Empirical Assessment of Sustainability using Content Analysis and TOPSIS Method

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Abstract

Sustainability is a concept characterized by its complexity and multi-faceted nature. The study investigates the sustainability initiatives of Indonesian Islamic banks (IBs). A combination of methodologies including Content analysis, Simos, and TOPSIS has been used for the assessment of sustainability initiatives of Indonesian IBs . The evaluation of sustainability practices among Indonesian Islamic Banks (IBs) over the decade from 2013 to 2022 has indicated a notable upward trend in the reporting of sustainability dimensions. The IBs in Indonesia demonstrate a balanced approach in their reporting across various sustainability aspects. The significant advancements observed in Indonesian IBs can be linked to the sustainable finance roadmap established in 2014, along with the regulations set forth by Otoritas Jasa Keuangan (OJK). Indonesian Islamic banks have exhibited a strong commitment to sustainability through enhanced reporting and integration of sustainability considerations into their operations. Research on the sustainability of Islamic banking predominantly consists of conceptual studies with less emphasis on empirical analysis. Owing to this literature gap, this study employs a thorough methodology for assessing sustainability, which includes a sequence of steps to identify industry benchmarks.

Keywords: Sustainability; Islamic banking; TOPSIS, ranking; content analysis; sustainability practices.

JEL Classification: A13, B55, G21, Q01, Q56

1. Introduction

`The United Nations (UN) endorsed the 2030 Agenda for Sustainable Development in 2015, laying the foundation for future initiatives towards sustainability integration. Sustainability has captured the attention of businesses across financial and non-financial sectors. The discussion towards sustainable growth level and its definition is still inconclusive

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in the literature; however, three main versions of sustainability initiatives include that, we maintain long-term growth rates, provide intergenerational equity in resource use, and reducing pollution (Hasan, 2020).

The response of the banking industry towards sustainability and associated global challenges has been gradual. The financial crisis of 2008 led the world to make serious attempts towards a sustainable and stable banking system. Initially, the economic aspect of sustainability received attention from academia and practitioners. Later, social, and environmental dimensions were also added under sustainability aspects. Additionally, it became evident that the stability and integrity of governance play a crucial role in enhancing the sustainability of financial institutions, such as banks. Consequently, governance has also been evaluated as a critical aspect in assessing the sustainability performance of organizations (Aras et al., 2018). Financial sector sustainability encompasses dimensions related to social, economic, environmental, financial, and corporate governance structure (Jan et al., 2019; Kumar & Prakash, 2019a ; Aras et al., 2018; Kumar & Prakash, 2019b).

The Islamic finance industry has experienced significant growth over the past decade, with an annual increase of 10-12% (IFSB, 2021). Within this landscape, Islamic banking stands out as the most prominent segment, with assets nearing USD 1.72 trillion and over 500 Islamic banks and windows operating globally. Sustainable development is increasingly recognized as an essential aspect of Islamic banking. The Islamic Development Bank (IsDB) has introduced a Sustainable Islamic Finance framework that outlines principles for alignment of Islamic finance with the United Nations Sustainable Development Goals (SDGs). This integration aims to create a policy framework that supports the implementation of the SDGs due to its alignment with Maqāsid-al-Shari'ah (Objectives of Islamic Law) and mobilize financial resources for this collaborative effort.

Despite the increasing interest in sustainability, the existing literature concerning the banking sector—especially Islamic banking—remains inadequate in comprehensive evaluations of sustainability. The limited studies available are primarily conceptual, which complicates the integration of their findings into business strategies. Due to the scarcity of empirical research on this subject, this study aims to evaluate the sustainability practices of Islamic banks in Indonesia. As noted by Hassan and Aliyu (2018), industry-specific data is essential for assessing sustainable practices; however, there is a notable lack of sustainability research involving longitudinal data from Asian firms. To address the aforementioned gaps in the literature, this study has assembled a dataset spanning ten years that focuses on sustainable practices.

The evaluation of sustainability practices among Indonesian IBs during the decade from 2013 to 2022 indicated that, despite a gradual start, there has been significant progress in sustainability efforts within Indonesian IBs. For sustainability reporting, Indonesian

banks primarily adhere to the Global Reporting Initiative (GRI) criteria. Indonesian IBs exhibit a balanced approach in reporting across all sustainability dimensions; however, their documentation concerning the social aspect is notably more detailed. Sustainability activities are predominantly carried out by larger banks, measured by their asset size. Over the past decade, there has been a marked improvement in the average sustainability scores. This significant progress among Indonesian IBs can be linked to the sustainable finance roadmap established in 2014. Furthermore, the regulation introduced by the Financial Services Authority of Indonesia known as OJK in 2017 has reinforced the commitment of the Indonesian government and regulatory bodies to long-term sustainability and development goals, including the SDGs (Technical Guidelines for Banks on the Implementation of OJK Regulation POJK Number, 2017).

Keeping the foregoing discussion in view, the purpose of this study is to a) empirically measure the sustainability initiatives and practices of Islamic banks (IBs) in Indonesia b) develop weights of various sustainability indicators for IBs c) provide a ranking of Indonesian IBs based upon the incorporation of sustainability practices/reporting.

The rest of the document comprises a literature review, which is succeeded by the methodology section, and concludes with the discussion and conclusion.

2. Literature Review

2.1 Banking Sustainability in the context of Islamic Economics and Finance

The concept of sustainable banking has evolved from social banking (philanthropy and community management programs), ethical banking (incorporation of ethical activities in banking operations), and green banking to sustainable banking, which is the incorporation of environmental, social and governance mechanism into banking industry (Sauvé et al., 2016). It is evident from the literature that the concept of sustainable banking is developing and has not yet been fully established, rather is still subject to debate in the academic literature (Riegler, 2023). Bouma et al. (2017) point out that it is less of a single definition but describes a dynamic concept that changes over time. The lack of a formal definition for sustainable development is repeatedly iterated in sustainability literature. It has been termed as business ethics, corporate citizenship, corporate social responsibility, and like, but the common idea behind all such concepts is based on stakeholders' needs and goes well beyond compliance with the law only (Bussoli et al., 2018) .

The notion of sustainability, which has lately become popular in contemporary management literature, is fundamentally rooted in the core principles of Islamic economics (Hassan et al., 2018). The banking system was developed on a risk-sharing basis and aimed at social well-being which is coherent with the idea of sustainability. The pursuit of social goals

and sustainable development is deeply rooted in Islamic theology and serves as a foundational concept of Islamic economics. Islamic economy in its practical form of Islamic banking and finance can play a significant role in achieving Sustainable Development Goals (SDGs). The instruments used in sustainable development like SRI (Socially Responsible Investment), ESG (Economic, Social, and Governance), and VBI (Value-based intermediation) are conceptually closely integrated to fundamental concepts of Islamic finance (Laldin,2020).

2.2 Sustainability

The release of the Brundtland Report (WECD 1987) significantly focused international policymaking on the concept of sustainable development. According to the report, sustainable development is defined as "development meeting the needs of the present without compromising the ability of future generations to meet their needs." This definition is the most commonly used and accepted by the practitioners and academics (Ameer & Othman, 2012). The United Nations launched SDGs with the primary aim of addressing emerging risks in societal and environmental domains. All such efforts make it clear that the issue of sustainability is being taken quite seriously at different forums (Jan et al., 2019). Even though there are numerous definitions of sustainability, stakeholders are calling for more information about an organization's social and environmental practices as well as a way to measure sustainability. Such an awakening at different forums has led to the emergence of different categories of sustainability measurement tools including standards, frameworks and ratings and indices. Many sustainability indices like DJSI, ASSET4, FTSE4Good, GS SUSTAIN, The Global 100, Bloomberg ESG Data MSCI IVA, and Impact (Rahdari et al ., 2015) have made it possible for the firms to gain credibility. This has also made it possible for businesses to manage their social, economic, and environmental risks (López et al., 2007). The key principle has been to establish business practices that foster long-term value creation, benefiting not only shareholders but all stakeholders as well.

2.3 Sustainable Banking

Sustainable banking refers to a framework that takes into consideration both its external and internal stakeholders, incorporating both financial and non-financial elements (Rebai et al., 2012). The comprehension of sustainability and its associated reporting practices within the banking industry has progressively gained traction over time. The different dimensions, now widely accepted, were included at different stages. Similarly, different global platforms laid importance on sustainability to gain acceptance in the corporate world. The UN Environment Program (UNEP) has recognized the important role financial institutions play in meeting the needs of sustainable development. The Equator Principles (EP) are voluntary guidelines for financial institutions that were developed in 2003 by the World Bank and the International Finance Corporation (IFC). Furthermore, in 2006, the UNEP Finance Initiative (UNEP FI) released a publication on Sustainability Management and Reporting

(Tan et al., 2017). The financial industry can not only exercise control over its operations to be sustainable concerning society and the environment but can also influence the investment and management decisions of companies.

Likewise, the Islamic financial industry has a better opportunity to work towards the socio-economic and environmental goals of SDGs as it is required by its stakeholders The incorporation of sustainability within the financial sector, particularly in banking, presents a significant challenge. This integration has primarily manifested in two ways: a) Initiatives that are socially, economically, and environmentally responsible, such as environmental management programs, charitable contributions, and enhancements in governance. b) the use of ethical and environmental considerations in company strategy, which includes incorporating these standards into loan selections and product design (Korzeb & Samaniego-Medina, 2019).

To assess sustainability practices and formulate strategies for maintaining sustainable operations a framework should integrate corporate governance, economic, environmental, social, and financial aspects, all of which are essential components of sustainability within the banking industry. (Jan et al., 2019; Kumar & Prakash, 2019a; Aras et al., 2018; Kumar & Prakash, 2019b). Figure 1 illustrates the key dimensions of sustainability.

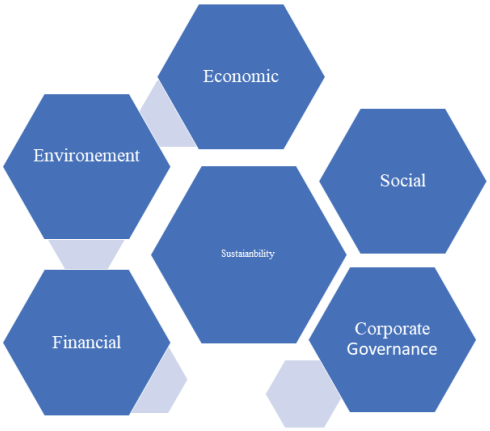

Figure 1: Understanding Concept of Sustainability
Source: (Aras et al., 2018)

The disclosure of an organization's operations related to the economy, society, and environment is considered an integral part of sustainability reporting. Financial inclusion, enhancing financial literacy, community service, employee engagement and volunteering, provision of microfinance, conserving energy, systems of environmental management, and the development of green and sustainable products and services are important sustainability issues that are needed to be addressed by the financial sector (Aras et al., 2018; Rustam et al., 2019).

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2.4 Rating Agencies, Reporting Guidelines, Management Systems, and Sustainability Indicators

Numerous rating agencies provide valuable information about the companies to the stakeholders. The most credible rating agencies for sustainability evaluation include MSCI ESG Research, Bloomberg ESG Data, Dow Jones Sustainability Index (DJSI), among a few others (Rahdari & Anvary Rostamy, 2015).Over the last two decades, numerous codes of sustainable conduct have been established, which businesses utilize to enhance their social, environmental, and economic performance. These codes encompass the Global Reporting Initiative (GRI), UNEP Finance Initiative, UN Global Compact (UNGC), ISO 26000, and the Equator Principles (Kumar & Prakash, 2019a). GRI released its first generation of the framework in the early 2000s, which was later revised in the coming years. GRI is one of the most prominent frameworks for reporting on non-financial performance. GRI has been adopted by a growing number of companies worldwide. GRI is one of the most credible sources of sustainability evaluation (Rahdari & Anvary Rostamy, 2015).

The use of indicators for evaluating sustainability performance is much more common now. Indicators look for pieces of non-financial information about the organization. The designed indicators are comparable across organizations and highlight differences between them. The indicators used for sustainability evaluation depend on their availability, credibility, comprehensiveness, and relevance to the industry in sustainability literature. The use indicators approach has been employed most frequently for the assessment of sustainability measures implemented by the organisation (Kumar & Prakash, 2019a; Kumar & Prakash, 2019b). Likewise, the study has employed a framework based on indicators, which is included in Appendix A.

3. Research Methodology

The annual reports of Indonesian Islamic Banks (IBs) / Islamic windows are the primary source of data besides sustainability reports for the period from 2013 to 2022. In Indonesia, Islamic and conventional banking systems operate together to promote a more extensive public fund mobilization to strengthen national economic sectors' financing capabilities. The Sharia Indonesia Banking Statistic is a magazine that gives information on Indonesia's Sharia banking business. An overview of the Indonesian banking industry is provided via a monthly magazine issued by the Banking Licensing and Information Department (Rofifah, 2020).

The list of Islamic banks and business units is obtained from Sharia Indonesia Banking Statistic, being delivered by Otoritas Jasa Keuangan (OJK) which is a supervisory institution for the financial services industry in Indonesia (OJK, 2019). OJK ensures fair, transparent, and accountable financial services within the country and protects the interests of consumers and society. Owing to the nonavailability of Annual Reports in the archives and the use of Indonesian national language as a mode of communication only 20 banks from Indonesia are included in the study. The list of the banks is provided in Appendix B.

3.1 Content Analysis

Content analysis (CA) has been used as a data collection technique as this method has been recurrently applied in the academic literature by many sustainability researchers seeking to obtain insights (Kumar & Prakash, 2019a; Jan et al., 2019; Aras et al., 2018; Kumar & Prakash, 2019b). In particular, to the case of IBs, several studies including Jan et al. (2018); Jan et al. (2019); Sobhani et al. (2012) have used this method to study the nature and extent of social reporting and sustainability in IBs . Jan et al. (2018) study has modified the GRI framework to use content analysis to evaluate IBs' sustainability activities. The content analysis method sorts qualitative information into pre-defined categories. A content analytic sustainability dictionary developed by Pencle and Mălăescu (2016) has been employed for the data extraction from the annual and sustainability reports.

3.2 Methodology for Assessment of Sustainability

The following systematic step-by-step process is used to extract and categorize the qualitative data from the IBs' yearly annual/sustainability reports for analysis.

- Selection of a suitable sustainability framework .
- Selecting the appropriate indicators..
- Determining weights for the selected indicators.
- Application of TOPSIS method for consolidation of indicators and establishing a ranking for Islamic banks.
- Assessment of scores for each dimension of sustainability and the overall sustainability score.

3.3 Sustainability Framework

The sustainability assessment methodologies and frameworks vary based on reporting or inclusion/exclusion of different dimensions of sustainability. The framework proposed by the UN Commission on Sustainable Development is composed of four dimensions, including social, environmental, economic, and institutional (Singh et al., 2012). This study has employed a comprehensive framework developed by Aras et al. (2018) to evaluate sustainability initiatives. The framework includes corporate governance and financial

sustainability as significant sustainability dimensions along with the generally acknowledged economic, social, and environmental aspects of sustainability.

3.4 Sustainability Indicators

The choice of the indicators is based on the relevant literature (Sobhani et al., 2012; Haniffa & Hudaib, 2007; Aras et al., 2017; Aras et al., 2018; Korzeb & Samaniego-Medina, 2019; Jan et al., 2019) on banking sustainability reporting and established standards, including the GRI (GSSB, 2020). These indicators are grouped into five distinct categories including social, environmental, economic, financial sustainability, and corporate governance based upon the framework of Aras et al. (2018).

3.5 Assigning weights to indicators

Through the use of weighting and aggregation process of indicators the sustainability information is transferred from indicators to dimensions and from dimensions to composite scores. There are many methods which are available for the weighting and aggregation of indicators. The majorly used weighting procedures include equal weighting, statistical-based approaches, and participatory methods (Gan et al., 2017). While there are numerous methods available for weighting and aggregating data, each method has its own unique advantages and disadvantages. There is a notable lack of literature providing guidance to scholars and practitioners on the appropriate selection of these methods despite the critical importance of weighting and aggregation in assessing sustainability performance.

However, if the temporal scale of the study is extensive, as in the case of the current analysis of IBs spanning a decade, the participatory method is regarded as a suitable option (Gan et al., 2017). The preference-based techniques develop ranks that are simple to comprehend. As the purpose of the research is to assess the current state and develop a hierarchy among IBs based on sustainability initiatives, the participatory weighting method is employed. Henceforth, the research has used the Simos method (Haider et al., 2016) to develop weights of indicators, which is an expert or public opinion-based (participatory) weighting method.

3.6 Simos: A Weighting System Based on Public and Expert Opinions

In Simos method the weights that are assigned to the indicators are derived from opinion of the general public or field specialists (Haider et al., 2016).In this study , a panel of five experts, comprising academics with Ph.D.s in the related fields, sustainability professionals (senior executives from sustainability firms), and banking specialists (Islamic banking professionals), has ranked sustainability indicators. These experts ranked the sustainability indicators according to their relevance and importance in the banking industry.

A sustainability ranking form was distributed to the experts including a list of sustainability dimensions and the corresponding indicators within each dimension. The Simos technique is then applied to determine the indicators' weights which is based on the ranks provided by the experts.

3.7 TOPSIS: An Approach for Evaluating Sustainability Performance Rankings

The TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) method is a multi-criteria decision-making approach (MCDM), which has been utilized in this research to evaluate the sustainability performance of banks. TOPSIS is a popular MCDM method that has its basis in reference-dependent theory. TOPSIS approach identifies an alternative with the shortest distance to the ideal solution, and the maximum distance from the least ideal alternative. The alternatives are then ranked by the method based on how close they are to the ideal solution. TOPSIS is sensitive to the weight of the criteria, and the reference alternatives chosen may have an impact on the ranking results (Chakraborty, 2022).

4. Data Analysis

4.1 Evaluation of Sustainability Performance in Indonesian Islamic Banking Institutions

This section offers an analysis of the sustainability performance assessments of 20 Indonesian IBs. While many banks also publish stand-alone sustainability reports, sustainability measures in the case of Indonesian IBs are primarily covered in annual corporate reports. Table 1 displays the overall performance score for sustainability, the average score for each bank, and the average score for each year.

With an average score of 0.846 (out of 1), Pt CIMB Niaga has the highest sustainability score, while Panin Bank Indonesia has scored the lowest (0.442). The sustainability performance of Indonesian Islamic Banks has shown a positive trend and continues to improve annually. Bank Jateng, BNI Syariah, and PT CIMB Niaga have attained average sustainability performance scores of 0.771, 0.811, and 0.846, respectively, which notably exceed the scores of other banks. The average sustainability performance scores of Indonesian IBs from 2013 to 2022 are shown in Table 1. Numerous global factors influence the adoption of sustainability practices, with the most significant being reputational benefits, regulatory requirements, employee involvement, and operational efficiencies (Dugelay, 2017; Ali & Rizwan, 2013). In the context of Indonesia, several of these factors can be identified as contributing to the enhancement of sustainability efforts.

In 2014, the Indonesian Financial Services Authority (OJK), in collaboration with various stakeholders, launched the initial phase of a roadmap for sustainable finance, which

was designed to span from 2015 to 2019. This initial phase focused on establishing regulatory frameworks and reporting mechanisms. OJK has implemented regulations for the sustainable roadmap, mandating banks to disclose ESG data and practices in their first sustainability reports, spanning the reporting period of 2019 (Vercelli & Vercelli, 2019). The longer-term focus is on developing risk management, corporate governance, and the development of sustainable finance information systems (Maghribi, 2019). The sustainability practices among Indonesian Islamic Banks (IBs) are indicative of the policies and regulations implemented by the financial authority, OJK.

Over a period of ten years, the frequency distribution illustrated in Figure 2 reveals that 10 out of 20 banks have average sustainability scores that lie within the range of 0.442 to 0.582. Meanwhile, five banks have average sustainability scores between 0.582 and 0.722. The five banks, namely Pt CIMB Niaga, BNI Syariah, Bank Jateng, Bankjatim, and Bank BTN Tbk, lead with scores of 0.846, 0.811, 0.771, 0.737, and 0.731, respectively. The ranking of Indonesian Islamic Banks (IBs) based on the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) over the past decade is presented in Table 2. The rankings have remained stable for certain banks while showing gradual changes for others. CIMB Niaga held the top position for approximately four years before being surpassed by BNI Syariah, which maintained the leading position from 2016 onwards. Panin Bank and Bank Syariah Bukopin have consistently been the lowest performers in sustainability practices, while BTN Tbk has reliably upheld its sustainability performance throughout the decade.

Indonesia's banking industry is continuously growing with the growth of the middle class and population. BTN Tbk and CIMB Niaga Islamic banks are among the top five banks in total asset sizes of 375.73 and 272.55 trillion IDR (Statista 2021). BNI Syariah (862.44 Trillion IDR) is the Islamic banking division of PT Bank Negara Indonesia which stands fourth in terms of total assets size in Indonesian banks. The finding that large banks are more involved in sustaianbility is coherent with literature that advocates that large companies manage their sustainability practices much well due to the presence of available resources, organizational visibility, and scale of operations (Drempetic et al., 2020) . Many other factors can be considered for better sustainability performance of companies, including the type of industry, the company's age, profitability, and liquidity (Kuzey & Uyar, 2017). In the context of our findings regarding the sustainability assessment of Indonesian IBs, it is noted that IBs with large asset sizes have demonstrated superior performance in their sustainability practices compared to their counterparts.

The sustainability practices across dimensions have seen continuous and steady improvement in Indonesia (Figure 3). This can be attributed to the roadmap for sustainable finance for 2017-2021 and, subsequently, a 2017 regulation issued by OJK regarding implementing sustainability practices (Amidjaya & Widagdo, 2020). The performance regarding social and environmental dimensions began with a low score at the start of the

decade, but it progressively improved, reflecting the increasing awareness of IBs towards social and environmental issues. In the assessment of sustainability performance over the past decade, the scores for social sustainability (SSS) have varied between 0.5 and 0.8. In contrast, the scores for environmental sustainability (ENS) indicate a minimal emphasis on environmental practices. This observation can be contextualized by considering the industry's influence, as financial institutions typically do not prioritize environmental issues to a significant extent. The score on the Corporate Governance (CG) dimension has been between 0.9-1.0. The mandatory nature of CG has resulted in required disclosures and better performance on the CG dimension. The performance related to the dimensions of financial sustainability (FSS) and economic sustainability (ECS) has remained consistent over the past decade, with FSS scoring between 0.6 and 0.7, while ECS has achieved scores ranging from 0.6 to 0.8.

Table 1

Sustainability Performance Score of Indonesian Islamic banks (2013-2022)

Bank	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average Sustainability Performance
PT CIMB NIAGA	0.865	0.867	0.867	0.822	0.824	0.816	0.810	0.848	0.877	0.863	0.846
PT Bank Danamon	0.509	0.505	0.514	0.557	0.569	0.521	0.496	0.513	0.724	0.722	0.563
PT Bank Permata Tbk	0.490	0.471	0.469	0.475	0.672	0.690	0.696	0.708	0.708	0.771	0.615
BANKALTIMTARA	0.386	0.508	0.510	0.524	0.524	0.516	0.516	0.750	0.745	0.758	0.574
Bank Sinarmas	0.432	0.464	0.502	0.523	0.528	0.546	0.557	0.611	0.646	0.595	0.540
BTN Tbk	0.597	0.597	0.613	0.599	0.813	0.803	0.801	0.804	0.836	0.842	0.731
Bank DKI	0.359	0.603	0.402	0.462	0.589	0.602	0.526	0.676	0.651	0.787	0.566
Bank Jateng	0.758	0.752	0.757	0.748	0.779	0.787	0.797	0.782	0.776	0.772	0.771
Bankjatim	0.529	0.529	0.631	0.803	0.830	0.795	0.827	0.823	0.803	0.800	0.737
Bank Kalbar	0.487	0.487	0.564	0.566	0.625	0.569	0.570	0.571	0.574	0.572	0.558
Bank Kalsel	0.471	0.471	0.476	0.569	0.504	0.504	0.553	0.612	0.612	0.753	0.552
Bank NTB Syariah	0.536	0.540	0.537	0.555	0.543	0.559	0.567	0.586	0.616	0.629	0.567
Bank Sumsel Babel	0.415	0.417	0.558	0.572	0.532	0.695	0.695	0.788	0.796	0.802	0.627
Bank SUMUT	0.461	0.461	0.470	0.756	0.735	0.798	0.806	0.818	0.812	0.808	0.692
Bank Aceh Syariah	0.403	0.447	0.347	0.419	0.403	0.453	0.694	0.801	0.808	0.779	0.555
BNI Syariah	0.574	0.580	0.603	0.597	0.960	0.961	0.960	0.958	0.959	0.957	0.811
BRI Syariah	0.504	0.510	0.507	0.505	0.650	0.807	0.819	0.826	0.826	0.827	0.678
Bank Muamalat Indonesia	0.477	0.467	0.478	0.476	0.466	0.469	0.600	0.813	0.803	0.808	0.586
PaninBank Indonesia	0.331	0.354	0.357	0.343	0.397	0.405	0.479	0.496	0.560	0.703	0.442
Bank Syariah Bukopin	0.398	0.418	0.411	0.418	0.419	0.483	0.536	0.696	0.700	0.552	0.503
Average Yearly Performance	0.499	0.522	0.529	0.564	0.618	0.639	0.665	0.724	0.742	0.755	

Source: Authors

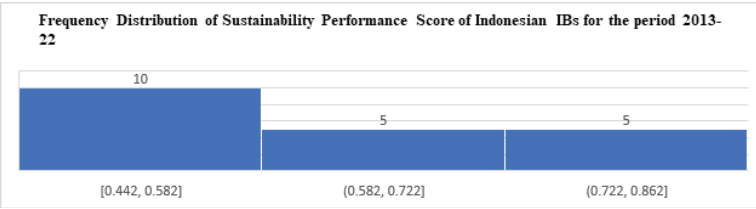

Figure 2: Frequency Distribution of Sustainability Score of Indonesian Islamic banks (2013-22)
Source: Authors

Table 2
Sustainability Performance Ranking of Indonesian IBs

Bank	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
PT CIMB NIAGA	1	1	1	1	2	2	4	2	2	2
PT Bank Danamon	6	8	9	8	11	14	19	19	12	15
PT Bank Permata Tbk	13	16	16	17	7	9	8	13	14	14
BANKALTIMTARA	15	9	10	12	13	15	18	10	10	10
Bank Sinarmas	17	17	15	14	15	13	16	16	16	19
BTN Tbk	3	4	3	5	3	3	3	5	3	3
Bank DKI	19	3	19	18	9	10	11	14	15	7
Bank Jateng	2	2	2	2	4	4	2	8	9	11
Bankjatim	7	7	4	3	5	7	7	11	11	13
Bank Kalbar	8	10	5	6	10	11	13	17	19	18
Bank Kalsel	9	11	11	10	16	16	15	15	17	9
Bank NTB Syariah	4	5	7	9	12	12	14	18	18	17
Bank Sumsel Babel	16	18	6	7	14	8	10	7	5	4
Bank SUMUT	12	14	13	4	6	5	6	9	8	8
Bank Aceh Syariah	14	15	18	16	18	19	9	3	4	12
BNI Syariah	5	6	8	11	1	1	1	1	1	1
BRI Syariah	10	12	12	13	8	6	5	6	6	6
Bank Muamalat Indonesia	11	13	14	15	17	18	12	4	7	5
PaninBank Indonesia	20	20	20	20	19	20	20	20	20	16
Bank Syariah Bukopin	18	19	17	19	20	17	17	12	13	20

Source: Authors

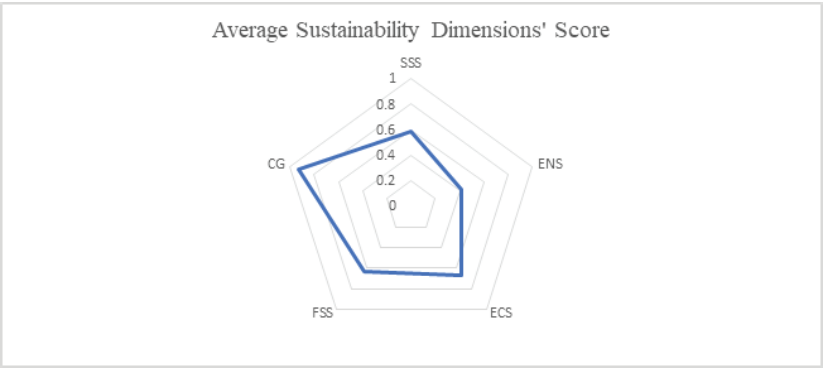

Figure 3: Average Sustainability Dimensions Score Indonesian IB
Source Authors

5. Discussion

The study commenced with an evaluation of sustainability practices within Indonesian Islamic banks. This evaluation produced sustainability scores and established a ranking of Islamic banks in Indonesia. Data pertaining to sustainability was gathered from annual reports utilizing content analysis. The evaluation of sustainability practices was conducted by adapting the sustainability framework proposed by Aras et al. (2018) and Jan et al. (2019), along with the GRI guidelines (GSSB, 2020).

The evaluation of sustainability practices among Indonesian Islamic banks IBs during the period from 2013 to 2022 indicates a significant enhancement in sustainability efforts, despite a gradual start. This result is consistent with the Jan et al. (2023) study, which found that Indonesian Islamic banks' sustainability procedures have been steadily improving. IBs predominantly adhere to the GRI standards for their sustainability disclosures. Larger banks, in terms of their scale, tend to exhibit more robust sustainability practices. Overall, the average sustainability score has shown notable improvement throughout the ten years.

The IBs provide reports on nearly all aspects of sustainability; however, the documentation on the social dimensions is notably more extensive. Another distinction includes adequate reporting on equal opportunity concerning gender. The level of disclosure in child-care facilities, equal pay for both genders, provision of maternity and paternity leaves, and minimum wages offered are much more prevalent. The 2014 sustainable finance strategy can be attributed to the notable progress made by Indonesian IBs.In 2017 regulation issued by OJK has served to emphasize the importance of the Indonesian government and regulators' commitment to long-term sustainability and development objectives (SDGs) (Technical Guidelines for Banks on the Implementation of OJK Regulation POJK Number, 2017). IBs have shown commitment towards sustainability implementation through increased reporting.

The evaluation of sustainability practices of the banking industry has started to capture interest in academia and industry. Similarly, Islamic banks have also started to give more attention to their sustainability practices. The significance of incorporating sustainability has been recognized by Islamic banks as well and is ascertained by an increasing trend of their sustainability scores in ten years. The sustainability evaluation of Islamic banks has revealed that many banks follow GRI (GSSB, 2020) guidelines to report about their sustainability practices. The sustainability practices of Islamic banks are on an increasing trend. Yet much effort is required for a comprehensive sustainability implementation within banks.

In general, banks tend to cover the social impacts of their operations. There are ample social sustainability disclosures by Islamic banks covering the areas of human resources, community involvement, and equal opportunity. However, not many banks reported on

gender pay disparity and paid volunteering by employees. The environmental sustainability issues are not fully incorporated and reported by Islamic banks. Being in the service industry, this trend is observed worldwide in the banking industry. (Raut et al., 2017; Farag et al., 2018). The lack of consciousness about the banking industry's environmental impacts has resulted in low environmental sustainability scores of Islamic banks under study.

Economic sustainability is measured as the impact of any organization on the economic conditions of its stakeholders. Islamic banks are giving economic sustainability practices due importance. The economic sustainability performance evaluation of Islamic banks is carried out in the context of its impact on financial inclusion and availability of finance to less-banked sectors of the economy, including households and the SME sector. Banks are increasingly introducing SME financing and micro-financing in their operations. Islamic banks are giving such practices due consideration under study. The financial sustainability measured as Z-Score (Čihák & Hesse, 2010) indicated that Indonesian Islamic banks are sustainable as evidenced by high Z-Scores of IBs.The corporate governance dimension has received much attention from all the Islamic banks across countries and regions. The mandatory nature of governance disclosure has made it imperative for banks to dedicate portions of annual reports to CG practices. The governance practices seem to be satisfactory by Islamic banks.

The study's findings are helpful for policymakers for the integration of sustainability practices into business operations. The results have highlighted numerous shortcomings in the integration of sustainability. The overriding objective of profitability has caused a lot of reputational damage to the Islamic banking industry. The long-term cost of reputational damage will lead to a decline in the Islamic banks' value. Business reputation and branding have become one of the leading causes of integrating social, environmental, and ethical practices into business operations. Business investors are also increasingly demanding to incorporate these factors in operations.

The central banks and regulatory bodies in all other countries can be encouraged to replicate such strategic efforts so that sustainability integration may also lead to Maqāsid-Sharī'ah achievement. According to (SBN & IFC, 2016), the banking sector must develop a tailored business case for sustainability. This entails aligning their unique business goals with sustainability trends and objectives in their respective markets. Moody's Investors Service has highlighted that 2020 will be remembered as a significant year for environmental, social, and governance (ESG) investment, witnessing a substantial 140% rise in investments into ESG products. A considerable number of investors are now integrating environmental, social, and governance factors into their investment decisions for the first time (Greenberg, 2021). It has been highlighted that millennials and younger investors, specifically, are more interested in available ethical options. By integrating sustainability into their operations, Islamic banks can effectively pursue their long-standing goal of achieving public welfare, improving

profitability alongside attracting sustainability-conscious customers. This integration not only has the potential to unlock new opportunities for Islamic banks but also serves as a compelling business case for them.

The research has gathered data focusing on the quantity of disclosure. Subsequent studies may build upon this work by examining the quality of sustainability indicators employed. This study has analyzed both conventional and Islamic windows as a unified sample. Future research could separate the sample to conduct a comparative analysis of these two distinct business models.

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Appendix A

List of Indicators of Sustainability Practices in Banking Industry

Dimension	Element	Source
Social Sustainability(SSS)	Male to Female Employee Ratio.	(Scholtens, 2009; Sobhani et al., 2012; Islam et al., 2016; Aras et al., 2018; Jan et al., 2019; Kumar & Prakash, 2019a; GSSB, 2020)
	Training(Trg) cost Incurred	Adopted from Annual Reports.
	Islamic Trg	(Aras et al., 2018; Jan et al., 2018; Jan et al., 2019)
	Trg hours.	(Scholtens, 2009; GSSB, 2020; Islam et al., 2016)
	Child Care facility.	(Sobhani et al., 2012)
	Maternity and Paternity Leave Policy.	(Islam et al., 2016; Aras et al., 2018).
	Stress Management Trg.	Adopted from Annual Reports.
	Qardh-e-Hassan/Benevolent Loan	(Jan et al., 2018; Jan et al., 2019)
	Physical Work Environment.	(Aras et al., 2018)
	Committee for Health and Safety Matters/Insurance Policy.	(Aras et al., 2018)
	Charity and Sadqa.	(Islam et al., 2016; Jan et al., 2018; Jan et al., 2019 ; GSSB, 2020)
	Financial Assistance for Pilgrimage.	(Sobhani et al., 2012; Jan et al., 2018; Jan et al., 2019).
	Paid Participation of Employees in Volunteer Services.	(Islam et al., 2016; GSSB, 2020)
	HR Policy	(Aras et al., 2018)
	Analysis and Mitigation of Human Risk Factors.	(Sobhani et al., 2012; Aras et al., 2018)
	Policy on Equal Opportunity.	(Islam et al., 2016; Kumar & Prakash, 2019b; Jan et al., 2019; Aras et al., 2018)
	Policy Ensuring Equal Remuneration for Male and Female Employees.	(Sobhani et al., 2012; Jan et al., 2019)
Environmental Sustainability(ENS)	Alignment with the central bank's policy framework.	(Aras et al., 2018; Sobhani et al., 2012)
	Reporting of environmental indicators	(Aras et al., 2018; Scholtens, 2009; Islam et al., 2016)
	Certification in Environmental Management.	(Scholtens, 2009;Kumar & Prakash, 2019a; Islam et al., 2016).
	Application of Green Technology Practices.	(Sobhani et al., 2012; Kumar & Prakash, 2019a).
	Utilization of Renewable Energy	(GSSB, 2020; Sobhani et al., 2012; Aras et al., 2018;).
	Energy Conservation Policy.	(Aras et al., 2018; GSSB, 2020).
Economic Sustainability(ECS)	Policy regarding micro-credit.	(Scholtens, 2009; Islam et al., 2016; Kumar & Prakash, 2019b; GSSB, 2020).
	Loan Facilities for Women and Households.	(Sobhani et al., 2012; Aras et al., 2018)
	Policies Pertaining to Small and Medium Enterprises and Agricultural Finance.	(Sobhani et al., 2012; Aras et al., 2018; GSSB, 2020)

To be continued…

	Count of Commercial Branches	(Kumar & Prakash, 2019a; GSSB, 2020)
	Installation of the ATM service	(Kumar & Prakash, 2019a; GSSB, 2020).
	Economic Value Created: Sales.	(Jan et al., 2018; Aras et al., 2018; Jan et al., 2019; GSSB, 2020).
	Distribution of Economic Value: Operational Expenses, Employee Salaries and Benefits, Payments to Capital Providers, and Tax Payments.	(Jan et al., 2018; Aras et al., 2018; Jan et al., 2019; GSSB, 2020; Sobhani et al., 2012;).
	Minimum compensation paid	(Sobhani et al., 2012; Jan et al., 2018).
	Investments in infrastructure.	(Sobhani et al., 2012; Jan et al., 2018).
Financial Sustainability(FSS)	Z-Score.	(Čihák & Hesse, 2010)
Corporate Governance(CG)	Organization Name / Legal Structure / Headquarters Location / Operational Locations / Operations' Scope / Organization Size /Target Markets.	(Aras et al., 2018; Jan et al., 2018).
	Overview of BoD Profiles	(Sobhani et al., 2012; Aras et al., 2018).
	Roles and responsibilities assigned to the members of the SSB	(Ajili & Bouri 2018,).
	Management Titles and Their Associated Responsibilities.	(Aras et al., 2018; GSSB, 2020).
	Compensation of Members of the Supervisory and Management Boards.	(GSSB, 2020; Aras et al., 2018).
	BoD Size	(Hakimi et al., 2018; GSSB, 2020).
	Number of Board Meetings Organized and the Percentage of Attendees.	(Zaki et al., 2014).
	Policy on Corporate Governance.	(Sobhani et al., 2012; Aras et al., 2018; Jan et al., 2019)
	PPP for Sustainability.	(Sobhani et al., 2012; Aras et al., 2018)
	Shari'ah compliance assessment of investment.	(Jan et al., 2018)
	Profit distribution adhering to Shari'ah principles.	(Jan et al., 2018)
	Prohibited earnings disclosure	(Jan et al., 2018)
	Supervision in alignment with Shari'ah guidelines.	(Zaki et al., 2014)
	Size of SSB	(Hakimi et al ., 2018; Hashim et al., 2015; Mansour et al., 2016; Ajili & Bouri, 2018)
	Qualification of Shariah board	(Zaki et al., 2014; Mansour et al., 2016; Quttainah & Almutairi, 2017)
	Interlocking of Shariah board members.	(Grassa, 2018)

Appendix B

Islamic Banks in Indonesia

Sharia Commercial Bank	
No.	Name
1	PTBank Aceh Syariah.
2	PTBPD Nusa Tenggara Barat Syariah.
3	PTBank Muamalat Indonesia.
4	PTBank Victoria Syariah.
5	PTBank BRI Syariah.
6	PTBank Jabar Banten Syariah.
7	PTBank BNI Syariah.
8	PTBank Syariah Mandiri.
9	PTBank Mega Syariah.
10	PTBank Panin Dubai Syariah.
11	PTBank Syariah Bukopin.
12	PTBCA Syariah.
13	PTBank Tabungan Pensiunan Nasional Syariah.
14	PTMaybank Syariah Indonesia.
Sharia Business Unit	
15	PTBank Danamon Indonesia, Tbk.
16	PTBank Permata, Tbk.
17	PTBank Maybank Indonesia, Tbk.
18	PTBank CIMB Niaga, Tbk.
19	PTBank OCBC NISP, Tbk.
20	PTBank Sinarmas.
21	PTBank Tabungan Negara (Persero), Tbk..
22	PTBPD DKI.
23	PTBPD Daerah Istimewa Yogyakarta.
24	PTBPD Jawa Tengah.
25	PTBPD Jawa Timur, Tbk.
26	PTBPD Sumatera Utara.
27	PTBPD Jambi.
28	PTBPD Sumatera Barat.
29	PTBPD Riau dan Kepulauan Riau.
30	PTBPD Sumatera Selatan dan Bangka Belitung.
31	PTBPD Kalimantan Selatan.
32	PTBPD Kalimantan Barat.
33	PDBPD Kalimantan Timur.
34	PTBPD Sulawesi Selatan dan Sulawesi Barat.

Source:(OJK, 2019)