

# How Sukuk Contributes to SDGS-9 “Industry, Innovation, and Infrastructure” in Indonesia: Opportunities & Challenges

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## Abstract

**Background:** The need for infrastructure spending in Indonesia is estimated to reach IDR 6,421 trillion or 6.08% of GDP to achieve medium economic growth in 2020-2024. However, the realization of spending only reached 3.46% of GDP, indicating a large gap in infrastructure financing. Alternative funding sources are needed to support national development.

**Objectives:** This study explores the contribution of sukuk to the achievement of SDG 9, focusing on the opportunities and challenges of its management.

**Novelty:** This study fills the literature gap by linking sukuk to SDG 9, expanding the discourse from the financial aspect to the contribution to sustainable development. These findings are expected to contribute to the ongoing debate on the effectiveness of Islamic finance in supporting sustainable development.

**Research Methodology / Design:** This study uses a qualitative descriptive approach by utilizing secondary data from literature related to sukuk in Indonesia taken from Google Scholar in the period 2019 to 2023. Data were analyzed descriptively using content analysis techniques to identify patterns and key findings regarding the contribution of sukuk to SDG-9.

**Findings:** Sukuk contributes significantly to the development of quality infrastructure and supports inclusive industrialization by providing access to finance. Based on the analysis, the opportunities for sukuk to achieve SDG 9 are the growth of the sharia economy (especially sharia finance), investor interest in Indonesian sukuk, the large population of Indonesian Muslims, and supporting infrastructure development programs. In addition, there are also challenges that need to be faced such as credit risk, limited information on the sharia capital market, lack of understanding of issuers, investors and the public about sukuk, limited traded instruments, and liquidity risk.

**Implication:** This study highlights theoretical implications by expanding the understanding of the role of Islamic finance in achieving sustainable development goals. Practically, this study provides insight for policy makers and corporate managers on how to utilize sukuk for sustainable industrial and infrastructure development. Recommendations include improving the regulatory framework, increasing awareness of sukuk, and encouraging an environment that supports the issuance and management of sukuk.

## Keywords:

Sukuk, SDG 9, Islamic Finance, Infrastructure.

## JEL Classifications:

G15, E62, O16

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## A. Introduction

The Sustainable Development Goals (SDGs) are a global sustainable development agenda designed by the United Nations (UN) together with 193 countries in 2015. The SDGs are a continuation of the Millennium Development Goals (MDGs). Known as the 2030 agenda, the SDGs have a vision of creating a better and more sustainable future encompassing environmental, economic, and social progress. In an effort to achieve this vision, the SDGs set 17 inclusive goals with 169 basic targets as concrete steps that must be taken by the global community (Lawati & Hussainey, 2022).

Sustainable Development Goal nine (SDG-9) is one of the 17 SDGs entitled "Industry, Innovation and Infrastructure." This goal is designed to promote inclusive and sustainable industrialization, foster innovation and build resilient infrastructure. The concept of industry, innovation and infrastructure aims to improve welfare and production output. On the other hand, the United Nations report on the Average Performance of SDGs shows that Indonesia is still in the process of achieving SDG-9 with a rating of "fairly good". However, there are still major challenges that must be overcome so that the SDG targets can be fully achieved (United Nations, 2022). Therefore, it is very important for Indonesia to focus on building solid infrastructure to overcome obstacles and achieve a rating of "SDGs achieved".

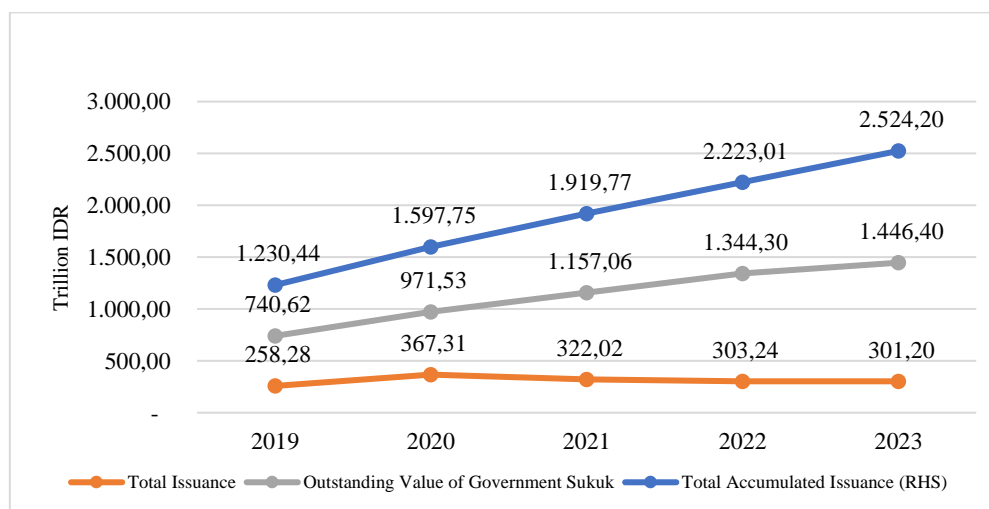
Good infrastructure is the basis for sustainable economic development. The existence of adequate infrastructure also plays a very important role in the national economy. This is because the speed and economic growth of a country cannot be separated from the availability of infrastructure such as transportation, telecommunications and even energy availability. According to Simon Kuznet, infrastructure development is a public service obligation, which is something that should be the government's obligation because infrastructure is the most primary public infrastructure in supporting a country's economic activities. The availability of infrastructure also greatly determines the level of efficiency and effectiveness of economic activities and is a prerequisite for the wheels of the economy to run smoothly (Suswita et al., 2020).

As a developing country, Indonesia continues to strive to develop and improve its infrastructure development system. On January 17, 2020, President Joko Widodo signed Presidential Regulation Number 18 of 2020 to implement the provisions of Article 19 paragraph (1) of Law Number 25 of 2004 concerning the National Development Planning System. This regulation is related to the National Medium-Term Development Plan (RPJMN) 2020–2024 (Mawardi et al., 2022). Indonesia's National Medium-Term Development Plan 2019–2024 contains 7 (seven) national development agendas. Two of the seven agendas are strengthening infrastructure to support economic development and market services and building the environment, increasing disaster and climate change resilience to achieve a prosperous, equitable and sustainable middle-income Indonesia (Abubakar & Handayani, 2020).

Based on data from the Directorate General of Public Works and Housing Infrastructure Financing, initial calculations estimate that the spending required for infrastructure development reaches around IDR 6,421 trillion or around 6.08% of Gross Domestic Product (GDP) to achieve medium economic growth from 2020 to 2024. In 2024, the percentage of infrastructure capital to GDP should reach 50%. However, the latest data reveals that the realization of infrastructure spending only reached 3.46% of GDP. This shows a very large gap in infrastructure financing when compared to the targets that have been set. Therefore, the government is faced with the demand to find sources of funding to support national development projects and build the necessary infrastructure. Relying on national income is not an adequate strategy; other sources of funding need to be explored. Creative efforts are needed to encourage community and corporate participation in providing funds, by utilizing appropriate financing schemes (Mawardi et al., 2022).

Law Number 19 of 2008 states that financial securities such as Sukuk can be used to finance government projects listed in the State Budget (APBN). Looking at the development of sukuk in Indonesia, especially State Sukuk from 2008 to 2023, there has been a very significant increase. Based on data from the Directorate General of Financing and Risk Management (DJPPR) of the Ministry of Finance, throughout the 15 years of State Sukuk development, the total accumulation of issuance reached IDR 2,524.20 trillion with various issuance methods (auction, bookbuilding, private placement), both in Rupiah and foreign currency (USD). The amount of outstanding State Sukuk as of December 31, 2023 reached IDR 1,446.04 trillion or around 20.1% of the total Government Securities (SBN) issued by the Indonesian Government (OJK, 2023). The development of the issuance of State Sharia Securities (SBSN) shows the increasing role of SBSN in financing the APBN deficit, financing infrastructure projects, and also developing the Islamic financial market.

In 2022 regarding the 2023 State Budget, the Government's State Budget deficit is 2.84% of GDP. The Government's deficit is met from various sources of financing, one of which is through the issuance of State Sukuk (SBSN). The following is data related to the issuance of State Sukuk in the last 5 years, as seen in the figure 1:

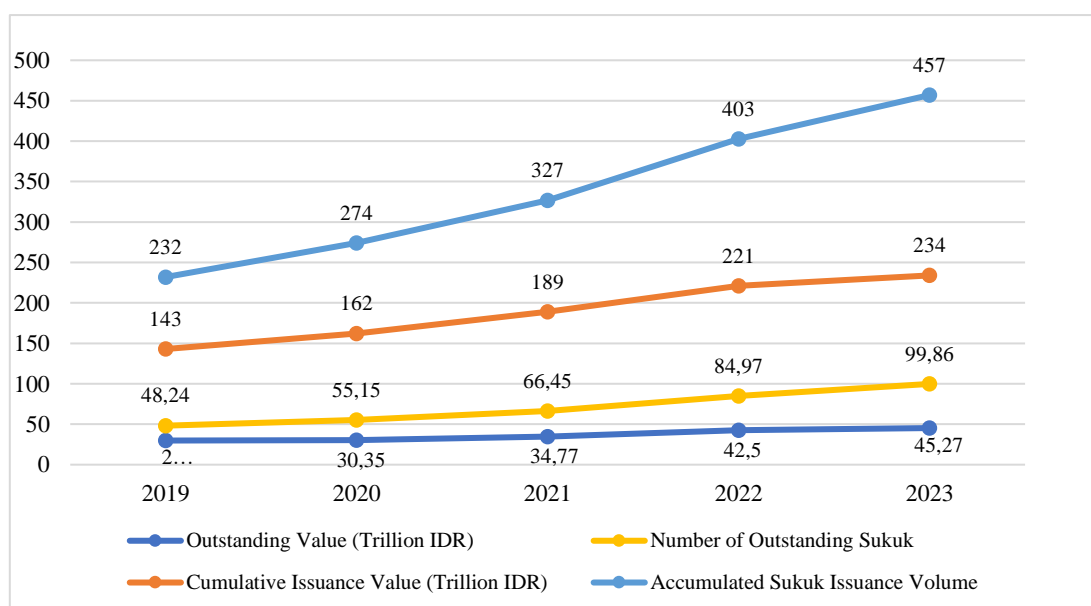


Source: Indonesian Islamic Finance Development Report (2023)

**Figure 1. Government Sukuk Issuance**

Until the end of December 2023, the total issuance of state sukuk reached IDR301.20 trillion, fluctuating compared to 2020 which was IDR367.31 trillion. The total accumulation of state sukuk issuance reached IDR2,524.20 trillion, an increase compared to the previous year, which was recorded at IDR2,223.01 trillion. Meanwhile, the value of state sukuk in circulation increased by 7.59%, from IDR1,344.35 trillion to IDR1,446.40 trillion at the end of 2023. In fulfilling the issuance of State Sukuk in 2023, the Government is issuing SBSN through several issuance methods, namely auctions, bookbuilding, and private placements. The issuance of State Sukuk was mostly carried out through auctions (60.09%), followed by bookbuilding (37.64%), and Private Placement (2.27%). In terms of the type of State Sukuk, issuance in 2023 was mostly obtained from the Project Based Sukuk (PBS) series of 52.82% of the total issuance. Although dominated by PBS, the Government maintains the issuance portion of other series as part of efforts to deepen and develop the sustainable SBSN market.

State Sukuk plays an important role in meeting the financing needs of the State Budget (APBN) with minimal costs and a controlled level of risk, thus maintaining the continuity of government finances. As an alternative to sharia-based financing and investment, State Sukuk has shown positive developments (Indonesian Islamic Finance Development Report, 2023). In fact, State Sukuk has become the largest contributor to the Indonesian Islamic capital market which is an integral part of the Islamic financial services sector. In addition to state sukuk, corporate sukuk has also developed. This development shows that the interest of companies in issuing sukuk continues to increase, this can be seen in Figure 2:



Source: Indonesian Islamic Finance Development Report (2023)

**Figure 2. Corporate Sukuk Issuance**

During 2023, there were 54 corporate sukuk series issued with a total issuance value of IDR14.99 trillion. In the same period, there were 41 corporate sukuk series due with a total value of IDR12.12 trillion. Until the end of December 2023, the number of outstanding corporate sukuk reached 234 series, an increase of 5.88% compared to the previous year's total of 221 sukuk series. Meanwhile, in terms of value, it increased by 6.75% compared to last year, to IDR45.27 trillion (Indonesian Islamic financial development report 2023). Of the 234 Outstanding corporate sukuk series, most issuers are issuers from the infrastructure sector (47%), then the raw materials sector (24%), the financial sector (15%), and other sectors below 10%. In terms of corporate sukuk value, it is also not much different where the dominant sectors are the infrastructure sector (42.18%), the raw materials sector (24.19%), and the financial sector (19.02%).

This development reflects the existence of Sukuk-based financing as the right funding option for the Indonesian government. This financial instrument is effectively used as an innovative financial technique to support the development of the real sector, including industry and infrastructure. Sukuk provides various economic benefits for the issuing country. One of these benefits is the ability to support the development of industry and infrastructure, which is in line with the sustainable development goals set by the UN (Baita & Mustafa, 2019). Therefore, it is very important for the Indonesian government to utilize alternative financing mechanisms such as sukuk. By choosing this innovative financial approach, Indonesia can be more effective in achieving the UN development agenda until 2030, especially in terms of industrial and infrastructure development which are important points in sustainable development.

In Indonesia, sukuk has become a sharia financial instrument that is believed to strengthen the competitiveness of profits for sharia financial practitioners (Hasanah, 2018; Hasanah, 2019; Ledhem, 2020; Kartini & Milawati, 2020; Dewi et al., 2020; Latifah, 2020; Hanifah et al., 2022; Nisak, 2022). The contribution of funding to development is indeed in the socialization stage and provides a strong understanding of Islamic financial products. However, unfortunately, although sukuk issuance is relatively growing rapidly, its growth is relatively slow (Sinulingga et al., 2022), especially for corporate types due to regulatory factors and unstable market (Dewi et al., 2020). This condition indicates significant challenges in the management and development of sukuk, especially in the corporate sector. These challenges include regulations that are not yet fully supportive, as well as market instability that limits the growth of corporate sukuk. Therefore, this study aims to analyze the contribution of sukuk, both state and corporate, in realizing the achievement of SDG-9. Therefore, this study aims to analyze the contribution of sukuk, both state and corporate, in realizing the achievement of SDG-9. In addition, this study also aims to identify opportunities and challenges in sukuk management in Indonesia.

## **B. Research Methodology**

This study uses a qualitative descriptive approach, which is a research method that aims to describe a certain situation or condition within a certain period of time (Moleong, 1995). This approach was chosen to provide a broader picture of the observed phenomenon, namely the development of sukuk in Indonesia as part of Islamic financial instruments and Islamic economics in supporting the achievement of SDG-9 related to infrastructure development.

### **B.1. Data Sources and Sampling**

The data sources used in this study are secondary data. This data includes a comprehensive review of various recent literature discussing the topic of sukuk in Indonesia, as well as literature related to sukuk in other developing countries. The literature used was taken from Google Scholar in the last five years, namely from 2019 to 2023. Sampling was carried out using keywords such as "Indonesian Sukuk," "Indonesian Sukuk opportunities," "Indonesian Sukuk challenges," and "Indonesian infrastructure" to filter relevant publications.

### **B.2. Analysis Tools**

The collected data were analyzed using content analysis techniques. Content analysis was conducted to identify, interpret, and categorize the main findings from the selected literature (Anffito & Setiawan, 2018). This technique allows researchers to present data descriptively, so that facts and findings can be presented objectively and in accordance with the existing context.

### **B.3. Research Stages**

The analysis stages involve the following steps:

1. *Data Collection*

Data was collected through a search for relevant literature using keywords such as "Indonesian Sukuk," "Indonesian Sukuk opportunities," "Indonesian Sukuk challenges," and "Indonesian infrastructure." Data sources come from publications in the form of academic journals, books, official institution survey reports, theses, dissertations, magazines, newspapers, and other secondary data sources published in the last five years that are considered to support the research.

2. *Data Processing*

The data obtained is classified based on the main theme, namely the contribution of sukuk to SDG-9, opportunities and challenges of sukuk management, and strategies that can be implemented by the government and corporations.

3. *Data Analysis*

The classified data is analyzed in depth using content analysis with a descriptive approach. This process aims to identify patterns, trends, and relationships between sukuk development and the achievement of SDGs 9. This analysis also helps in identifying opportunities and challenges in sukuk management.

#### 4. *Data Presentation*

The results of the content analysis are presented descriptively, emphasizing the presentation of facts and findings objectively and in accordance with available data. The research report is prepared to provide a clear and comprehensive picture of the role of sukuk in supporting infrastructure development and the achievement of SDGs 9 in Indonesia.

#### **B.4. Data Validity**

To ensure data validity, this study uses data triangulation techniques, namely by comparing and confirming findings from various literature sources. This technique aims to ensure that the data used is accurate and consistent in providing a picture of the observed phenomenon.

### **C. Result & Discussion**

#### **C.1. SDG-9 “Industry, Innovation and Infrastructure”**

##### *SDG 9 Overview*

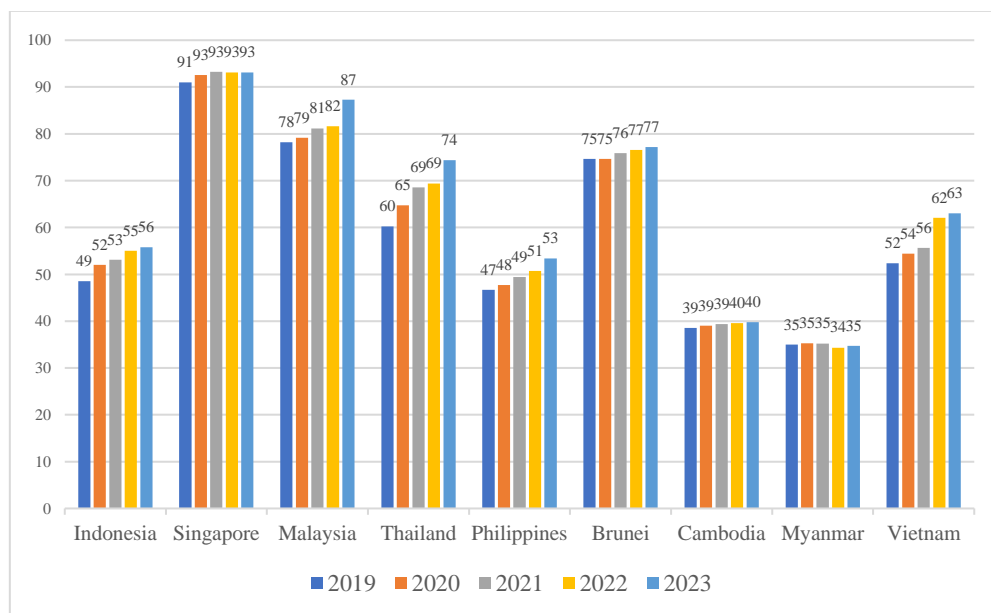
According to the United Nations (UN), the Sustainable Development Goals (SDGs) are a global effort adopted by 193 countries at the UN General Assembly on September 25, 2015. At that time, the Vice President of Indonesia, Jusuf Kalla, was present as Indonesia's representative. The SDGs are implemented in all countries over a 15-year period (starting from 2016 to 2030) with the aim of ending poverty, reducing social inequality, and protecting the environment. Indonesia actively participates in addressing various global problems, in accordance with its free and active foreign policy (Lawati & Hussainey, 2022). The SDGs consist of 17 main goals, but this study will focus on SDG 9.

SDG 9 focuses on “Industry, Innovation and Infrastructure” aims to promote inclusive and sustainable industrialization, foster innovation, and build resilient infrastructure (UNIDO, 2020). The SDG-9 Index is a composite index that measures the combined performance of industry, innovation, and infrastructure worldwide. There are five components of SDG-9. This includes (i) developing quality, reliable, sustainable and resilient infrastructure; (ii) promoting inclusive and sustainable industrialization; (iii) greater access for small-scale industries and other enterprises to financial services; (iv) improving infrastructure, making industry sustainable, and increasing the adoption of clean and environmentally friendly technologies; and (v) enhancing scientific research, enhancing the technological capabilities of the industrial sector, including more innovation by increasing public and private R&D spending (Sachs et al., 2024).



According to The Sustainable Development Goals Report 2023 by United Nations (2023), related to the development of SDG 9, the recovery of the manufacturing industry from the COVID-19 pandemic is uneven, especially in least developed countries. After reaching 7.4 percent growth in 2021, global manufacturing growth declined to 3.3 percent in 2022. CO2 emissions from energy combustion and industrial processes continue to rise, reaching a record high of 36.8 billion metric tons in 2022, despite ongoing reduction efforts. Investment in research and development (R&D) remains very low in many developing countries, hampering innovation and growth in medium-high and high-tech industries. As much as 95 percent of the world's population will have access to at least 3G mobile broadband networks by 2022, but major challenges remain in connecting underserved areas, especially in sub-Saharan Africa and Oceania.

Furthermore, SDG-9 index data from the Sustainable Development Report, 2024 shows variations in performance across geographical regions. East and South Asia achieved the highest score at 68, reflecting significant progress in infrastructure, industrialization, and innovation. This was followed by the Middle East and North Africa with a score of 59, and Latin America and the Caribbean with a score of 57. However, Sub-Saharan Africa showed the lowest performance with a score of 32, indicating that there are still many challenges in achieving the SDG-9 targets in the region (Sachs et al., 2024). This data highlights the gaps in achieving sustainable development goals, especially related to infrastructure development and technological innovation in different regions. Furthermore, the SDG 9 Index data for Southeast Asia can be seen in Figure 3:



Source: Sustainable Development Solutions Network (2024)

**Figure 3. Sustainable Development Goal 9 (SDG-9) Index 2019-2023**



Based on Figure 3, the SDG 9 Index for Southeast Asian countries show several significant trends between 2019 and 2023. Singapore consistently recorded the highest score, starting from 91 in 2019 and remaining stable at 93 from 2020 to 2023. In contrast, Myanmar and Cambodia recorded the lowest scores on the index. Cambodia had a relatively stable score between 39 and 40 during the period, while Myanmar showed a fluctuating trend, with its score decreasing from 35 in 2019 to 34 in 2022, then back to 35 in 2023. Indonesia, on the other hand, experienced consistent but relatively slower improvement compared to some of its neighbors. Indonesia's score increased from 49 in 2019 to 56 in 2023. This 7-point increase indicates improvements in infrastructure, industrialization, and innovation, although its progress still lags behind countries such as Malaysia and Vietnam.

Indonesia's relatively low performance highlights the importance of increasing investment in infrastructure, innovation, and industrialization to achieve sustainable development goals. Recognizing this challenge, the Indonesian government is determined to improve the quality and expand the reach of infrastructure to support more inclusive and sustainable economic growth. This is reflected in the government's efforts to integrate the SDGs into the targets of the National Medium-Term Development Plan (RPJMN) and allocate the budget through the APBN and APBD (The ASEAN Secretariat, 2020). The legal basis for achieving the SDGs in Indonesia is regulated in Presidential Regulation Number 59 of 2017 concerning the Implementation of the Sustainable Development Goals (Ministry of National Development Planning of the Republic of Indonesia, 2018). In addition, the 2023 Sustainable Development Goals Implementation Report emphasizes that the government's priorities after the COVID-19 pandemic are to restore the industrial sector, expand access to digital infrastructure, and increase innovation to support stronger economic growth and recovery. The government's support for the SDG 9 agenda is clear and comprehensive.

is the fourth most populous country in the world. Based on data from September 2020, Indonesia's population reached 283 million people (BAPPENAS, 2023). Rapid population growth in this vast archipelagic country makes infrastructure a key pillar in driving economic growth. Infrastructure development in Indonesia is focused on improving the national economy, where connectivity development is crucial to reduce logistics and transportation costs (Nauli, 2022). Logistics cost efficiency is an important factor in supporting connectivity. SDG 9 has a central role in economic development, with the aim of building resilient infrastructure, increasing inclusive and sustainable industry, and encouraging innovation (United Nations and KPMG, 2017).

Overall, although Indonesia has demonstrated a strong commitment to achieving SDG 9, there are still major challenges to overcome, especially in terms of increasing investment in the industrial, innovation, and infrastructure sectors. By continuing to strengthen this commitment and integrating sustainability principles into every aspect of development, Indonesia can accelerate progress towards achieving SDG 9, which is not only important for inclusive economic growth but also for ensuring long-term sustainability and the well-being of all people.

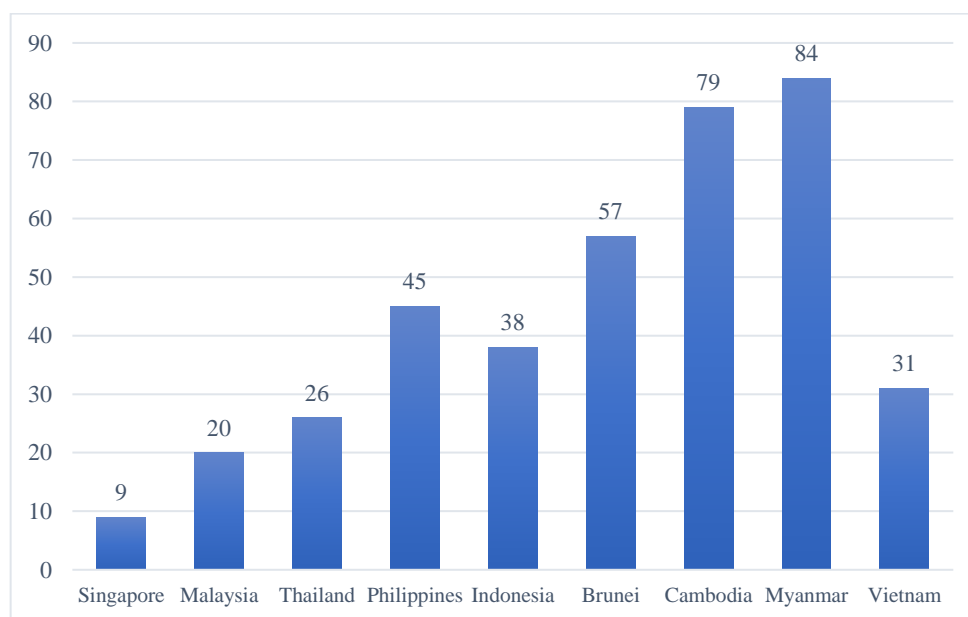
### *Nature and Scope of Industry, Innovation and Infrastructure in Indonesia*

This section is concerned with the nature of industry, innovation, and infrastructure in Indonesia. It is divided into three subsections based on the components of SDG-9. These include industry in Indonesia, innovation in Indonesia, and infrastructure in Indonesia.

#### *Industry in Indonesia*

According to United Nations Industrial Development Organization (2020), industrial development plays a very important role in achieving SDG-9. Every year, UNIDO publishes the Competitive Industrial Performance (CIP) Index to compare industrial performance worldwide. In compiling the CIP Index, UNIDO uses three SDG 9 indicators, including (i) manufacturing value added (MVA) per capita and MVA as a ratio of GDP; (ii) carbon dioxide emissions per unit of value added; and (iii) percentage of total value added of medium and high-tech industries.

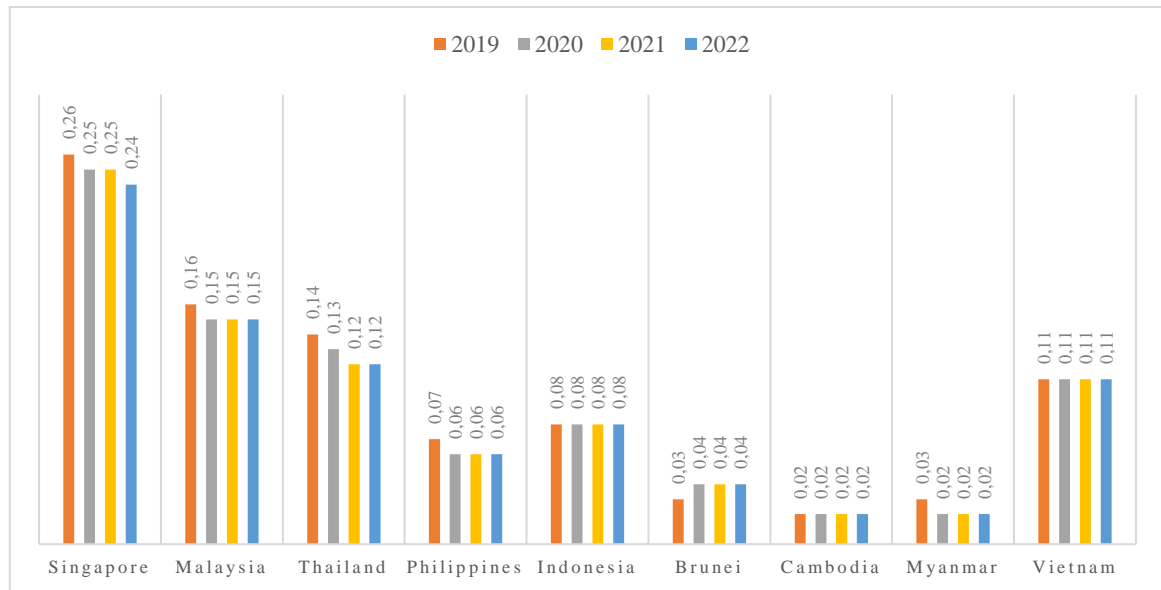
The CIP Index assigns a value of 1 to indicate the best performance in the ranking. The higher the index value, the lower the performance ranking, indicating poor industry performance. Figure 4 presents the 2022 CIP Rankings to compare industry performance across geographic regions in Southeast Asia:



Source: United Nations Industrial Development Organization (2024)

**Figure 4. Competitive Industrial Performance (CIP) Rank 2022**

In 2022, Indonesia ranked 38th in Competitive Industrial Performance (CIP) among Southeast Asian countries. Although not at the top, this position shows that Indonesia is at the middle level in terms of industrial readiness and innovation in the region. When compared to other countries such as Singapore which is ranked 9th, Malaysia at 20th, and Thailand at 26th, Indonesia still has room for improvement. However, Indonesia managed to outperform several countries such as the Philippines (ranked 45), Brunei (ranked 57), Cambodia (ranked 79), and Myanmar (ranked 84). This ranking is also reflected in the CIP Index scores shown in Figure 5, which covers data from 2019 to 2022:



Source: United Nations Industrial Development Organization (2024)

**Figure 5. Southeast Asia's CIP Index performance from 2019 to 2022**

Based on the ranking data and the CIP index, it highlights the strengths and weaknesses of the industry in Southeast Asia. Singapore is clearly the leader, while countries such as Malaysia, Thailand, and Vietnam also show relatively good performance. On the other hand, countries such as Cambodia, Myanmar, and Brunei, although showing some progress, still have major challenges to improve their industrial competitiveness. In terms of the CIP Index, Indonesia shows consistency with an index value of 0.08 during the period 2019 to 2022. This stability indicates that there is growth potential that has not been fully realized, which requires more attention in the development of industrial policies in Indonesia.

As a continuation of the analysis in Southeast Asia, data from Bappenas (2023) shows that Indonesia also has significant industrial dynamics. The proportion and added value of the manufacturing industry to GDP in 2021 reached 20.55% with an added value of 8,379. In 2022, the proportion decreased slightly to 20.47%, but the added value increased to 8,690. Although this proportion and added value fluctuated, the GDP growth rate managed to increase by 1.5% to 4.89% in 2022. To continue to improve its industrial position and performance, Indonesia needs to focus on increasing innovation, strengthening industrial infrastructure, and improving the investment climate. With the right policies and effective

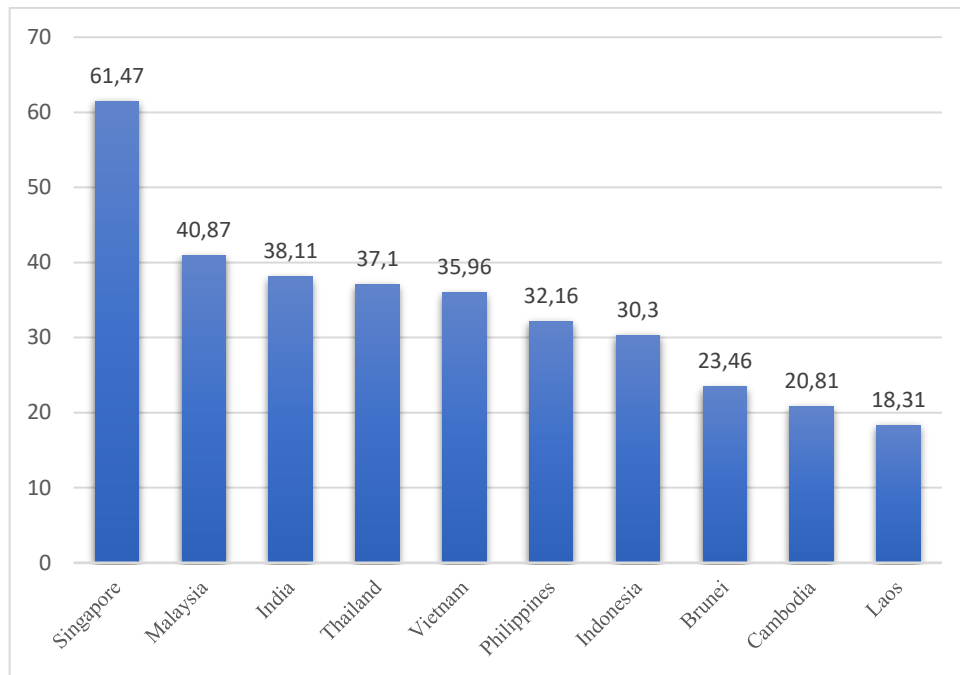
implementation, Indonesia has the potential to improve its ranking and index value in the future, given the size of its domestic market and the potential of its resources.

This is in line with the 2023 SDG 9 report by UNIDO (2023) which emphasizes that inclusive and sustainable industrialization, together with innovation and infrastructure, are key drivers of a dynamic and competitive economy, which ultimately creates jobs and increases incomes. Growing industries play a vital role in introducing new technologies, facilitating international trade, and enabling efficient use of resources. In addition, the growth of new industries contributes to improving living standards. If industries prioritize sustainability, this approach will also have a positive impact on the environment. This finding is supported by Attiah (2019) and Opoku & Boachie (2020) which show that industry plays an important role in accelerating sustainable economic growth.

#### *Innovation in Indonesia*

According to The Global Competitiveness Report 2019, the innovation ecosystem is described as a complex process where ideas are created, developed into products, and then marketed widely (World Economic Forum, 2019). Meanwhile, The Global Innovation Index 2023, launched by Cornell University, Institut Européen d'Administration des Affaires (INSEAD), and World Intellectual Property Organization (WIPO), measures the level of innovation amidst global economic and geopolitical uncertainty. The index assesses around 132 countries based on their innovation performance, identifying their strengths and weaknesses. The report includes innovation rankings for 132 countries representing 97 percent of the world's gross domestic product (GDP). The Global Innovation Index 2023 consists of two main sub-indices: the first focuses on five pillars-Institutions, Human capital and research, Infrastructure, Market sophistication, and Business sophistication, while the second sub-index highlights the other two pillars-Knowledge and technology output and Creative output (WIPO, 2023).

According to the Global Innovation Index 2023 released by (WIPO, 2023), The average innovation score in 2023 of 132 countries is 33.17 points. Switzerland is ranked first with the highest score of 67.59 points, while Angola is at the bottom with 10.32 points at 132nd place. Switzerland has maintained its position as a leader in sustainable innovation for more than a decade. Singapore is the only Asian country in the top ten, ranking 9th. In Southeast Asia, four other countries are in the top 50, namely Malaysia at 36th, India at 40th, Thailand at 43rd, and Vietnam at 46th. Indonesia is ranked 61st with a score of 30.3, less than half the highest score achieved by Switzerland. Figure 2 shows a comparison of innovation index data from Southeast Asian countries:



Source: WIPO (2023)

**Figure 6. Innovation Index 2023**

Based on the Figure 6, Singapore has the highest Innovation Index score among the countries listed, with a score of 61.47. This shows that Singapore excels in innovation performance, supported by advanced infrastructure, quality education, and policies that are conducive to innovation development. Malaysia and India are next with scores of 40.87 and 38.11 respectively, indicating that these two countries have quite significant innovation systems, although they still lag behind Singapore. Thailand with a score of 37.1, Vietnam 35.96, and the Philippines 32.16 are in the middle position, indicating quite good efforts in encouraging innovation in their countries.

Indonesia, with a score of 30.3, is lower than other countries in the region. Despite an increase from 27.9 points in 2022, Indonesia's innovation performance still needs much improvement to reach a more competitive level. Globally, the average Innovation Index score is 33.17, meaning Indonesia is still slightly below the world average. Historical data shows that Indonesia's average score from 2011 to 2023 was 29.23, with a minimum score of 26.5 in 2020 and a maximum of 32 in 2013. Meanwhile, Brunei (23.46), Cambodia (20.81), and Laos (18.31) have much lower scores, indicating that innovation in these countries is still at an early stage of development. These countries may need additional support through appropriate policies, improving the quality of education, and developing infrastructure to strengthen their innovation capacity in the future.

Referring to the UNIDO (2023), increasing innovation is very important, both for developing and developed countries. Innovation driven by a strong business culture and sustainable research and development (R&D), needs to be strengthened by proactive policies that can direct technological progress to accelerate the achievement of sustainability goals and shared prosperity. Therefore, the Indonesian government must continue to invest in the development of quality infrastructure and encourage collaboration between the public and private sectors to maximize the impact of innovation. Effective use of innovation will be a key factor in addressing the challenges of inclusive economic development and global environmental issues, while driving the transformation needed to achieve greater progress.

### *Infrastructure in Indonesia*

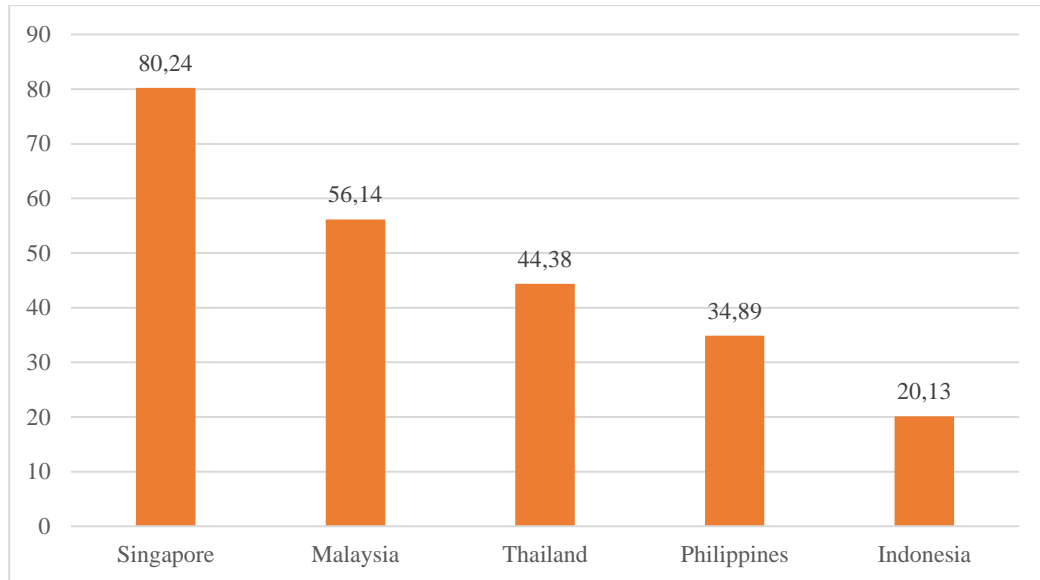
The Global Competitiveness Report is an annual report from the World Economic Forum that assesses a country's competitiveness based on 12 indices, including infrastructure. This report aims to provide guidance for policy makers in formulating national strategies (World Economic Forum, 2019). However, until 2024, the latest data on the infrastructure index is not yet available. In the special edition of the Global Competitiveness Report 2022 published by the (World Economic Forum, 2023), data on the infrastructure index only covers 37 countries and does not cover all countries, including only India and Indonesia in the Southeast Asia region. Therefore, this study refers to the latest infrastructure index from the Institute of Management Development (IMD) World Competitiveness Booklet 2023.

The Infrastructure Index measured by International Institute for Management Development (2023) includes various components that provide a comprehensive picture of the availability, quality, and efficiency of a country's infrastructure. This measurement is divided into 5 main categories:

1. *Basic infrastructure components*, includes elements such as land area, water access, city management, transportation networks (roads, rail, and air), and energy infrastructure. The quality and availability of this infrastructure determines the efficiency of a country's economy and its ability to support business development and public welfare.
2. *Technological infrastructure*, includes investment in telecommunications, broadband subscription rates, cybersecurity, and digital technology skills. This component reflects how a country uses technology to support economic development and meet the needs of modern businesses.
3. *Scientific infrastructure*, measured through spending on research and development (R&D), the number of workers in R&D, and contributions in the form of scientific publications and patents. This shows how committed a country is to innovation and the development of new technologies.
4. *Health and environmental infrastructure*, indicators such as life expectancy, CO2 emissions, and renewable energy are of primary concern. This reflects a country's efforts to maintain a balance between economic growth and environmental sustainability.

5. *Educational infrastructure*, components such as public spending on education, student-teacher ratio, and higher education attainment are evaluated to assess the quality and readiness of a country's workforce to face global challenges.

By integrating these components, the IMD World Competitiveness Booklet offers a comprehensive assessment of the role of infrastructure in strengthening a country's competitiveness in the global arena. The following is the infrastructure index for the Southeast Asia region shown in Figure 7:

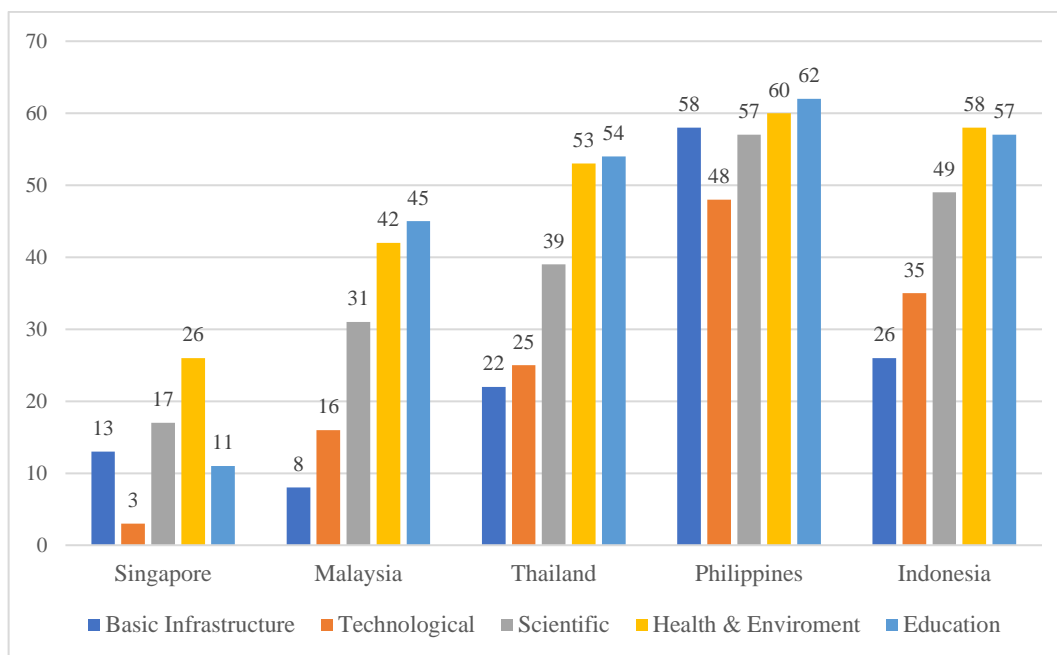


Source: International Institute for Management Development (2023)

**Figure 7. Infrastructure index 2023**

Based on Figure 7, Singapore has the highest index value of 80.24, ranking 6th in the world, indicating excellent infrastructure quality and far superior compared to other countries in the region. Malaysia follows with an index value of 56.14, ranked 35th, also indicating fairly good infrastructure. Thailand is ranked 43rd with an index of 44.38, followed by the Philippines at 51st with an index of 34.89. Indonesia is in the lowest position, ranked 58th with an index of 20.13, indicating that infrastructure in Indonesia is still at a much lower level compared to its neighboring countries. In addition to the Ranking and infrastructure index, there is also a ranking of the 5 main components of infrastructure according to the IMD World Competitiveness Booklet, the data can be seen in Figure 8:





Source: International Institute for Management Development (2023)

**Figure 8. Infrastructure Sub-factor Ranking 2023**

Based on Figure 8, focusing on Indonesia shows that the country is ranked 26th for Basic Infrastructure, indicating that Indonesia's basic infrastructure is quite competitive in the Southeast Asia region, although still below Singapore, Malaysia, and Thailand. In the Technological sub-factor, Indonesia is ranked 35th, reflecting significant challenges in the development and application of technology. Indonesia's ranking in scientific infrastructure is lower, at 49, indicating limited contributions to scientific research and development. The biggest challenges are seen in the Health & Environment and Education categories, where Indonesia is ranked 58th and 57th respectively. These rankings indicate that Indonesia's health, environment, and education infrastructure still need much improvement to approach the standards of more advanced neighboring countries.

Infrastructure plays a crucial role in every development sector. Adequate infrastructure helps open access to remote areas, enables wider participation in social, political, and economic life, and improves people's welfare and quality of life. Infrastructure plays an important role in increasing people's access to schools and other educational services and health services for quality human development (Alisjahbana & Murniningtyas, 2018). In developing countries, such as Indonesia, sustainable infrastructure development is essential to drive economic growth and increase productivity. As explained by (Nauli, 2022) Inclusive economic growth requires support for infrastructure development to drive national connectivity. Infrastructure limitations are often a major obstacle to economic growth, which ultimately leads to increased poverty rates.

Overall, although Indonesia has made progress in several aspects of infrastructure, there are still many challenges to be overcome. The importance of infrastructure development cannot be ignored, because strong and sustainable infrastructure is key to achieving inclusive economic growth and reducing social disparities. The government and the private sector need to continue to work together to address the infrastructure deficit, especially by increasing efficiency and accessibility in various sectors, in order to support more equitable and sustainable development throughout Indonesia.

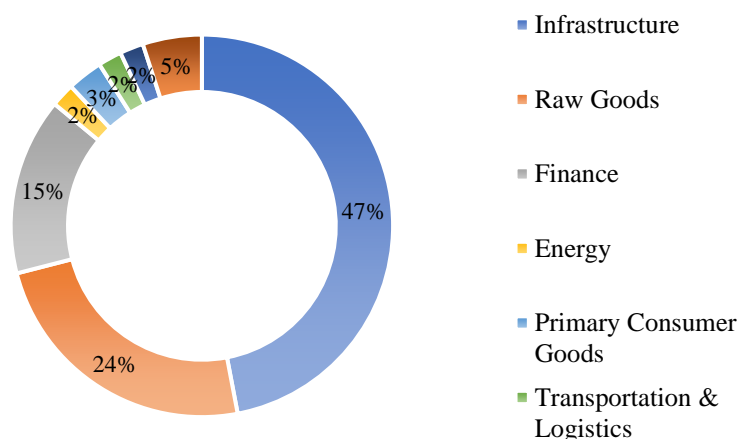
## C.2. Sukuk and SDG-9

According to the definition of the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI), Sukuk is "a certificate of equal value representing undivided shares in the ownership of tangible assets, results, and services, or (in the ownership of) certain project assets or specific investment activities". In the Financial Services Authority (OJK) Regulation No. IX.A.13 concerning the Issuance of Sharia Securities, Sukuk is defined as Sharia securities in the form of certificates or proof of ownership whose value is equal and constitutes an unlimited portion of certain tangible assets (*a'yan maujudat*), including the benefit value of existing or future physical assets (*manafi'ul a'yan*), existing or future services (*al khadamat*), certain project assets, and predetermined investment activities (*nasyath istitsmariyah*). Sukuk are generally long-term sharia-based bonds; are securities issued based on sharia principles (OJK, 2023).

Sukuk can also be classified into two types based on the issuer: Corporate Sukuk and Sovereign Sukuk. Corporate Sukuk are sharia-compliant debt instruments issued by companies or organizations to fund their development projects. On the other hand, Sovereign Sukuk are issued by governments or state entities to support public projects, including infrastructure development. In terms of asset characteristics, Sukuk can be divided into two types: Asset-based Sukuk and Asset-backed Sukuk. Asset-based Sukuk provide benefits to investors without giving them direct ownership rights over the underlying assets. The Sukuk issuer only transfers proof of ownership of the assets to the investor, so the investor does not have the right to sell the assets. In terms of the contract used, it is in accordance with the Accounting and Auditing Organisation for Islamic Financial Institutions (2016) Sharia Standard No. 17 "Investment Sukuk" and AAOIFI Financial Accounting Standard No. 25 "Investment in Sukuk, shares and similar instruments". Sukuk can be grouped into three main types: *ijarah*-based, sales or debt-based (such as *murabahah sukuk*, *salam sukuk*, and *istishna sukuk*), and partnership-based (such as *mudharabah sukuk*, *musyarakah sukuk*, *wakalah sukuk*, *muzaraah sukuk*, *musaqah sukuk*, and *mukharabah sukuk*).

The first sukuk issued in Indonesia was a corporate sukuk issued by PT. Indosat Tbk in 2002, with a value of IDR 175 billion using the *mudharabah* contract. Since then, various other corporate sukuk have been issued. The issuance of state sukuk began in 2008, after the enactment of the State Sharia Securities Law (SBSN) No. 19 of 2008. Based on the DSN-MUI fatwa number 32/DSN-MUI/IX (2002), there are six types of contracts used in the issuance of state sukuk in Indonesia, namely *mudharabah*, *musyarakah*, *murabahah*, *salam*, *istishna*, and *ijarah*. Until the end of December 2023, both state sukuk and corporate sukuk have experienced a significant increase. The value of outstanding government sukuk increased by 7.59%, from IDR1,344.35 trillion to IDR1,446.40 trillion at the end of 2023. Meanwhile, the value of corporate sukuk also increased by 6.75% compared to the previous year, reaching IDR45.27 trillion (Indonesian Islamic Finance Development Report, 2023). This trend reflects the existence of Sukuk-based financing as a viable alternative for the Indonesian government.

In the context of the development of sharia finance in Indonesia, sukuk has shown a significant contribution to major projects in Indonesia. Data from the Indonesian Islamic Finance Development Report (2023) shows that sukuk has a major role in the infrastructure sector, with most issuers coming from this sector. The distribution of sukuk by industrial sector can be seen in Figure 9:



Source: Indonesian Islamic Finance Development Report (2023)

**Figure 9. Proportion of Corporate Sukuk Amount Based on Industrial Sector**

Based on Figure 9, until the end of December 2023, the number of outstanding corporate sukuk reached 234 series. Of the 234 series of Outstanding corporate sukuk, most issuers are issuers from the infrastructure sector (47%), then the raw materials sector (24%), the financial sector (15%), and other sectors below 10%. This data shows how sukuk plays a central role in supporting infrastructure development in Indonesia. Sukuk has become a very important instrument in financing large projects in Indonesia, especially in the infrastructure sector.

The success of sukuk issuance to fund various infrastructure projects such as toll roads, schools, and religious facilities reflects its effectiveness in supporting national development. The real contribution of sukuk to Indonesia can be seen in various important infrastructure projects funded through sukuk, including: the construction of the MTsN 1 Bone Belango Gorontalo Classroom, the MAN 3 Bantul Laboratory and Library Building, Special Region of Yogyakarta, the West Sulawesi Police Official Residence, the BBPPTP Medan DNA Testing Laboratory, the Al-Qur'an Printing Unit (UPQ) in Ciawi, Bogor, the TNI AD Kodam Building in Palangkaraya, the Klarik Bridge on National Road I in the Riau Islands, the MTsN 3 Konawe Study Room in Southeast Sulawesi, the TNI AD Kodam Building in Singkawang, the Tanah Merah - Geten Giri Road Preservation in Papua, the MTsN 3 Muna Laboratory and Library Building in Southeast Sulawesi, and the MIN 2 Madiun Classroom in East Java.

In the study, Ahmed & Mohieldin (2019) emphasized that sukuk plays an important role in financing development due to various supporting factors. Malikov (2017) also noted that sukuk has been recognized as an effective financing method for infrastructure projects in developing countries and can finance infrastructure deficits. Kahf (1412), further believes that budget deficits are caused by the government's "genuine need" for the provision of social and economic infrastructure. He suggests "an instrument to meet the deficit that is compliant with Shariah". Similarly, Chapra (1992) argues that Muslim countries can finance their development projects in accordance with Shariah. According to him, Muslim countries "may increasingly use leasing of infrastructure projects financed and implemented by the private sector on a competitive basis, in accordance with government specifications". This will instill financial discipline in financing public projects, while avoiding interest-based loans which can be the main solution to infrastructure development needs in Indonesia.

Sukuk, with its advantages in risk sharing and compliance with sharia principles, has proven to be a very appropriate instrument to finance infrastructure projects, while supporting the achievement of SDG 9. Malikov (2017) also emphasized that risk sharing and socio-economic development are important aspects of Islamic finance, and sukuk issuance for infrastructure projects requires both of these elements. Ahmed (2017) noted that the asset-based nature and risk sharing driven by social and ethical ethos make sukuk an ideal choice for financing SDG and other infrastructure projects. In line with this, (Ajanovic, 2017) identified the sukuk program as part of a comprehensive Islamic financial solution in supporting the achievement of the SDGs.

Sukuk, with its advantages, has proven to be a very appropriate instrument to finance infrastructure projects, while supporting the achievement of SDG 9. For example, several countries have implemented special sukuk that focus on achieving the Sustainable Development Goals (SDGs). One example is the issuance of the first SDG sukuk by HSBC Amanah Malaysia Berhad on 20 September 2018, which explicitly focused on several sustainable development goals, including SDG 9 related to industry, innovation, and infrastructure. This initiative demonstrates how sukuk can be tailored to support the achievement of specific targets of the SDGs, while strengthening the role of sukuk as an effective and sustainable Islamic

financial instrument in financing development projects, including infrastructure. Innovations such as this can be a model adopted by other countries, including Indonesia, in an effort to meet significant infrastructure needs while remaining in line with Islamic principles (World Bank Group, 2020).

SDG-9 highlights the importance of building resilient infrastructure, promoting inclusive and sustainable industrialization, and spurring innovation. Through funding provided by sukuk, there is an opportunity to develop resilient and inclusive infrastructure in line with the vision of SDG-9. In this context, sukuk is not only a smart financial solution for the government, but also plays a role in accelerating the achievement of sustainable development in Indonesia. By utilizing sukuk to strengthen infrastructure, Indonesia not only expands people's access to basic services, but also creates jobs, drives economic growth, and stimulates innovation in various sectors, in line with the goals of SDG-9. Therefore, sukuk not only functions as a financial solution, but also as an instrument that supports inclusive and resilient sustainable development in Indonesia.

### **C.3. Opportunities**

The opportunity for sukuk issuance in Indonesia continues to increase along with the increasing need for financing for sustainable development projects (Indonesian Islamic Finance Development Report, 2023). As a financial instrument that is in accordance with sharia principles, sukuk provides an innovative and effective financing solution, especially in financing infrastructure projects. The Indonesian government has shown its commitment through the issuance of sovereign sukuk, which acts not only as a financing tool, but also as a means of portfolio diversification for investors. In this case, sukuk has the potential to be a major driver in supporting inclusive and sustainable economic growth, especially in the infrastructure and renewable energy sectors that require long-term investment. With increasingly conducive regulations and increasing investor interest, sukuk has great prospects to play a more significant role in financing development in Indonesia. The following are several sukuk opportunities in Indonesia that have been identified based on the researcher's analysis in Table 1:

**Table 1. Research Findings Analysis of Opportunities**

	Items	References
<b>Opportunities</b>	The growth of sharia economy, especially sharia finance	(Hasanah, 2019; Ledhem, Amanatillah & Anggraini, 2020; Amanatillah & Anggraini, 2020; Latifah, 2020; Hanifah et al., 2022; Nisak, 2022; Kartini & Milawati, 2020)
	Investor Interest in Indonesian Sukuk	(Melinda & Wardani, 2019; Ariyana et al., 2020; Laila & Anshori, 2021; Sinulingga et al., 2022; Dewi et al., 2020; Latifah, 2020; Wardiwiyo & Imron, 2022)
	The Large Population of Indonesian Muslims	(Hasanah, 2018; Hasanah, 2019; Kartini & Milawati, 2020; Dewi et al., 2020; Ma'ruf, 2021; Fauziah & Nurwahidin, 2020; Latifah, 2020; Khoiriaturrahmah et al., 2022).
	Supporting Infrastructure Development Programs	(Hanifah et al., 2022; Hasanah, 2019; Abubakar & Handayani, 2020; Amanatillah & Anggraini, 2020; Kartini & Milawati, 2020; Ma'ruf, 2021; Fauziah & Nurwahidin, 2020; Latifah, 2020; Sinulingga et al., 2022; Nisak, 2022).

*The growth of the sharia economy, especially sharia finance*

The growth of sharia finance in Indonesia is now increasingly rapid with a lot of support from the government, scholars, and stakeholders. One form of government support for the sharia finance industry is the launch of the 2019-2024 Indonesian Sharia Economic Masterplan. The vision of the Indonesian Sharia Economic Masterplan is to realize "Independent, Prosperous and Civilized Indonesia by Becoming the World's Leading Sharia Economic Center". Based on this vision, there are four main priorities in the development of the sharia economy in Indonesia, namely: strengthening the halal value chain, strengthening the sharia financial sector, strengthening micro, small and medium enterprises (MSMEs), and utilizing and strengthening the digital economy (Ministry of National Development Planning, 2018). Sharia finance, also known as Islamic finance, has experienced very drastic growth. In fact, not only countries with a majority Muslim population such as countries in the Middle East, but sharia finance has also spread to various countries in parts of the world such as Asia, America, and Europe (Hanifah et al., 2022).

### *Investor Interest in Indonesian Sukuk*

Indonesia has gained recognition as a trusted sukuk issuer in the international sharia financial market (Indonesian Islamic Finance Development Report, 2023). On March 22, 2017, the Government through the Directorate General of Financing and Risk Management (DJPPR) successfully sold Global Sukuk worth US\$ 3 billion, setting a record as the largest sukuk issuance outside the Gulf region. Gulf member countries, such as Bahrain, Qatar, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates, have recognized Indonesia as a quality sukuk issuer (Melinda & Wardani, 2019). Investors recognize the value and stability of Indonesian sovereign sukuk, which has proven to be a profitable choice in diversifying their investment portfolios. By entering the global sukuk market denominated in US Dollars, Indonesia is expanding its reach and appeal to international investors. This fact reflects the high investor interest in Indonesian sovereign sukuk (Ariyana et al., 2020).

### *Indonesia's Large Muslim Population*

Indonesia, as a country with a Muslim majority, holds a key position in the sharia capital market. Data from the Directorate General of Population and Civil Registration shows that in June 2021, out of a total population of 272.23 million, 236.53 million or around 86.88% were Muslim. This fact makes Indonesia the country with the largest Muslim population in the world in 2021, surpassing other countries such as Pakistan and India. Projections for the coming years also show a significant increase in the Muslim population. According to research conducted by Roberts and colleagues (Khan, 2019), it is estimated that by 2025, the Muslim population will reach 30%. Other sources also predict a rapid increase, estimating that the global Muslim population will increase from 1.6 billion in 2010 to 2.2 billion in 2030 (Khalilur Rahman & Zailani, 2017). This rapid growth has made Islamic financial instruments, including Islamic bonds or sukuk, increasingly in demand in the Indonesian capital market. With a growing Muslim population, the sukuk market in Indonesia has great potential to grow and receive strong support from local and international investors (Latifah, 2020).

### *Supporting the Infrastructure Development Program*

Infrastructure plays a key role in supporting a country's economic growth and development. Lack of adequate infrastructure can hamper economic progress and reduce a country's competitiveness in the global market. Therefore, infrastructure is considered a major driver of national and regional development. In order to support inclusive and sustainable infrastructure development, the Indonesian government has implemented an expansionary budget policy that increases state spending beyond state revenues, according to research by (Mudzakkir & Tarmidzi, 2018). One of the steps taken by the government to realize the infrastructure development plan is to issue State Sharia Securities (SBSN) in the form of sukuk, as studied by Anik & Prastiwi (2017). Several studies show that sukuk are an effective financing alternative in supporting infrastructure development programs (Hanifah et al., 2022; Hasanah, 2019; Abubakar & Handayani, 2020; Amanatillah & Anggraini, 2020; Kartini & Milawati, 2020b; Ma'ruf, 2021; Fauziah



& Nurwahidin, 2020; Latifah, 2020; Sinulingga et al., 2022; Nisak, 2022). The development of sukuk as a long-term financing instrument has met the projections of previous years, indicating that sukuk can be a significant source of financing for the government in building infrastructure, both through corporate sukuk and state sukuk (SBSN).

#### C.4. Challenges

Although sukuk has great potential in financing development in Indonesia, there are several challenges that need to be overcome in order to maximize its potential. Understanding and addressing the challenges inherent in sukuk issuance in Indonesia is a crucial step to ensure the success of this instrument as an effective source of financing. By addressing these challenges, investor confidence can be enhanced, the investor base can be expanded, and the sukuk market in Indonesia can develop into a more mature and inclusive one. The following are some of the challenges faced by sukuk in Indonesia, based on research findings summarized in Table 2 Research Findings:

**Table 2. Research Findings Analysis of Challenges**

	Items	References
Challenges	Credit Risk	(Melinda & Wardani, 2019; Sinulingga et al., 2022)
	Limited information on the sharia capital market	(Dewi et al., 2020)
	The understanding of issuers and investors and the public about sukuk is still very lacking	(Hasanah, 2019; Dewi et al., 2020; Kartini & Milawati, 2020; Latifah, 2020; Ma'ruf, 2021; Fauziah & Nurwahidin, 2020; Sinulingga et al., 2022)
	Limited Instruments Traded	(Hasanah, 2019; Ariyana et al., 2020; Dewi et al., 2020)
	Liquidity Risk	(Ariyana et al., 2020; Ma'ruf, 2021; Latifah, 2020)

##### *Credit Risk*

Investment in sukuk is considered relatively safe, although it still has risks. One of the risks that may occur in sukuk investment is credit risk (default), which occurs when a company is unable to pay off sukuk to investors because the amount of debt that must be paid exceeds the company's financial capacity. Information regarding the potential risk of default can be seen through the sukuk (Pranoto et al., 2017). The risk of default from a company can affect the sukuk rating, which in turn affects investor confidence in the sukuk. Sukuk ratings are very helpful for investors who are interested in investing in sukuk, because investors can assess the risks that may occur and the potential profits that will be obtained. This interest is very important because the higher the sukuk rating, the lower the risk of default by the issuing company (February 2016). In addition, other risks that need to be considered are risk management, including operational risks and risks of violating Sharia principles or Sharia compliance risks (Sinulingga et al., 2022).

*Public, issuer and investor understanding of sukuk is still very limited*

The main challenge faced is the low level of public understanding, especially investors, of sukuk. This limited knowledge is an obstacle, because many people do not understand sharia investment, especially sukuk. This is a serious challenge due to the lack of human resources who understand sharia investment. The importance of integration between sharia and economic expertise is highly emphasized to strengthen understanding of the importance of sharia investment. If there is no effort to improve this understanding, it will impact public trust and strengthen the stigma that sharia and conventional finance are no different. Therefore, the credibility of the sharia economic and financial system must continue to be improved, considering the importance of introducing sharia-based investment in society. The understanding of issuers, investors, and the general public about sukuk is still very limited, and incentives for sukuk are also still low. The problem of lower sukuk liquidity compared to conventional bonds is also a concern (Ma'ruf, 2021). Therefore, it is important for the government as a regulator to consider incentive and regulatory policies that can encourage companies to choose sukuk as a means of investment. The advantages of sukuk, namely low risk and certainty of profit, make it a solution in dealing with economic uncertainty caused by the current Covid-19 pandemic. These steps are expected to be the main driver for the growth of the sukuk market and help in overcoming the challenges of liquidity and understanding of this investment instrument.

*Limited Instruments Traded*

The corporate sukuk market faces a number of challenges that need to be overcome, especially related to the limited instruments traded and the variety of sukuk contracts. Although investors show high interest in various types of corporate sukuk contracts, regulations that are not yet fully compliant and differences in understanding between business actors and policy makers are still significant obstacles (Hasanah, 2019; Ariyana et al., 2020; Dewi et al., 2020). Criticism also points to the complexity of the corporate sukuk transaction mechanism, which makes many practitioners reluctant or have difficulty understanding it (Ma'ruf, 2021; Fauziah & Nurwahidin, 2020b). To overcome these obstacles, profound improvements in the corporate sukuk mechanism are needed. Efforts to simplify the process, clarify regulations, and improve understanding among stakeholders will provide an important impetus for the development of corporate sukuk in the capital market, build investor confidence, and encourage sustainable growth in this industry.

### *Liquidity risk*

Liquidity is a broad concept and has various meanings. According to Sharpe (2005), liquidity refers to the ability of investors to convert securities into cash at the same price as the previous price, assuming no new information has been received since the first trade. Several studies have noted that the sukuk market has a low level of liquidity (not liquid), which means that trading in the secondary market is very limited (Ariyana et al., 2020; Ma'ruf, 2021; Latifah, 2020). This condition is a concern in the Islamic finance industry (Kusuma & Silva, 2014). According to (Iqbal & Mirakhor, 2011), an illiquid sukuk market can hinder market growth because investors may have few options to diversify their portfolios. Dafi (2022) low levels of liquidity make the market vulnerable to shocks, where prices do not reflect fundamental conditions well, increase volatility, and tend to overreact. Conversely, a liquid market makes it easier for investors to determine asset prices (Ariyana et al., 2020).

### *Limited information on the sharia capital market*

The knowledge of the Indonesian people about the capital market is limited due to the difficulty of accessing information about products in the capital market, including sukuk (Utami et al., 2017). Information about corporate sukuk in the secondary market is also very limited (Dewi et al., 2020). Although the government sukuk market in Indonesia is growing rapidly, official information about corporate sukuk is still lacking, so investors do not have the confidence to invest because the standards and investor protection are not yet clear (Zulkhibri, 2015). The sharia capital market has special characteristics, requiring more knowledge and capacity to understand corporate sukuk transactions. The lack of understanding of market players regarding the characteristics of sukuk is due to the lack of information about the risks of corporate sukuk, such as return risk, credit risk, exchange rate risk, price level risk, liquidity risk, and sharia compliance risk. This is due to the lack of socialization, education, and the existence of supporting professions in the sukuk market (Dewi et al., 2020).

## **D. Conclusions**

This paper analyzes the potential role of sukuk in promoting and achieving SDG-9, particularly with a focus on Indonesia. This study highlights the importance of sukuk as an integral part of Indonesia's financing strategy in achieving the Sustainable Development Goals (SDGs), particularly SDG-9. Achieving SDG-9 requires greater support from sukuk, which not only functions as a financial solution, but also as an instrument to accelerate inclusive and sustainable development in Indonesia. By strengthening infrastructure through sukuk financing, Indonesia can expand people's access to basic services, create jobs, drive economic growth, and encourage innovation in various sectors.

Based on the analysis, the opportunities for sukuk to achieve SDG 9 are the growth of the sharia economy (especially sharia finance), investor interest in Indonesian sukuk, the large Muslim population in Indonesia, and supporting infrastructure development programs. In addition, there are also challenges that need to be overcome, such as credit risk, limited information on the sharia capital market, lack of understanding of issuers, investors, and the public regarding sukuk, as well as limited issuing instruments and liquidity risk. To optimize the role of sukuk in achieving SDG-9, it is necessary to increase the scale of financing through the implementation of sukuk as well as strong policies and incentives to overcome these challenges.

This study highlights theoretical implications by expanding the understanding of the role of Islamic finance in achieving sustainable development goals. Practically, this study provides insights for policy makers and corporate managers on how to utilize sukuk for sustainable industrial and infrastructure development. Recommendations include improving the regulatory framework, increasing awareness of sukuk, and encouraging an enabling environment for sukuk issuance and management.

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