

FUTURE RESEARCH DIRECTIONS ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) IN INDONESIAN COMMERCIAL BANKS: (A BIBLIOMETRIC ANALYSIS)

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Abstract : This study aims to explore the evolution of environmental, social, and governance (ESG) and banking from a research publication perspective. Design, methodology, and approach: bibliometric analysis was applied based on selected publications from the Scopus database from 2010 to 2023 with the keywords ESG and bank. This study uses a soft VOSviewer to exercise the data. The implications of this research are: first, there are several areas that have received less attention among researchers, even though they are relevant to industry, for example, the banking industry. Second, the inconsistent frequency of publications in some specialty areas may indicate that there is an unprecedented event that hinders further research; perhaps researchers can anticipate more information and advances in the industry. Third, there is a need to strengthen collaboration between industry and academia to advance research. The implication of this study is to identify and propose future research trends in the area of ESG in banks. This research is one of the pioneering studies in analyzing bibliometrics focusing on ESG in banks. Previous studies focused on financial performance and the banking industry and did not specifically address ESG. Therefore, this study highlights the research gap in ESG. The findings show that from the 141 articles analyzed, there are five disciplines that can be further developed: sustainable development, sustainability, governance approach, environmental, and banking.

Keywords : **Environmental; Social; Governance; Commercial Banks; Bibliometric.**

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1. INTRODUCTION

Environmental degradation and the depletion of natural resources are among the most critical global challenges today (Bukhari et al., 2020). One emerging response to this issue is the implementation of green banking, which aligns financial activities with environmental sustainability (Cho et al., 2020). In the context of Islamic finance, green banking is not only a contemporary necessity but also resonates deeply with Islamic ethical principles established over 1,400 years ago (Rahman et al., 2016). Despite the inherent compatibility, Islamic banks especially in Indonesia, home to the world's largest Muslim population face challenges in integrating Environmental, Social, and Governance (ESG) practices into their core banking operations (Ji et al., 2023). These challenges include limited stakeholder engagement, lack of ESG investment, and insufficient governance structures to promote transparency and sustainability (Afiq & Yudha, 2023; Dragomir et al., 2022). Growing progress recently This is from Muslims,

namely, do activities that finance them to conform to the values and their Islamic beliefs. This increases their desire to protect the environment (Meles et al., 2023) and social and governance (Barata, 2019). Given the growing demand from environmentally conscious

Muslim consumers and the strategic push toward sustainable finance in Indonesia, it is imperative to investigate how ESG principles are currently adopted and how they can be further enhanced in Indonesian commercial and Islamic banks.

Existing literature suggests a significant positive relationship between ESG performance and the operational, financial, and market outcomes of banks—both conventional and Islamic (Niturescu & Cristea, 2020; Daszyńska-żygadło et al., 2021; Mohamed Buallay et al., 2023). Environmental activities and disclosures have been shown to enhance efficiency and stakeholder trust (Buallay, 2019; Salahudin et al., 2016), and religious conformity can drive stronger loyalty from Muslim consumers (Ji et al., 2023). However, most studies are concentrated in developed countries such as Italy, the UK, the US, China, and Malaysia (Mertens et al., 2023) with limited analysis focused on developing economies like Indonesia. Furthermore, existing ESG research primarily explores general themes such as sustainability, CSR, corporate governance, and financial performance, but there is a notable gap regarding how these principles manifest in the context of Islamic banking in Indonesia (Izzuddin et al., 2022; Subramaniam et al., 2022). Issues such as board composition, stakeholder involvement, and governance mechanisms are inconsistently addressed, and contradictory findings suggest theoretical debates remain unresolved performance (Birindelli et al., 2018; La Torre et al., 2021; Bătae et al., 2021; Ahmed et al., 2019).

This study aims to address these gaps by analyzing the development of ESG-related studies in the context of commercial banking, with a particular focus on Islamic banks in Indonesia. Specifically, the study investigates how ESG themes have evolved over time, which topics dominate the discourse, and where future research can be directed. The goal is to generate an evidence-based map of ESG research trends through bibliometric analysis, providing insights for academics, regulators, and banking practitioners interested in aligning banking practices with sustainability and sharia principles. In doing so, this study contributes to a more structured understanding of ESG adoption and its implications for the growth of Islamic banking in Indonesia.

The preliminary assumption of this research is that ESG implementation in Indonesia's banking sector especially within Islamic banks remains underdeveloped, both in scholarly attention and practical application (Dinh et al., 2023). While there is increasing interest in ESG across industries (Zustika & Yudha, 2020), a systematic and quantitative analysis of ESG-related publications in Indonesia's banking context is lacking. It is anticipated that the bibliometric analysis over the past 13 years will reveal fragmented yet growing efforts, highlighting key contributors, institutions, and knowledge gaps that future research can explore. This study is also expected to confirm that ESG principles are not only conceptually aligned with Islamic values but also practically essential for enhancing the resilience and competitiveness of Islamic banks in Indonesia.

2. LITERATURE REVIEW

2.1 Environmental, Social, and Governance (ESG)

The integration of Environmental, Social, and Governance (ESG) factors has become a central theme in banking and finance research, driven by the growing demand for ethical, transparent, and sustainable business practices. ESG represents a tripartite

framework where the environmental component focuses on issues such as resource efficiency, carbon emissions, waste management, and climate change mitigation; the social dimension addresses relationships with employees, communities, and customers, including diversity, human rights, and stakeholder engagement; and governance refers to corporate structures, board diversity, transparency, and accountability (Daszyńska-Żygadło et al., 2021; Mohamed Buallay et al., 2023).

2.2 Commercial Banking

In commercial banking, ESG has been increasingly associated with improved financial performance, operational efficiency, and enhanced reputation. Research by (Buallay, 2019), confirms that ESG adoption positively influences banking efficiency in both conventional and Islamic financial institutions. Similarly, (Mohamed Buallay et al., 2023) demonstrate that environmental disclosures correlate with better operational and market outcomes, indicating the strategic value of ESG in competitive banking environments.

For Islamic banks, ESG is not merely a business tool but aligns deeply with core Shariah principles, which emphasize justice, ethical conduct, and environmental responsibility. As highlighted by (Rahman et al., 2016; Afiq & Yudha, 2023). Islamic banking's alignment with ESG offers a unique opportunity to attract values-driven consumers, especially among Green Muslim segments. Further argue that ESG-compliant Islamic products improve customer trust and loyalty due to their alignment with religious values. However, the actual implementation of ESG in many Islamic banks remains limited, mainly due to insufficient ESG-related investments, weak stakeholder involvement, and governance gaps (Buallay, 2019).

2.3 Bibliometric

Given the complexity and evolving nature of ESG research, bibliometric analysis serves as a valuable methodological approach to map the intellectual structure of the field. Bibliometrics applies quantitative techniques to analyze large bodies of academic literature, identifying influential publications, authors, thematic clusters, and emerging trends (Galletta et al., 2022; Khan, 2022). This method is particularly effective for synthesizing fragmented research areas and clarifying the development trajectory of specific domains, such as ESG in commercial and Islamic banking (Senadheera et al., 2022). By visualizing co-authorship networks, keyword co-occurrences, and citation patterns, bibliometric tools help researchers and policymakers understand knowledge flows and locate research gaps for future exploration.

In the Indonesian context where Islamic banking is growing alongside increasing attention to sustainability the use of bibliometric analysis is especially relevant. As (Izzuddin et al., 2022), note, there remains a lack of consolidated research exploring ESG in Indonesian financial institutions. Thus, this study positions itself at the intersection of ESG theory, Islamic finance, and bibliometric methodology to provide strategic insights into the past, present, and future of sustainable banking research in the region.

3. METHODOLOGY

This study adopts a bibliometric analysis approach to assess the evolution, structure, and trends of ESG-related publications in the context of commercial and Islamic banking. Bibliometric analysis is a statistical method used to quantitatively and qualitatively evaluate patterns in academic literature, including publication output, citation analysis, co-authorship, and keyword co-occurrence (Galletta et al., 2022; Khan, 2022). The approach helps identify influential studies, authors, institutions, and

thematic areas while uncovering gaps and emerging topics that can shape future research directions (Senadheera et al., 2022).

Data Collection Process

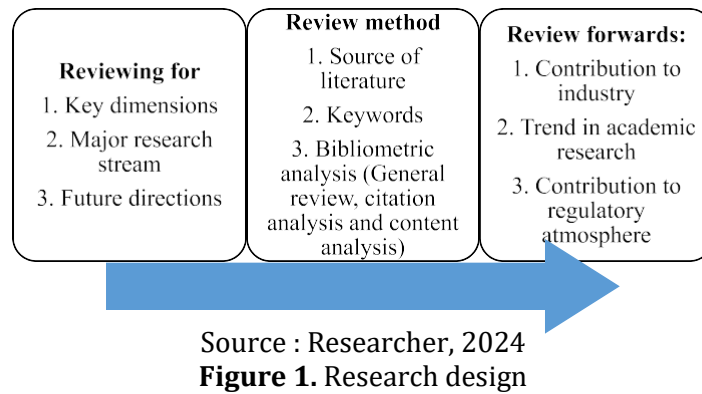
Data for this study were obtained from the Scopus database using a structured search with keywords including “Environmental, Social, and Governance (ESG),” “banking,” “Islamic banking,” and “Indonesia,” combined with Boolean operators (AND, OR) to ensure comprehensive coverage. All document types were included without restrictions on language or subject area. The search aimed to capture the full population of ESG-related publications in the banking context indexed within the selected timeframe. To ensure data validity, duplicate and irrelevant records were removed through manual screening of titles and abstracts. The final dataset, exported in CSV format, contained bibliographic metadata such as titles, authors, keywords, publication years, sources, and citation counts. Analysis was conducted using VOSviewer and Microsoft Excel to map co-authorship, keyword trends, and citation networks.

Time Frame Justification (2010–2023)

The period 2010 to 2023 was chosen as the study timeframe for several key reasons. First, ESG emerged as a structured research theme and began gaining momentum in academic finance literature only after 2010, following the global financial crisis and the increasing emphasis on sustainable finance and corporate accountability. Second, many countries, including Indonesia, began adopting ESG disclosure regulations and sustainability reporting frameworks during this period, making it a meaningful temporal boundary for analyzing publication trends. Lastly, a 13-year window is methodologically robust for observing shifts in publication patterns, thematic evolution, and citation dynamics while capturing both early-stage developments and recent advancements in ESG research across banking sectors.

Topic choices include title, abstract, and keywords

The search covered citation counts, publication years (2010–2023), subject areas, journal sources, keywords, affiliations, countries, and languages. This study exclusively used articles indexed in Scopus, due to its higher publication quality compared to platforms such as Google Scholar. However, future research may consider expanding the data source to Web of Science or other databases. The research focused on ESG-related studies in banking, including topics such as sustainability, sustainable development, corporate social responsibility (CSR), corporate governance, finance, and Islamic banking. A total of 224 articles were identified using the keywords “ESG” and “bank”. After applying filters document type (article), final publication stage, and journal source the final sample was reduced to 141 articles. The analysis included publication volume, citation counts, and journal impact. The methodological approach combined a descriptive, integrative, and systematic bibliometric review, along with content analysis of the top 20 most-cited articles on ESG and banking. The overall methodological framework is outlined in Figure 1 and elaborated in the following sections.



Strategy Data Selection

Research stages in the meta-literature analysis used by the writer adopt (Galletta et al., 2022), with three steps in selecting the articles studied (Purkayastha & Sarkar, 2021). First, involve examination of the article database and citation data from Scopus as a data source with the results of keyword selection for 224 articles. The second step of the literature review process begins with approach quali-quantitative that uses bibliometric citation analysis and content analysis to group existing studies into meaningful groups. The author uses the keywords "ESG and "bank. After filtering down to 141 articles. The final stage applies co-citation, co-authorship, and cartographic analysis to provide an in-depth analysis of previous ESG and bank studies. The authors checked each paper independently to confirm or reject its relevance in the field of ESG research in banking. Overall, the final data constructed through these steps consisted of 141 articles, published from 2010 to 2023 (a 13-year time span).

Tool Analysis

The meta-literature review consists of bibliometric and content analysis. Applications used for analysis of bibliometrics are VOSviewer and Excel. Researchers carried out four stages for this analysis of ESG and banks: (1) bibliometric co-citation analysis; (2) bibliometric citation analysis; (3) bibliometric co-author analysis; and (4) content analysis. Consistent with Van Eck and Waltman (2021), researchers used the device software VOSviewer for bibliometric analysis and MS Excel to manage numbers and data with formulas and generate graphs. VOSviewer helps researchers create and visualize bibliometric networks, called maps, that discover relationships between authors, sources, countries, and keywords, as well as co-authorship, co-occurrence, and co-citation. The authors combine bibliometric analysis with content analysis, following a more traditional literature review approach. Researchers conducted content analysis, analyzing 20 influential articles collected based on the most citations. This analysis was conducted to obtain key questions in the literature for future research on ESG and banks.

4. RESULT AND DISCUSSION

4.1 Analysis of the Language Used in Publications

Environmental, social, and governance (ESG) is also a growing field of research in various geographic regions; hence, it is reflected in the different languages used in publications. Multilingual publications that primarily use English (92.2%), Russian (4.3%), China (2.1%), and 0.7% for Italy and Poland, respectively, serve as evidence of this.

Table 1. Publication of ESG articles according to language

No	Language	Frequently	%
1	English	130	92.2%
2	Russian	6	4.3%
3	Chinese	3	2.1%
4	Italian	1	0.7%
5	Polish	1	0.7%
		141	100%

Source : Processed data, 2024

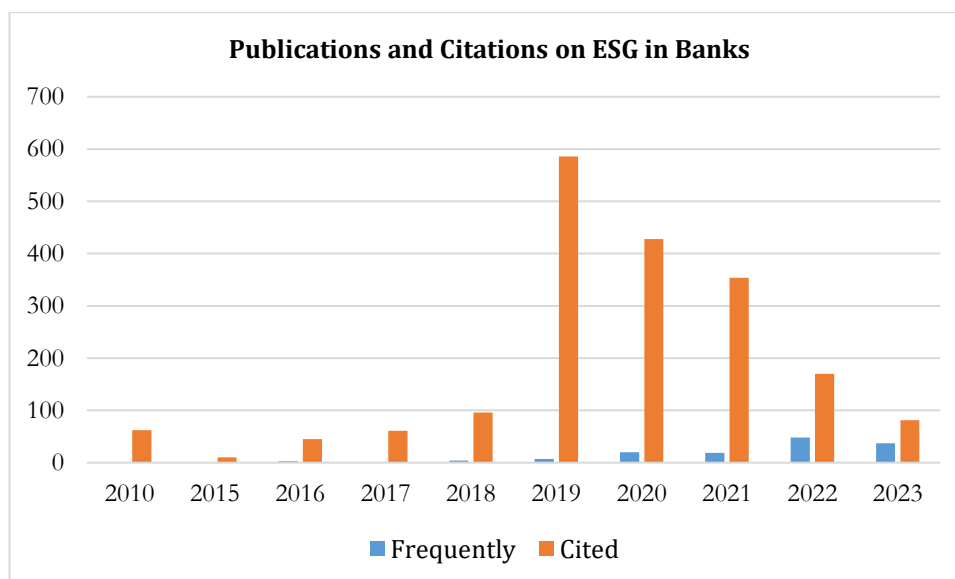
4.2 Publication Citation Trend Analysis

Table 2 and Figure 2 show trends in ESG publications over the past 14 years. The first ESG publication was recorded in 2010, with 62 citations. Unfortunately, there were no ESG-related publications between 2011 and 2014, although there were some citations in a number of years. Start In 2010, the number of citations continued to skyrocket over the years, growing to 10 citations and 1 publication, and continued to increase until its highest peak of 586 citations in 2019. However, the number of citations decreased significantly until 2023, reaching 37 publications. It is not known whether this is a lasting effect of the new norms and work environment resulting from the COVID-19 pandemic. This may also be due to the interest of researchers paying more attention to ESG in banks, especially focusing on post-pandemic strategies.

Table 2. Publication Trends ESG Articles

No	1	2	3	4	5	6	7	8	9	10
Year	2010	2015	2016	2017	2018	2019	2020	2021	2022	2023
Frequently	1	1	3	1	4	7	20	19	48	37
Cited	62	10	45	61	96	586	428	354	170	81

Source : Processed data, 2024



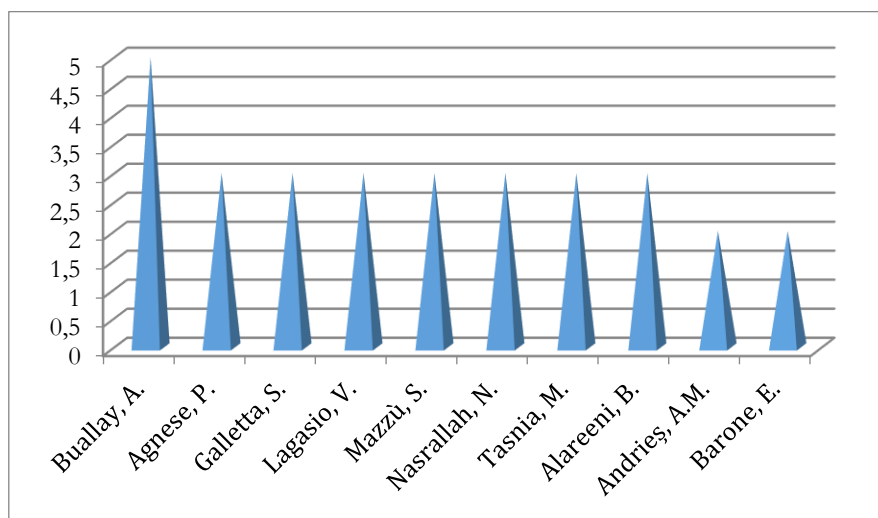
Source : Processed data, 2024

Figure 2. ESG Article Publication and Citation Trends

4.3 Analysis Quote

Analyzing further, this study also presents evidence for citation analysis based on the most cited articles, the most productive journals, and the most influential authors. Citation analysis is a way to measure the relative impact or importance of an author, article, or publication. This is done by counting the number of times the author, article, or publication has been cited by other works. Researchers identify citation mapping with the use of VOSviewer. VOSviewer provides a visual representation of a network of articles based on citations and groups them into prominent research families identified by different colors.

Figure 3 illustrates the top 10 most prolific authors contributing to the literature on Environmental, Social, and Governance (ESG) topics. The leading contributor is Buallay, A., with five published articles. Agnese, P. and Galletta, S. follow with three articles each. Other notable authors such as Lagasio, V., Alareeni, B., Andries, A.M., and Barone, E. have also made significant contributions with multiple publications.



Source : Processed data, 2024

Figure 3. Prolific Writer of ESG Articles

Table 3 shows 30 of the 141 most cited articles with ESG themes. Buallay A.'s article with the most citations has 185. While the work of Nizam et al. was cited 97 and Brogi and Lagasio's article was cited 93, Birindelli et al. cited 87 citations, Miralles Quiros et al. cited 79 citations, Batae O.M. cited 78 citations, Shakil M.H. cited 72 citations, Azmi W. cited 64 citations, Xu N. cited 62 citations, Capelle Brancard cited 61 citations, and the remaining 20 articles were cited more than 20. Table 3 shows the relationships between citations, their sources, and the publications in which they appear, which might be used to identify the most influential works in your subject. In order to track the rise in importance of certain publications over time, we may utilize citation analysis to pinpoint when they were first published.

Table 3. Amount Quote ESG Articles

No	Author	Cited
1	Buallay A.	185
2	Nizam E., Ng A., Dewandaru G., Nagayev R., Nkoba M.A.	97
3	Brogi M., Lagasio V.	93
4	Birindelli G., Dell'Atti S., Iannuzzi A.P., Savioli M.	87
5	Miralles-Quirós M.M., Miralles-Quirós J.L., Hernández J.R.	79

No	Author	Cited
6	Bătae O.M., Dragomir V.D., Feleagă L.	78
7	Shakil M.H., Mahmood N., Tasnia M., Munim Z.H.	72
8	Azmi W., Hassan M.K., Houston R., Karim M.S.	64
9	Xu N., Tang C., Sha C., Liang Z., Yang J., Zou Y.	62
10	Capelle-Blancard G., Petit A.	61
11	Miralles-Quirós M.M., Miralles-Quirós J.L., Redondo-Hernández J.	57
12	Di Tommaso C., Thornton J.	53
13	Buallay A., Fadel S.M., Alajmi J., Saudagaran S.	49
14	Buallay A., Fadel S.M., Al-Ajmi J.Y., Saudagaran S.	45
15	Buallay A.	43
16	Takahashi H., Yamada K.	42
17	Leins S.	38
18	Paltrinieri A., Dreassi A., Migliavacca M., Piserà S.	33
19	Demir E., Danisman G.O.	29
20	El Khoury R., Nasrallah N., Alareeni B.	28

Source : Processed data, 2024

Table 4 below shows the 10 journals that produce the most articles on ESG. The Sustainability Switzerland journal dominates with 13 articles, followed by the Corporate Social Responsibility and Environmental Management journal from the UK publishing 5 articles, the Finance Research Letters journal from the Netherlands with 5 articles, the Journal of Risk Management in Financial Institutions from the UK with 4 articles, the Journal of Sustainable Finance and Investment from the Netherlands with 4 articles, the Journal of Research in International Business and Finance from the Netherlands with 4 articles, and the Journal of Energies to the Journal of Risk and Financial Management producing 3 articles each.

Table 4. Producing Journals ESG Articles

No	Sources Title	Articles
1	Sustainability Switzerland	13
2	Corporate Social Responsibility And Environmental Management	5
3	Finance Research Letters	5
4	Journal Of Risk Management In Financial Institutions	4
5	Journal Of Sustainable Finance And Investment	4
6	Research In International Business And Finance	4
7	Energies	3
8	Environmental Science And Pollution Research	3
9	Journal Of International Financial Markets Institutions And Money	3
10	Journal Of Risk And Financial Management	3

Source : Processed data, 2024

The number of university affiliates that produce the most ESG articles in banks is Brunel University London with 8 articles, followed by Ahlia University in Bahrain, Sapienza Universita in Rome, Bucharest University of Economic Studies in Romania, Brunel Business School London, Academia Română in Romania, Universita Degli studi Caterina in Italy, Universita Degli studi Roma Tre in Italy, Luiss University in Italy, and Sichuan University in China, as shown in Table 5 below:

Table 5. List of Universities that produce ESG in Bank Articles

No	Affiliations	Articles
1	Brunel University London	8

No	Affiliations	Articles
2	Ahlia University	7
3	Sapienza Università di Roma	5
4	Bucharest University of Economic Studies	4
5	Brunel Business School	4
6	Academia Româna	3
7	Università degli Studi di Catania	3
8	Università degli Studi Roma Tre	3
9	Luiss University	3
10	Sichuan University	3

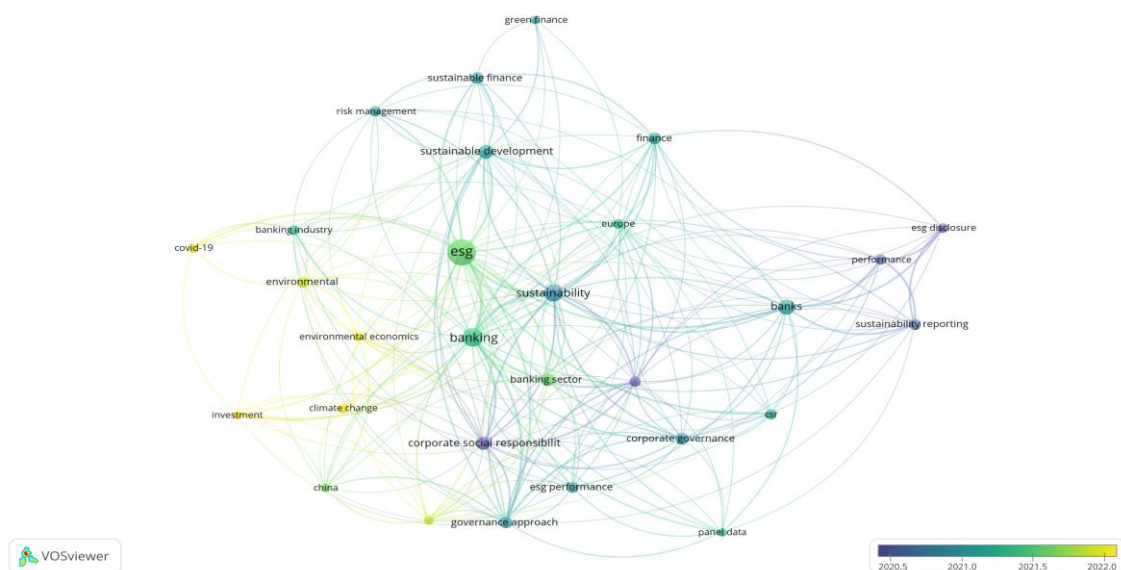
Source : Processed data, 2024

Table 6 shows the most used keywords in ESG-related research in the banking industry. The most prevalent terms include: ESG, Banking, Sustainability, Corporate Social Responsibility, Corporate Governance, Finance, and Governance Approach. While the keywords that are widely used in ESG in bank research are ESG, then Banking, followed by Sustainability, Banks, Sustainable Development, Corporate Social Responsibility, Banking Sector, Corporate Governance, Finance, and Governance Approach, There are 10 keywords that discuss ESG in banks, as shown in Table 6 below:

Table 6. Number of ESG Research Keywords in Banks

No	Keyword	Articles
1	ESG	52
2	Banking	27
3	Sustainability	24
4	Banks	18
5	Sustainable Development	15
6	Corporate Social Responsibility	14
7	Banking Sector	12
8	Corporate Governance	12
9	Finance	11
10	Governance Approach	11

Source : Processed data , 2024



Source : Results VOSviewer, 2024
Figure 4. Five Families of ESG Studies

The results revealed that the ESG literature in banks is divided into five clusters (Figure 4). To label these clusters, we analyzed the content of each paper. The resulting identification leads to the following groupings: (1) ESG and Performance; (2) ESG and Sustainability; (3) ESG and Corporate Governance; (4) ESG and Environmental; and (5) ESG and Banks, including Islamic Banking.

Table 7 shows the countries included in the literature on ESG and banks in the bibliometric literature review. Countries in Europe are dominant in this discussion, such as Italy and the UK. Italy has a strong relevance in the current ESG discussion, followed by the United Kingdom, China, Malaysia, the United States, Poland, Turkey, Bahrain, Germany, and Romania, which support scientific research by publishing articles on ESG.

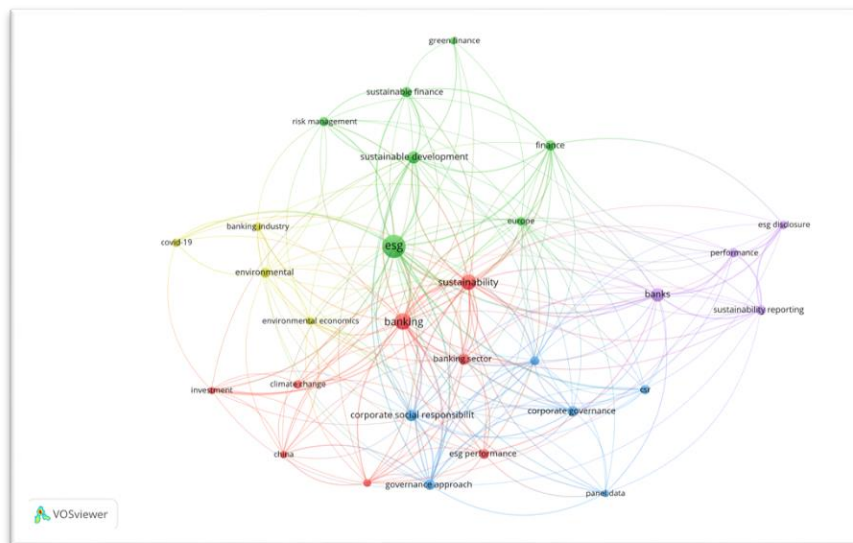
Table 7. Country Coverage Literature on ESG and Banks

No	Country/Territory	Frequently
1	Italy	29
2	United Kingdom	24
3	China	11
4	Malaysia	10
5	United States	10
6	Poland	9
7	Turkey	9
8	Bahrain	7
9	Germany	7
10	Romania	7

Source : Processed data, 2024

4.4 Keyword Analysis

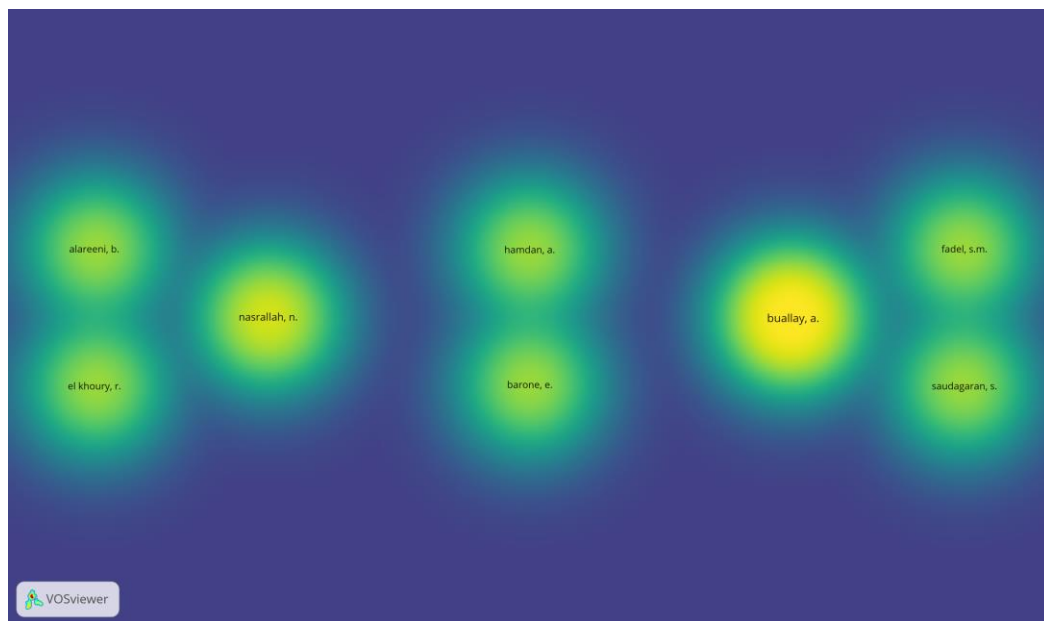
According to VOSviewer results from 141 articles analyzed, there are 29 keywords for ESG studies in banks, namely: ESG, sustainable development, finance, Europe, risk management, sustainable finance, green finance, sustainability, banking, banking sector, ESG performance, climate change, investment, China, corporate social responsibility, governance approach, corporate governance, panel data, CSR, banks, sustainable reporting, performance, ESG disclosure, environmental, environmental economics, banking industry, and COVID-19 (Figure 5).



Source : Results VOSviewer, 2024
Figure 5. Keyword Occurrence Together

The 29 keywords consist of green, red, blue, yellow, and purple colors, indicating that the study of ESG in banks is divided into five scientific families. The five scientific families are ESG and Sustainable Development (green), Sustainability (red), Corporate Social Responsibility and Governance Approach (blue), Environmental (yellow), and Banks (purple).

Figure 6 displays the emergence of co-authorship among researchers such as Nasrallah N., Alareeni B., El Khoury R., Hamda A., Barone E., Buallay A., Fadel S.M., and Saudagaran S. These collaborations demonstrate the formation of research communities and knowledge-sharing networks. Nasrallah N., Alareeni B., El Khoury R., Hamda A., Barone E., Buallay A., Fadel S.M., and Saudagaran S. are just a few of the eight authors that have examined ESG studies on banks on a regular basis (Figure 6).



Source : Results VOSviewer , 2024

Figure 6. The Emergence of Co-Authorship

4.5 Research Cluster and Future Research

4.5.1 Focus 1: ESG and Sustainable Development.

The UN's 2030 Agenda for Sustainable Development is consistent with the ultimate goal of the SDGs (Muhmad et al., 2022). Concepts such as corporate social responsibility (CSR) or environmental management are part of the new sustainability perspective as a type of management that is oriented towards all stakeholders (Neitzert & Petras, 2022). Environmental, social, and government policies must be implemented throughout the business cycle as a strategy to utilize and maximize the company's capacity to achieve sustainable development goals, the key of which is sustainability (Beloe et al., 2006). ESG is considered a strategic factor that contributes to competitiveness by differentiating in the business world (Mejia-Escobar et al., 2020).

Factors such as governance, labor, and the economy significantly influence corporate ESG disclosure (Capelle-Blancard & Petit, 2017). It is important to know the relationship between ESG and other factors so that it can be known whether ESG factors can encourage additional company value in the future (Komarnicka &

Komarnicki, 2022). The ESG performance score is an important rating that aims to showcase the quality of a company's CSR; in other words, a company's non-financial performance is assessed in three complementary areas: environment, governance, and social (Tasniah et al., 2020). ESG performance provides complementary information to a company's financial performance, known as corporate financial performance (CFP) (E. T. Lee & Li, 2022), which is usually based solely on economic and financial outcomes. A large number of studies have investigated the relationship between sustainability performance and corporate CFP, with many showing a strong and significant positive relationship across the countries and companies investigated (Birindelli et al., 2018) (Manta et al., 2020).

4.5.2 Focus 2: ESG and Sustainability

Sustainability reports present the company's non-financial information, which describes the company's economic, environmental, and social impacts (Beloe et al., 2006). The sustainability report contains a corporate governance model that is assessed from several aspects, which then impacts the company's performance (Fard et al., 2022). It also sets out the company's strategic commitment to a sustainable global economy (Afanasiev & Belenchuk, 2021). The three components of sustainability reporting are environmental, social, and corporate governance (ESG). Sustainability reporting is a new performance disclosure philosophy that concentrates on generating future value (Shlikhter, 2020).

In much of the literature, the focus of research studies the issue of sustainability reporting and some important questions about the sustainability of a company (Buallay et al., 2022). Previous studies measured ESG reporting, the type of theory used, and the nature of sustainability reporting. They addressed more environmental issues than social or governance issues and were only conducted in developed countries (S. K. Lee et al., 2022).

4.5.3 Focus 3: ESG and Corporate Governance

In recent years, financial markets and governments have paid particular attention to sustainable finance, such as environmental, social, and governance performance, which is increasingly relevant for banks and financial institutions (Bhaskaran et al., 2023). In addition, the findings have implications for regulators and practitioners, suggesting that policymakers and managers should pay more attention to aspects of corporate governance to improve ESG performance (Menicucci & Paolucci, 2022). Several previous studies have shown that social aspects have a significant positive effect on corporate governance (Laksmi & Kamila, 2018) (Mande et al., 2012). This suggests that the quality of the organization increases the understanding of decision-makers and improves financial reporting (Kanaev & Kanaeva, 2022). The three different components of ESG show that the impact of governance performance on financial performance is stronger than that of environmental and social performance (Gutiérrez-Ponce & Wibowo, 2023).

4.5.4 Focus 4: ESG and Environmental

ESG issues are closely related to environmental issues, where companies are expected to be able to pay attention to the surrounding environment (Suzuki et al., 2022). This environment focuses on the extent to which the company cares about the surrounding nature and where the company stands or operates to carry out the company's routine (Demir & Danisman, 2021). The company's attention to the surrounding environment in today's modern era is an important requirement for the company to continue to survive and be sustainable in running its business

(Laureti et al., 2023). There are not many studies that discuss how the banking industry contributes to the environment. This topic is interesting to study further to see the extent to which banks can contribute more to the environment.

4.5.5 Focus 5: ESG and Banks

Banks have always played an active role in the economic and social development of a country by having the ability to select investment projects (Hieu & Hai, 2023), manage risk (Mertens et al., 2023) (Samaniego-Medina & Giráldez-Puig, 2022), and decide who has access to capital and what activities are financed (Mejia-Escobar et al., 2020). Consequently, financial institutions have enhanced their commitment to social responsibility initiatives, so bolstering their reputation and fostering confidence among their stakeholders (Brogi & Lagasio, 2019). In the present climate, an increasing number of banks are embracing socially responsible practices, thereby positioning themselves as socially responsible entities (Miralles-Quirós et al., 2019).

4.6 Future Research Directions

Future research can be done on sustainable reports and how other factors affect the disclosure of sustainable reports. Such as the effect of management structure on ESG disclosure (Mohamed Buallay et al., 2023) (Fujianti, 2019) (Laureti et al., 2023). The impact of financial performance on environmental, social, and governance (ESG) disclosure (Shlikhter, 2020) (Komarnicka & Komarnicki, 2022) (Kolsi et al., 2023) (Gutiérrez-Ponce & Wibowo, 2023). The present study examines the impact of corporate governance procedures on the disclosure of environmental, social, and governance (ESG) factors (Gurol & Lagasio, 2023) (Menicucci & Paolucci, 2023). There is increasing evidence to suggest that Corporate Social Responsibility (CSR) is emerging as a strategic strategy that banks are utilizing to enhance their sustainability prospects. (Neitzert & Petras, 2022) (Dinh et al., 2023) (Vărzaru et al., 2021) (Murè et al., 2021).

Future research should focus on conducting a more in-depth investigation of particular environmental, social, and governance (ESG) components. Additionally, it is crucial to investigate other significant keywords that have surfaced during the analysis: Banking (Suzuki et al., 2022) (Buallay et al., 2022) (Forgione & Migliardo, 2020) (Aevoae et al., 2023) , Sustainability (Mertens et al., 2023) (Nitescu & Cristea, 2020) (Nizam et al., 2019), Banks and Banking Sector (Chiaramonte et al., 2022) (Ferraro & Cristiano, 2022), Sustainable Development (Makarenko et al., 2020) (Galletta & Mazzù, 2023) (Makarenko et al., 2020) (Úbeda et al., 2022), Corporate Social Responsibility (Vărzaru et al., 2021) (Brogi & Lagasio, 2019) (Capelle-Blancard & Petit, 2017), Corporate Governance (Bressan et al., 2022) (Ishizaka et al., 2021) (Tunio et al., 2021), Finance (Ahmed et al., 2019) (Chaudhry et al., 2021), and Governance Approach (Ji et al., 2023) (Shakil et al., 2019).

Banks should prioritize the examination and advancement of certain keywords in order to enhance corporate performance on an ongoing basis. Additional investigation might be conducted to examine the fluctuations in both the need for and the quantity of sustainability reporting that is routinely generated by banks. The proper and consistent application of ESG reporting and disclosures by banks is vital, as they serve as valuable tools for informing future decision-making processes and policy formulation. Additional research does not eliminate the potential that the subject of investigation pertains to Islamic banks (Budiman et al., 2022) (Alam et al., 2022). The concept of Environmental, Social, and

Governance (ESG) remains expansive, encompassing a wide range of research subjects. It is crucial to acknowledge the significance of conducting research on ESG in developing nations.

5. CONCLUSION

This bibliometric study on Environmental, Social, and Governance (ESG) research in the banking sector identified five dominant thematic clusters: ESG and Sustainable Development, ESG and Sustainability, ESG and Corporate Governance, ESG and Environmental Issues, and ESG and Banks (including Islamic banking). These clusters represent the intellectual structure of ESG scholarship in banking, as revealed through co-occurrence and co-authorship analysis using VOSviewer. The study maps how ESG discourse has evolved across disciplines, institutions, and countries over the past decade, highlighting the increasing relevance of ESG as both a research field and a practical framework for financial institutions.

The findings of this study both confirm and extend existing research in several ways. First, they reinforce previous empirical findings that demonstrate the positive relationship between ESG performance and corporate financial performance, as seen in the work of (Birindelli et al., 2018) (Manta et al., 2020). Second, the study challenges the narrow geographic and thematic concentration observed in earlier ESG research, by revealing an emerging diversification in authorship, institutional affiliation, and research focus particularly in the post-pandemic context.

Most significantly, this study introduces a new contribution to the literature by offering: A conceptual classification of ESG studies into five integrated clusters; A methodological approach using bibliometric network analysis (VOSviewer) to map intellectual influence and thematic evolution; A research object focus that emphasizes the strategic importance of ESG in the banking sector, including Islamic banks, which remains underexplored; A set of new research questions surrounding ESG disclosure, governance approaches, and the environmental role of banks, especially in developing countries.

In practical terms, the study recommends that banks enhance their ESG-related performance indicators integrating both financial and non-financial metrics and align their long-term strategy with sustainable development goals. Banks are also advised to collaborate with regulators to develop standardized ESG reporting frameworks. Ultimately, this study provides a scientifically grounded platform for future ESG research, particularly in expanding the scope of inquiry to include developing economies, sustainability disclosure practices, and the role of Islamic finance in advancing ESG goals.

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