment instruments. One potential competitor for green *sukuk* products is the emergence of green *sukuk* issued by private companies.

c. The capital market's low level of public literacy, especially green *sukuk*

The level of financial literacy and inclusion in the capital market in Indonesia is still deficient, namely 4.44% and 1.25%, while the Islamic capital market financial literacy and inclusion index is only 0.02% and 0.01% (OJK, 2016). It can threaten green *sukuk* in developing and selling their instruments.

d. Reputation risk.

Reputation risk occurs due to the community's negative view, which decreases investor and stakeholder confidence. Based on the results of an in-depth interview with one of the experts, reputational risk concerns the reputation of the Indonesian government as a green *sukuk* issuer, and this concerns investor confidence and the public's view of the Indonesian government. Green *sukuk* with retail schemes has a higher reputation risk. It is because investors can access the details of the projects they fund (UNDP, 2020).

ANP Analysis Result

The results of the ANP analysis are obtained after forming the ANP model and network. The following process quantifies the priority values for each aspect and element. The order of priority of each element can be seen from the Geometric Mean (GM) value obtained by experts from filling out a pairwise comparison questionnaire. Meanwhile, the respondent's rater agreement can be seen from Kendall's Coefficient Concordance (W) value.

The experts agreed upon the results of the ANP regarding the priority aspects of SWOT. The aspects that must be prioritized are the aspects of opportunities (0.356), followed by aspects of strengths (0.295), weaknesses (0.251), and threats (0.098). Calculating the rater agreement value or the value of the respondent's agreement produces a W value of 0.392. It means that 39.2% of respondents agree that the opportunity aspect is the highest priority in developing green *sukuk* in Indonesia.

Based on the literature study and the opinions of the experts who were respondents in this study, each of the aspects of strengths, weaknesses, opportunities, and threats consists of four to five aspects. The results of ANP show that the strength aspect has a priority order, namely: 1) green *sukuk* have an impact on reducing greenhouse emissions and preserving the environment (0.298); 2) green *sukuk* with retail schemes can reach new customer groups, namely green investors (0.231); 3) green *sukuk* in line with the Indonesian government's sustainable development goals (0.204); 4) green *sukuk* as an alternative to sharia financing (0.141); and 5) green *sukuk* contribute to the financing of the APBN deficit (0.127). The respondents' agreement or the rater agreement has a W value of 0.376, which means that 37.6% agree with the priority results on the strength aspect. It is in line with Karina (2019) that green *sukuk* is an innovative financial instrument to support Indonesia's commitment to reducing greenhouse gas emissions. Indonesia has set a target of reducing greenhouse gas emissions by 29 per cent by 2030 through its businesses (UNDP, 2019). To achieve this, the government must innovate to find other funding sources, namely through green *sukuk*.

The weaknesses aspects have a priority order, namely: 1) the number and types of projects funded are limited (0.247); 2) lack of socialization regarding green *sukuk* (0.245); 3) limited innovations such as contracts for green *sukuk* products (0.221); 4) the issuance of a green *sukuk* report requires a large amount of effort (0.145); and 5) the issuance of green *sukuk* is complicated (0.1423). Then, the rater agreement of the respondents has a W value of 0.328, which means that 32.8% agree with the priority results on this aspect of weakness. It is in line with (Karina, 2019) that the low proportion of green *sukuk* is due to the limited number and types of projects that can be financed by green *sukuk*. Green *sukuk* can finance a broader range of projects, from solid waste management to sustainable land use and biodiversity conservation.

In the aspect of opportunity, it has a priority order, including 1) increasing public awareness of eco-friendly, sustainable lifestyle trends (0.247); 2) rising positive trend in investor demand to invest in green *sukuk* instruments (0.231); 3) Indonesia's vulnerability to climate change (0.221); 4) increased demand for energy supply (0.186), and 5) Indonesia's population is predominantly Muslim (0.114). The calculation of the respondents' agreement has a W value of 0.248, which means that 24.8% agree with the priority results

on the aspect of opportunity. It is in line with the 2020 Indonesian Sharia Financial Report published by the Central Bank of Indonesia, which states that the issuance of green *sukuk* comes with increasing public awareness of eco-friendly, sustainable lifestyle trends.

The results of the analysis agreed upon by the experts regarding the priority aspects of the threat show that 1) reputation risk (0.319); 2) the low level of public literacy in the capital market, especially green *sukuk* (0.273); 3) greenwashing risk (0.212), and 4) product competition (0.195). It shows that reputational risk is a priority element to be addressed to develop green *sukuk* in Indonesia. Then, the calculation of the respondents' agreement (rater agreement) has a W value of 0.04, which means that 4% agree with the priority results on the threat aspect.

Green Sukuk Development Strategy in Indonesia

The strategy formulation is carried out by considering four aspects used in the research through the SWOT matrix. The strategy that has been formulated must be able to use opportunities and strengths by minimizing weaknesses and dealing with threats. Table 1 shows eight alternative strategies formulated based on the SWOT matrix.

SO Strategy

There are two alternatives SO strategies for developing green *sukuk* in Indonesia. The first strategy is to increase awareness of climate change. According to (Warsilah, 2021), the Indonesian government has strengthened awareness about climate change and formulated appropriate actions related to climate change. One of the results is the formation of the Indonesia Climate Change Adaptation Action Plan (RAN-PI, *Rencana Aksi Nasional – Perubahan Iklim*), which is currently in the process of becoming law. The formulation of RAN-PI certainly shows the government's willingness to deal with climate change.

The second strategy is to promote green *sukuk* products to domestic investors. According to (Ministry of National Development Planning, 2018), the promotion of green *sukuk* products generally can be done through various media, including Islamic capital market content in Friday Sermons or *khutbah*, Islamic religious gatherings (*majelis taklim*), collaborating

with social media influencers, increasing infographics, and increasing advertisements regarding the Islamic capital market.

WO Strategy

There are two alternative WO strategies for developing green *sukuk* in Indonesia. The first strategy is project development, which becomes the underlying asset of the green *sukuk*. According to the (World Bank Group, 2019), development in underlying assets is needed so that it is not limited to leading projects. It is based on interviews with experts from the DJPPR of the Ministry of Finance, who stated that there is a need to develop green *sukuk* underlying assets due to the limited number of government projects that can be used as underlying assets. The development of projects that become the underlying assets of green *sukuk* can maximize the opportunities for Indonesia's Muslim population and Indonesia's vulnerability to climate change.

The second strategy is to develop green *sukuk* product innovations. Currently, the issuance of retail green *sukuk* in Indonesia has only been limited under the *wakalah* contract scheme (DJPPR, 2020). In contrast to the development of green *sukuk* in Indonesia, the use of contracts in Malaysian green *sukuk* is more varied. Currently, Malaysia has issued green *sukuk* using various types of contracts, including the *istishna'* contract scheme (purchase order), *ijarah* (lease), and *ijarah mawsufah fi zimmah* (forward lease) (Keshminder *et al.*, 2019).

ST Strategy

There are two alternative ST strategies for developing green *sukuk* in Indonesia. The first strategy is to increase Islamic capital market literacy programs, especially green *sukuk* products. According to experts, increasing the Islamic capital market literacy program is necessary, especially for green *sukuk* products. It can be a Sharia capital market literacy/education program, one of the activities carried out by the Indonesia Stock Exchange.

The second strategy is to implement a national campaign program related to sustainable finance. According to (OJK, 2021), the national campaign program related to sustainable finance is an activity carried out to understand the importance of activities that consider environmental, social, and governance aspects.

WT Strategy

There are two alternative WT strategies for developing green *sukuk* in Indonesia. The first strategy is to make an integrated system standard for issuing green *sukuk* reports and green *sukuk* issuances. Based on interviews with experts, making a green *sukuk* report requires much effort, and issuing a green *sukuk* is complicated. The government must set up an integrated standard system for issuing green *sukuk* reports and green *sukuk* issuances. Based on the results of interviews, there is currently a National Registry System (SRN), which is a system for managing and providing data and web information regarding actions and resources for climate change adaptation and mitigation in Indonesia. The integration of the system is considered to minimize aspects of weakness in the issuance of green *sukuk* reports and green *sukuk* and avoid the threat of greenwashing risk and reputation risk, considering that the system is accessible to the broader community.

The second strategy is to optimize socialization regarding green *sukuk*. According to Hariyani *et al.* (2020), socialization regarding green *sukuk* is still considered ineffective, coupled with the threat of low. According to experts, socialization regarding green *sukuk* can not only be done during the offering period but can also be carried out on an ongoing basis before the offering period.

Strategy Priority

The results of the analysis of the priority strategies are used in the development of green *sukuk* in Indonesia. The priority order of strategies in developing green *sukuk* in Indonesia is 1) increasing awareness of the issue of climate change; 2) promoting green *sukuk* products to domestic investors; 3) increasing Islamic capital market literacy programs, especially for green *sukuk* products; 4) developing green *sukuk* product innovations; 5) developing projects that are the underlying assets of green *sukuk*; 6) optimizing socialization regarding green *sukuk*; 7) organizing national campaign programs related to sustainable finance; 8) making integrated system standards for the issuance of green *sukuk* reports and green *sukuk* issuances.

The main priority of Indonesia's green *sukuk* development strategy is to increase awareness of climate change by obtaining a geometric mean value of 0.151 and the resulting rater agreement value of 0.1709, which means 17.09%

of respondents agree with the priority results. This strategy aligns with (Warsilah, (2021)research, which explains that the Indonesian government has formulated the Indonesia Climate Change Adaptation Action Plan (RAN-PI) to strengthen awareness of climate change. Tabassum *et al.* (2019a) explain that the green *sukuk* market will increase with the increasing public awareness of climate change.

Table 1 Alternative strategies based on the SWOT matrix

	Strength	Weakness
Internal Factor	<p>S1. Green <i>sukuk</i> with retail schemes can reach new customer groups, namely green investors</p> <p>S2. Green <i>sukuk</i> have an impact on reducing greenhouse emissions and preserving the environment</p> <p>S3. Green <i>sukuk</i> in line with the Government of Indonesia's Sustainable Development Goals (SDGs 7, 8, 9, 11, 13)</p>	<p>W1. Lack of socialization about green <i>sukuk</i></p> <p>W2. Limited innovations, such as green <i>sukuk</i> product contracts</p> <p>W3. Projects are funded in a limited number and type.</p>
External Factor	<p>S4. Green <i>sukuk</i> as an alternative financing</p> <p>S5. Green <i>sukuk</i> contributes to the financing of the APBN deficit.</p>	<p>W4. The issuance of a green <i>sukuk</i> report requires a large amount of effort.</p> <p>W5. The issuance of green <i>sukuk</i> is complicated.</p>
Opportunity	SO Strategy	WO Strategy
<p>O1. Increasing public awareness of eco-friendly, sustainable lifestyle trends.</p> <p>O2. A positive trend in investor demand to invest in green <i>sukuk</i> instruments.</p> <p>O3. The population of Indonesia is predominantly Muslim.</p> <p>O4. Increased demand for renewable energy supplies</p> <p>O5. Indonesia's vulnerability to climate change</p>	<p>SO1. Increased awareness of climate change issues (S2, O1)</p> <p>SO2. Promotion of green <i>sukuk</i> products to domestic investors (O2, S1)</p>	<p>WO1. Project development that becomes the underlying asset of green <i>sukuk</i> (W3, O3, O5)</p> <p>WO2. Product development for green <i>sukuk</i> (W2, O2)</p>

Threat	Strategi ST	Strategi WT
T1. Greenwashing risk	ST1. Increasing Islamic capital market literacy programs, especially for green <i>sukuk</i> products (T3, S4)	WT1. Establishing an integrated system standard for issuing green <i>sukuk</i> reports and issuing green <i>sukuk</i> (T1, T4, W4, W5)
T2. Product competition		
T3. Public literacy is still low in the capital markets, especially green <i>sukuk</i>	ST2. Implementation of national campaign programs related to sustainable finance (S3, S5, T2)	WT2. Improving socialization for green <i>sukuk</i> (W1, T3)
T4. Reputational risk		

CONCLUSION

This study aims to formulate a strategy for developing green *sukuk* in Indonesia. The strategy formulated is based on a combination of aspects of the strengths, weaknesses, opportunities, and threats of green *sukuk* in Indonesia. The ANP method with a SWOT matrix obtains the priority results. This method measures the priority value and the respondent's level of agreement with a priority outcome.

Based on the results of the study, the strength aspect that is the most prioritized is that green *sukuk* has an impact on reducing greenhouse emissions and preserving the environment with a priority level of 0.29775, while the priority weakness is that the number and types of funded projects are limited to a priority level of 0.24671. The priority opportunity aspect is increasing public awareness of eco-friendly, sustainable lifestyle trends with a priority level of 0.24756, while the priority on the threat aspect is reputation risk with a priority level of 0.31937.

Following the construction of the SWOT analysis, this research formulates strategies for green *sukuk* development. There are eight formulation strategies, namely 1) increasing awareness of the issue of climate change; 2) promoting green *sukuk* products to domestic investors; 3) increasing Islamic capital market literacy programs, especially for green *sukuk* products; 4) developing green *sukuk* product innovations; 5) developing projects that are the underlying assets of green *sukuk*; 6) optimizing socialization regarding green *sukuk*; 7) organizing national campaign programs related to sustainable finance; 8) making integrated system standards for the issuance of green *sukuk* reports and green *sukuk* issuances. Increasing awareness of climate change

is identified as the priority strategy of Indonesia's green *sukuk* development, as indicated by the rater agreement value of 0.1709 and the geometric mean value of 0.151, which indicate that 17.09 percent of respondents concur with the priority results. This finding contributes to the development strategy of green *sukuk*, particularly from its priority strengths, weaknesses, threats, and opportunities. Consequently, several actions can technically arrange the priority strategies.

RECOMMENDATION AND LIMITATION

In response to the increasing public awareness regarding eco-friendly lifestyle trends and the expanding demand for green *sukuk*, the government has the authority to issue green *sukuk* within the retail *sukuk* series, with a more significant number of issuances. Furthermore, the government must create an integrated system that monitors progress and clears up coordination so that all information regarding green *sukuk* and the required components is spread evenly and is easily accessible by stakeholders.

This research is limited to the development of retail green *sukuk* in Indonesia. Specifically, it focuses on the creation of green *sukuk* products and the Ministry of Finance as the entity responsible for issuing them. Further research is expected to be able to include other SWOT variables related to issues of transparency and reporting of green *sukuk*, the absence of special regulations regarding green *sukuk*, and other relevant factors.

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