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ARTICLE

Sustainable Financing Practices and Financial Institutions' Performance: A Systematic Literature Review

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Abstract

This study aims to review the diversified and extant literature on sustainable finance and the performance of financial institutions using the Bibliometric and Theories, Contexts, Characteristics, and Methodologies (TCCM) framework by selecting quality papers from the Scopus and Web of Science databases. The study shows that sustainable financing and financial institutions' performance is an emerging field of study, gaining momentum in emerging economies. The study presents top authors and journals, most productive countries, co-occurrence of keywords, and co-citation network by conducting bibliometric analysis. The study investigates major theories, methodologies, and independent and dependent variables used by the studies along with the context of the study. The study concludes that sustainable practices, sound relationships with all stakeholders, financial and non-financial information disclosure, and sound management practices enhance financial institutions' sustainable performance. The study will be a helpful yardstick for financial institutions' policymakers, regulators, and executives in their institutions' policymaking, regulation, and efficient operations. The study will motivate a business person to follow sustainable practices in their business. Besides, the study will be useful for the researcher and academicians in identifying future research discourse.

Keywords: Financial institutions' performance, sustainable finance, Bibliometric analysis, TCCM framework.

1 Introduction

Extreme weather conditions, melting snow from mountains, and significant carbon emissions ruin the earth's conditions and challenge the species living on the planet. Scientists have threatened that if extreme carbon emissions and pollution are not controlled, the earth's temperature will exceed the expected threshold of 2°C, destroying the climate and the economy.y (Wang and Zhi, 2016). These climate change activities directly and indirectly harm the performance of financial institutions (FIs). For instance, natural disasters occurring through climate change cause economic losses and deaths that indirectly increase financial institutions' non-performing loans as banks invest their money in different businesses (Zhang et al., 2022). Likewise, these disasters destroy the FIs' properties, resulting in huge economic losses. One way to mitigate the impact of climate change is to follow sustainable financing practices that will help reduce carbon emissions, leading to minimizing adverse impacts of climate change (Park & Kim, 2020).

Realizing the importance of sustainable financing in financial sectors, regulatory bodies in countries such as central banks and security exchange boards are also issuing specific guidelines to divert their business to sustainable sectors and to employ sustainable practices in their operations. (De Arriba-Sellier, 2023). For instance, the Reserve Bank of India issued guidelines for accepting green deposits and disclosure frameworks for climate-related risks for FIs; besides that, many international agencies such as the World Bank, Basel Committee on Bank Supervision, the European Banking Authority, and the Asian Development Bank induce to the FIs to become sustainable through providing different types of support programs for sustainable practices and enacting of various kinds of rules and regulations related to Environmental, Social and Governance aspects(ESG). Global reporting initiatives (GRI guidelines), equator principles, and policies from international agencies such as the United Nations Sustainable Development Agenda and the Paris Agreement further fortify the sustainability aspect of bank operations.

In this reality of adverse climate impact on long-term sustainability, regulators continue monitoring and supervision, and increasing awareness about sustainable practices among customers necessitates the FIs to follow sustainable practices to fulfill the needs of the current generation without compromising the needs of future generations. FIs can do sustainable financing practices both internally and externally. Internally, FIs can invest in sustainable infrastructure, less energy and paper, use digital products, and develop and use sustainable policies in operations. (Aracil et al., 2021), promote green deposits, etc., while externally, they can promote green loans, invest in renewable energy, arrange different types of campaigns and awareness programs, and more.

Although worldwide concern for sustainable financing practices is increasing (Sarma & Roy, 2021), the results of sustainable practices on the performance of the FIs are inconclusive. Salim et al. (2023) found a negative relationship between environmental practice and bank performance; however, Yin et al. (2021) and Siddik et al. (2024) observed a positive relationship between sustainable practices and FI. There are even contradictions between the beliefs of proponents of stakeholder theory, who accept a positive relationship between sustainable financing and firm performance, and protagonists of shareholders theory, who have negative thoughts between sustainable financing activities and firm performance (Khan, 2022). Besides, sustainable financing practices depend on the countries' development, legal system, and institutional capability (Gunawan et al., 2022). This reality necessities a groundbreaking comprehensive review (Galletta et al., 2021) to identify the recent trends and developments in sustainable finance (Aich et al., 2021; Brühl, 2021) and the triple-bottom-line performance of financial institutions (Brooks & Oikonomou, 2018) so that regulators, managers, governments, academicians, businesses, and donor agencies directly benefit and make their strategies accordingly.

There are ample reviews on sustainable financing using a narrative style focusing on either Scopus or Web of Science data; however, these reviews neither comprehend recent trends, theoretical development, methodological development, contextual setting, antecedents, or consequences of sustainable financing (Sureka et al., 2022) nor evaluate the sustainable financing practices on FI's performance. Using bibliometric analysis for identifying recent trends and a TCCM (theory, context, characteristics, and methodology) approach for content analysis collecting quality papers from both Scopus and Web of Science databases, this study aims to examine i) recent trends and development in sustainable finance practices and FIs performance ii) theoretical development in sustainable practices in financial sectors iii) geographical area cover by the study of sustainable finance and (FIs') performance iv) dependent, independent, mediating and moderator variables used in the study of sustainable financing and FIs' performance v) methodology used in the study of sustainable financing and FIs' performance.

The study contributed to the literature in many ways. First, to the best of our knowledge, this study is the first study to review the sustainable financing practices and FIs' performance using a comprehensive review that identifies the emerging publication trends, popular methods, theories, areas, independent, dependent, moderating and mediating variables used in the study of sustainable financing and FIs' performance. Second, the study establishes a comprehensive conceptual valuable framework for future research studies. Third, the study identifies the gap in the present literature and proposes the research agenda for the future, which will be helpful for future studies.

The rest of the paper follows the research methodology, analysis and findings, discussion implications and future research directions, conclusion, and references.

2 Research Methodology

The first step in a systematic literature review is to search for reliable and comprehensive keywords. In this study, a search strategy was developed considering previous impactful studies. (Alam et al., 2021; Bhatnagar & Sharma, 2022; Galletta et al., 2022). Therefore, all possible keywords were included in the study to ensure its comprehensiveness.

The central databases for searching scholarly work are Google Scholar, Scopus, and Web of Science, which provide bibliometric data. So, we searched the papers using Scopus and Web of Science databases, which provide high-quality research papers with comprehensive coverage (Singh et al., 2021). After finalizing the database to search, we used the keywords ("sustainable bank*" OR "green bank*" OR "green credit " OR "green finance*" OR "sustainable finance*" OR "green loan*" OR "green investment*" OR "responsible bank*" OR "sustainability practices" OR "ESG") AND ("Bank* performance" OR "financial institution* performance" OR "microfinance performance") for selecting the papers by reviewing previous literature and consulting with expert and applied filters as presented on Figure 1. After finalizing the documents, we read the whole document, and those not fulfilling the requirement were excluded from the study. Finally, we have 71 papers for complete analysis.

The study used both bibliometric and systematic literature review techniques. Bibliometric analysis is helpful for quantitative and statistical analysis of bibliometric data. Researchers can identify influential documents, sources, countries, and co-citation networks using the bibliometric technique (Naeem *et al.*, 2023). Systematic literature review, on the other hand, is a systematic process of searching, screening, and analyzing research studies to identify scholarly development and research gaps in a particular field. In the systematic literature review, the literature is thoroughly read and critically evaluated, depicting the emerging scholarly trend, knowledge status, research type, context of research, and underlying theoretical development (Sureka et al., 2022).

By combining both methods, the researchers can identify updates in scholarly development and gaps in the literature. This study used the TCCM approach to structure its content and findings.

3 Analysis and Findings

This section analyzes selected papers using bibliometric and content analysis, which is based on TCCM methods.

3.1 Bibliometric Analysis

Bibliometric sections deal with identifying research using descriptive analysis and network diagrams. In the descriptive analysis, we observe trends through analysis of publication growth, essential sources, key documents, and authors, and in network diagrams, we observe intellectual development through keyword cooccurrence and co-citation network.

3.1.1 Annual Publication Trends

Figure 2 shows the production trend on sustainable practices and FIs' performance. The figure shows that the issue of sustainability on financial performance took the attention of scholars mainly after 2016; the possible reasons may be the growing awareness and non-financial disclosure practices around the globe and the increasing impact of climate change, social inequality, and environmental degradation makes this area fertile for future research.

3.1.2 Most Relevant Documents

Most relevant documents are measured through their citation count. The large number of citations indicates the document's popularity in the scientific community. The citation can be a global citation or a local citation. Global citation refers to lump sum citations of documents across fields, whereas local citation refers to citations of a paper within these 71 papers selected for this analysis. Surprisingly, in this study, we did not find any locally cited document. However, in terms of global citation, the paper by Nizam et al. (2019) has 139 total citations with the central theme of the positive impact of environmental and social performance on the financial performance of banks. Likewise, the second most influential paper by Birindelli et al. (2018), with a global citation of 138, highlighted the positive role of board diversity on firm performance. Other three most influential papers by Azmi et al. (2020), Buallay et al. (2020), and Raut et al. (2017), with total citations of 114, 89, and 69 focused that sustainable reporting is essential for performance. In conclusion, all leading authors agreed on the positive aspect of sustainable financing on FIs, performance.

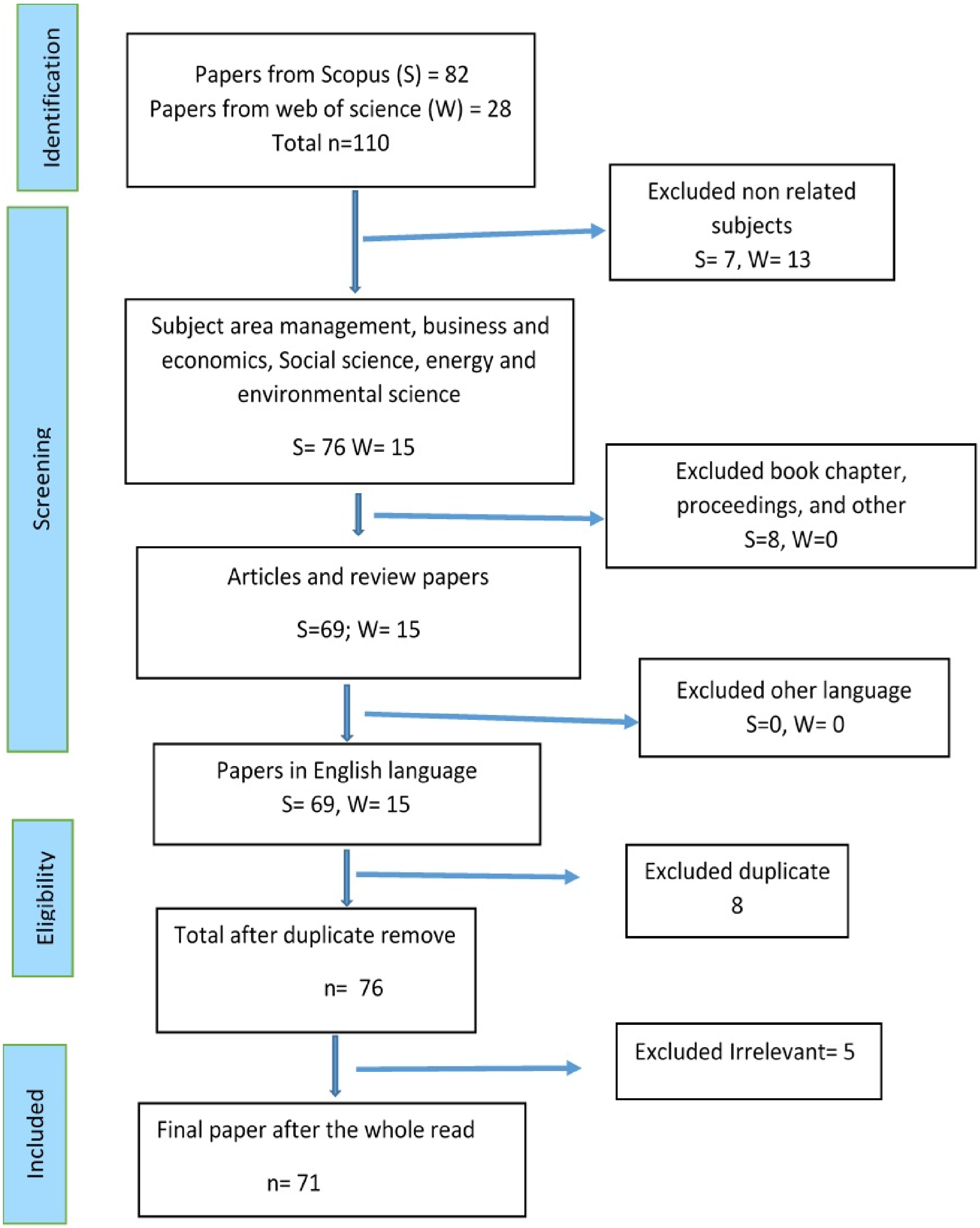
3.1.3 Most Influential Journal

Seventy-one papers used for the review appeared in 54 journals related to sustainability, finance, accounting, energy policy, and management. Among them, Sustainability (H-index 136 and Scopus Q2) is the most prominent Journal with six scholarly publications. The second most popular Journal is the Journal of Sustainable Finance and Investment (H-index 27 and Scopus Q1), with three publications. The other two popular journals are Business Strategy and Environment and Corporate Governance, with two publications each. These results show that the concept of sustainability is spread across different fields. It indicates the importance and concern of the world towards sustainability. A previous study on bibliometric analysis of green banking also found similar results (Akomea-Frimpong et al., 2022).

3.1.4 Co-occurrence of Keywords

Keyword co-occurrence postulates that two keywords appearing on the paper have some theoretical relation between them and the evolution of concepts. In a co-occurrence network, the size of the circle shows the number of occurrences of the term, and the distance between the terms shows their closeness. The strength of the line shows their appearance. The co-occurrence of keywords also shows the changes in the research trends in a field. There are 343 keywords used in the study. Among them, 22 keywords meet the criteria of at least four occurrences. Results in Figure 3 show that sustainability and banking are the most popular keywords. The figure shows that research moves from sustainability reporting and bank performance to ESG activities, financial performance, and sustainable development. The keywords co-occurrence show some significant findings. First, sustainability reporting and bank performance are closely researched areas. Second, ESG disclosure, financial performance, and bank performance are the current research areas in sustainable practices and performance of FIs. Third, sustainability, banking, and performance were other popular research areas from 2015 to 2020. Most interestingly, the performance word is linked with all clusters. These results inform us that ESG reporting, corporate

Figure 1. PRISMA framework for inclusion of papers



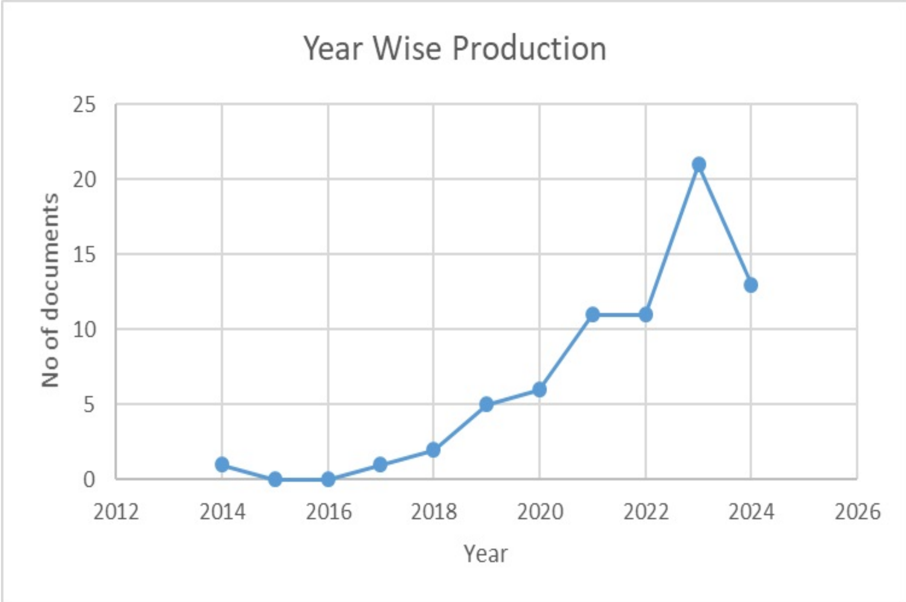
Source: Authors calculated by using Scopus and Web of Science papers

governance, and performance have gained momentum. We further infer that the regulatory attention towards the net zero and issuance of green taxonomy by most central banks increased. Our results align with those of Galletta et al. (2022), who investigated ESG's impact on bank performance.

3.1.5 Co-citation analysis

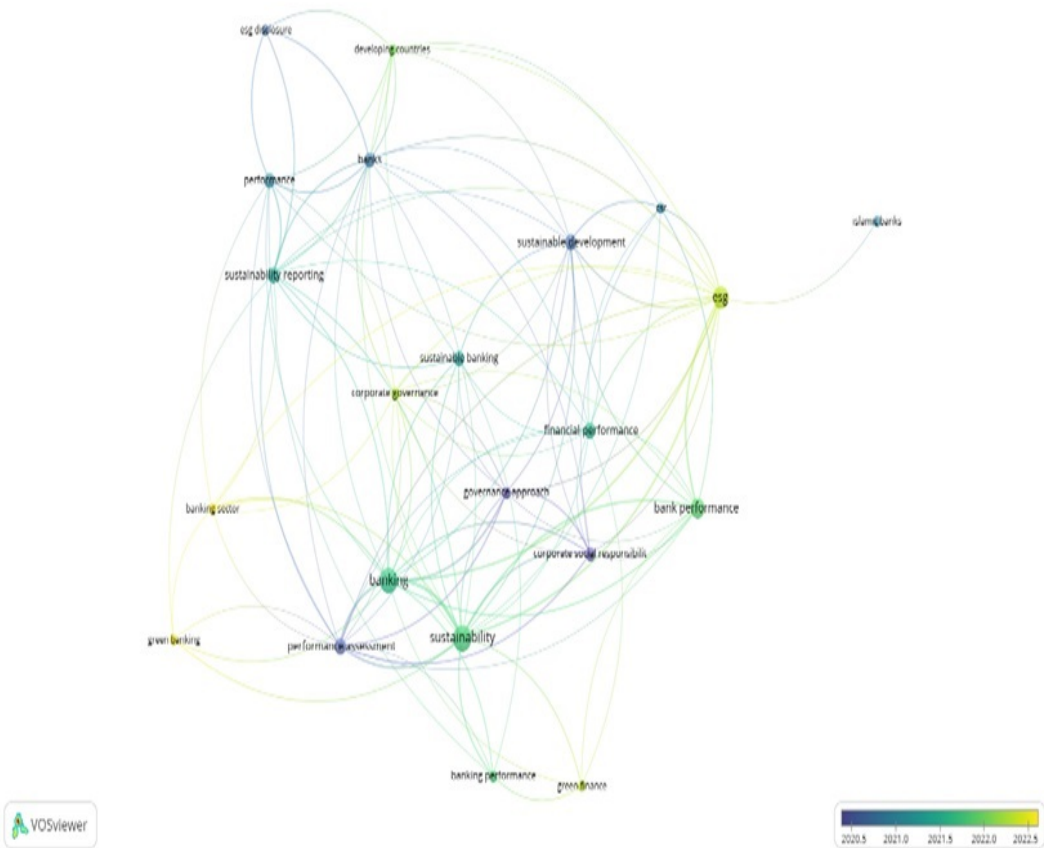
The co-citation of two documents in the third document shows how the knowledge evolved, developed, and passed in the scholarly community (Sureka et al., 2022). The co-citation map gives the researcher an idea of uncovering emerging trends, influential authors, and emerging research areas. The circle size shows the number of citations received by the paper, the

Figure 2: Annual Production of the Documents



Source: Authors calculation by Excel

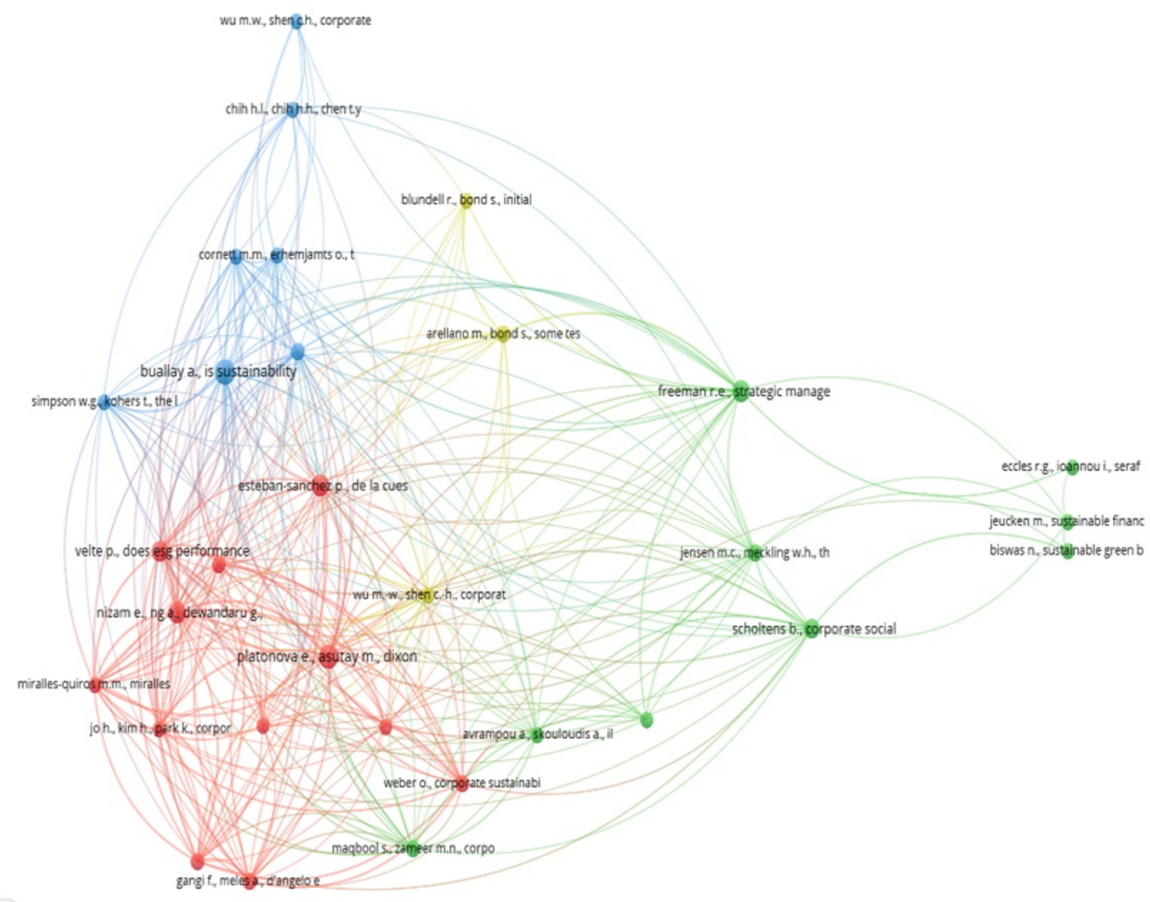
Figure 3: Co-occurrence of Keywords



Source: Authors compilation by using Vos-viewer software

thickness of the line represents the strength of the co-citation of two papers, and the proximity and link represent the co-citation relationship between the two papers. The colors show the cluster of the papers. Papers in the same cluster show similar themes. Among 4618 cited references, we had only 31 that met the criteria of at least four co-citations and divided into four clusters (as shown in Figure 4). The first cluster (shown in red with 12 documents) describes the relationship between ESG investment and bank performance. This cluster mainly focuses on how ESG disclosure impacts banks' financial performance. Most of the paper shows the positive impact of ESG disclosure on firm performance. Likewise, the second cluster (green with nine documents) mainly focuses on how sustainability reporting, sustainable practices, corporate social responsibility, and other macroeconomic factors (inflation, government support) impact the performance of financial institutions. Likewise, the third cluster explains (shown in blue with seven documents) managerial decision-making capacity, ownership structure, managers' behavior, the strategic position of the organization, and their impact on bank performance. The last cluster (yellow with three documents) explains the importance of sound corporate governance and corporate social responsibility practices for sustainable performance.

Figure 4: Co-citation of Documents



Source: Authors' calculation by using Vos-viewer

3.2 Content analysis based on the TCCM framework

In this section, we explore the research theme based on the theories used in the studies, the context of the studies, the characteristics of the studies, and the methodology used and prepare the conceptual framework based on the review.

3.2.1 Theoretical development

The theory is the backbone for scholarly development as it structures, contextualizes, and guides the research process, helping to explain the phenomena and develop arguments and hypotheses. Many theories are used to study the relationship between sustainable practices and financial performance of banks. Some theories are in favor of sustainability and performance; however, others are against sustainability and performance. The most used theories supporting sustainability are stakeholders, resource-based, legitimacy, and value creation theories. Stakeholders' theory argues that the long-term success of a firm is determined by the quality of the relationship it has with all stakeholders, so the objectives of an organization should be focused on all stakeholder's needs satisfaction rather than merely the satisfaction of shareholders' needs (Buallay et al., 2020). Likewise, the resource-based theory views investment in sustainable activities as a strategic investment that will create long-term competencies in terms of skills, networks, and infrastructure that are hard to copy by other competitors (Khoury et al., 2021). Similarly, value creation theory posits that investment in sustainable practices creates long-term value for financial institutions (Buallay et al., 2020). In the same vein, legitimacy theory postulates that sustainability practices are required to maintain the long-term legitimacy of the firm (Sideri, 2021).

Theories used against sustainability and performance are agency theory and trade-off theory. Trade-off theory argues the tradeoff between the environmental, social, and governance investment and the firm financial return, implying excessive investment in sustainable activities without considering the financial aspect of the firm causes poor financial performance (Mishra & Sant, 2024). Agency theory stresses that following sustainable banking practices gives opportunities for managers to pursue their interests, which produces inefficiency in banking operations (Buallay et al., 2020).

3.2.2 Context

Context refers to the place and industry in which the study has been conducted. We analyze context in terms of country and sample used for the study. According to the country-wise distribution of the sample, 71 papers are spread among authors from 35 countries. According to publication number, China is in first with 23 documents, India and Malaysia with 17 publications are in second, Indonesia with 17 publications is in third, Itlay with 13 documents is in fourth, Romania with 10 documents in fifth, Baharahin with nine documents in sixth. Interestingly, the USA and the UK took a seventh and eighth position with eight publications. The number of publications exceeds the number of selected papers because multiple authors from different countries co-authored a single paper. Interestingly, researchers in developing countries have been more actively involved in sustainable banking performance research than researchers in developed countries. According to the study's data source, most used secondary data. Forty-three papers used cross-country level secondary data for the study. Likewise, 21 studies used single-country data, and the remaining seven papers are related to conceptual studies.

3.2.3 Characteristics and Content Analysis

This section deals with the identification of the antecedents, outcomes, moderators, and mediators used in the previous study. Through content analysis, we find three categories of antecedent to measure sustainable financing: ESG-related antecedent, green financing-related antecedent, and green banking practices antecedent. The details of the items in each antecedent and their relationship with the dependent variable are described below.

3.2.3.1 ESG-related independent variables and FIs' performance Three are three scores used on ESG-related independent variables: ESG disclosure score (Azmi et al., 2021), Environmental disclosure score (Birindelli et al., 2018), social disclosure score, and governance disclosure score (Chang et al., 2021). We observed that ESG disclosure and bank performance are mostly researched topics and found that ESG investment has many advantages, such as minimization of default risk, production of competence resources (Buallay et al., 2020), less chance of failure at the time of crisis, cost saving, operational excellence (Buallay et al., 2020), easy access of capital and so forth. Overall, ESG investment helps to create long-term value for financial institutions by excelling their performance. There are ample studies supporting the idea that ESG investment improves firm performance (Rastogi & Singh, 2023). Some study shows the linear relationship of ESG on bank performance(A. Buallay, Fadel, Al-Ajmi, et al., 2020), some show a U-shape relationship (Ersoy et al., 2022), some show concave relationships(Khoury et al., 2021) and some show dynamic (Sain & Kashiramka, 2024). Some studies depict a partial impact of ESG on firm performance (Buallay et al., 2020). Of the 45 studies about ESG and bank performance, only two show Negative relationships. These results conclude the growing importance of ESG disclosure for bank performance.

3.2.3.2 Green financing-related Independent Variables and Bank Performance In green financing-related independent variables, the study included green loans (Yin et al., 2021), green lending (Gaudio et al., 2022), access to finance (Nizam et al., 2019), green credit (Yin et al., 2021) and investment on sustainable micro enterprises (Mirza et al., 2023). Yin et al.(2021) concluded that providing green provides benefits from two sides, one, it enhances image, and second, it has long-term returns with low risk. Providing finance to small and medium-scale indigenous industries (Hermawan & Khoirunisa, 2024) creates a positive impact on society and promotes sustainability (Nizam et al., 2019). We found 12 papers that analyzed the impact of green financing on the performance of banks.

3.2.3.3 Green practices related independent variables and bank performance The used variables for green practices were sustainable reporting, green banking performance index (Bose et al., 2021), and green banking practices such as less emission, waste management, and environment risk assessment system (Aslam & Jawaid, 2023). We identified that 14 papers empirically analyzed the impact of green banking practices on banks' environmental, financial, and operational performance. The review also postulates that sustainable practices (Afzal et al., 2024) such as using online facilities (Sayed & Nefzi, 2024), less use of papers, reuse, recycling and reduction strategy, environment risk assessment policy (Aslam & Jawaid, 2023), employee development (Sayed & Nefzi, 2024), tree planting, environmental risk assessment policy for loan evaluation, strategic investment, designing innovative products such as green loan (Mirza et al., 2023), green bond, green deposit have long term positive roles for bank performance (Bose et al., 2021) that ultimately leads to achieve sustainable development goals (Hermawan & Khoirunisa, 2024). Sustainable banks perform better because of investment in less risky sectors (Afzal et al., 2024), good governance mechanisms, socially responsible investment, investment in sustainable projects, and strong connections with society (Moudud-Ul-Huq, 2022).

3.2.3.4 Dependent variable (Bank performance) Most studies (37 studies) measured the impact of independent variables on financial performance. However, some studies also assess social, environmental, and governance performance. The financial performance is measured through ROA (Menicucci & Paolucci, 2023), ROE (Khoury et al., 2021), Tobin's Q (Menicucci & Paolucci, 2023), Market value (Ersoy et al., 2022), EPS, market to book ratio, and stock return(Khoury et al., 2021). The operational performance is measured through Net interest margin (Jaiwani & Gopalakrishnan, 2023) and efficiency in cost reduction, networking, customer retention, and responsiveness(Shah et al., 2019). Likewise, social performance is measured through Social value, trust, employee welfare, innovative products, customer satisfaction, and corporate social responsibility (Aslam & Jawaid, 2023). Finally, environmental performance is measured through emission and waste reduction, energy and water saving, the bank's capability to sanction loans to green projects, relationship with green suppliers, environment certification, etc. (Aslam & Jawaid, 2023).

3.2.3.5 Moderator There are moderators such as corporate governance(Moudud-Ul-Huq, 2022), corporate social responsibility, institutional quality, and use of financial technology (Khattak, 2021) used in the study. The results from the review indicate that all moderators positively impact financial institutions' performance (Birindelli et al., 2024).

3.2.3.6 Control variables Many control variables were used in the papers. The control variables that are mostly used are shown in the conceptual framework (Figure 5), with some citations.

3.3 Conceptual Model Design

After a detailed analysis of the previous literature, the authors designed a comprehensive conceptual framework (shown in Figure 5), which shows the connection between different variables. The framework shows the relationships of antecedent (derived from 3.2.3.2, 3.2.3.3, 3.2.3.4), moderators (derived from 3.2.3.5), and the outcome variable (derived from 3.2.3.4), moderators (3.2.3.5) and control variables (shown in the framework) derived from the entire review process. This framework will be helpful for future researchers to conduct a study on sustainable financing practices and financial institutions' performance.

3.4 Methodology

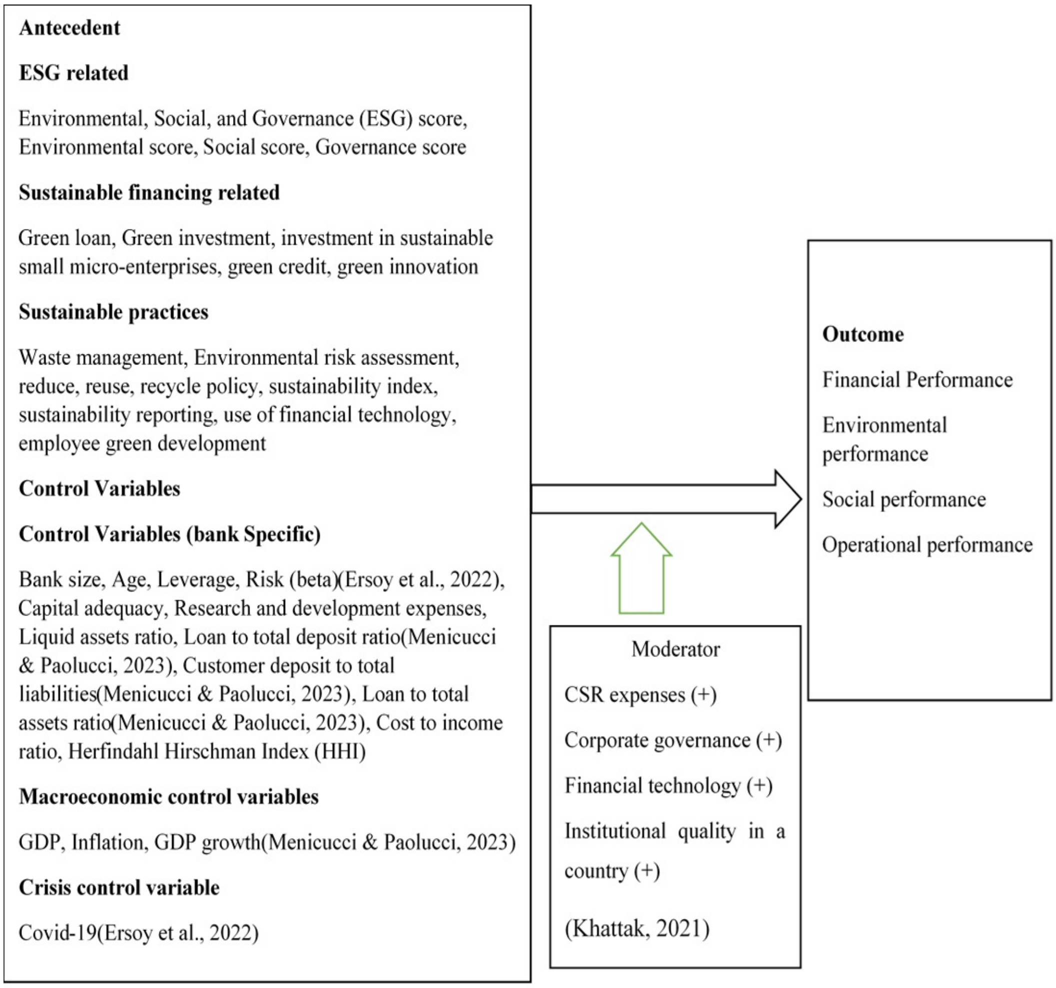
To understand the methodological distribution of the papers, we categorized papers into conceptual and empirical. Conceptual papers' main objective is to explain the concept, helping to develop new theories or expand knowledge (Sureka et al., 2022). Usually, conceptual papers originate from the previous literature. The data is collected and analyzed in empirical papers, and the results are presented. The research is based on either observation or experiment. In this study, a very low number (four) papers were conceptual and review papers, and the remaining 67 papers were empirical. Among empirical papers, 63 followed quantitative research methods, and the remaining four used qualitative research methods. Quantitative papers mostly used secondary data collected through various databases such as Bloomberg, Thompson Reutor, and bank focus databases. These studies also collected data from the annual reports of the concerned banks, world development indicators, and the International Monetary Fund website. Very few papers used primary data (only four papers) collected through field surveys. Qualitative research was conducted using bank reports, and the theme was developed using NVivo software. Likewise, manual content analysis was another way of qualitative research. The popular methods used in quantitative analysis were panel data, dynamic panel data model, ordinary least square regression, and quantile regression. Some papers used other techniques, such as data evolvement analysis (one paper) and descriptive analysis (four papers). The detail of the tools used for data analysis is presented in Table 1.

4 Discussion, Implication and Future Research Directions

4.1 Discussion

The extensive review reveals that scholars brought financial institutions' sustainable performance to their attention after 2015. The reasons are the realization of the importance of mitigation of climate change impacts by the countries, their respective governments, and international agencies, international agreements for mitigation of climate change impacts such as the Paris Agreement, and the development and usage of green taxonomy by different countries. Our results is aligned with study of Galletta et al. (2022) who also reported the increasing trends of research. Likewise, our results show that the research is mostly popular in developing countries like China, India, and Malaysia; however, Galletta et al. (2022) showed the popularity in Developed countries. From our result, it is identified that sustainable financing practices with FI's performance took more attention on emerging economies because of socio-economic challenges, more scrutiny from international investors for investment, and more exposure to climate risk. From the content analysis, we identified that sustainable financing for the FI is important because of the increasing completion, regulators' pressure, and better strategic moves. In the bibliometric and content analysis, Galletta et al. (2022) also focus on the importance of strengthening the capability internally, externally, and strategically for achieving sustainable performance. Likewise, we observed that sustainable practices and financing provide positive results, so financial institutions should focus on green innovation, energy-efficient technology adoption, digitalization in services, green innovation, green product design,

Figure 5: Proposed Conceptual Framework



Source: Authors' design by reviewing previous paper

and many more. In the systematic review study, Akomea-Frimpong et al. (2022) also focused on adopting green banking practices and developing green products. Similarly, we observed the positive results of ESG disclosure in FIs' performance, which implies that disclosing ESG activities will increase trust and help to enhance goodwill and image in society, which increases the sustainable performance of FIs. Likewise, ESG disclosure promotes employees' motivation, shareholders' and creditors' confidence, government support, and customers' engagement, leading to better performance. On bibliometric and meta-analysis results, Khan (2022) also found positive results of disclosure. Besides, we observed that sustainable practices positive results depend upon the country's characteristics, supportive rules and regulations, and the bank's capacity to serve the underserved society, bank nature (Yin et al., 2021), and good governance system (Birindelli et al., 2024), which implies the strong commitment from government, FIs' internal wiliness and well developed corporate culture is necessary for better performance. Nizam et al. (2019) agree on this argument.

4.2 Implication of the Study

The study has both theoretical and practical implications. The theoretical implication is that following sustainable financing enhances the FIs' performance, supporting the legitimacy and stakeholders' theory. From the theoretical perspective, the focus of the FI's should be considering the wide aspect of society rather than just focusing on the shareholders' profit maximization.

There are several practical implications. First, the study can be useful to FIs' executives. As sustainable financing has a long-term positive impact on the performance of the FIs, executives can follow green practices, promote green financing through the design of green products, and disclose both financial and non-financial information transparently for the long-term performance of their institutions.

Second, the regulators and government can design policies that promote sustainable practices, provide incentives to FIs that promote sustainable practices, and conduct different awareness programs focusing on stakeholders in society about sustainable practices. Further, plans and policies related to sustainable financing need to be widened, providing incentive provisions for sustainable products and services of FIs and tax exemptions for sustainable product use to the FIs, to include

Table 1: Tools Used for Data Analysis

Tools used	Number of Paper	Exemplary citation
Panel and dynamic panel	46	(Azmi, Hassan, Houston, & Sydul, 2021; Rastogi & Singh, 2023)
Descriptive analysis	4	(Bowers et al., 2020)
Content analysis	3	(Mishra & Sant, 2024)
Data envelopment analysis	1	(Shah et al., 2019)
Ordinary regression	5	(Del Gaudio et al., 2022)
Review	4	(Hermawan & Khoirunisa, 2024)
Structural equation modeling	4	(Aslam & Jawaid, 2023)
Vector Autoregressive Distributed Lag Model	3	(Istudor et al., 2022)
Qualitative analysis using NVivo	1	(Sharma & Kumar, 2023)

Source: Authors calculation through review of papers

more aspects of sustainability.

Third, the business and commerce sectors can also use innovative and green technology, develop green products, invest in sustainable infrastructure, and follow green practices to excel in sustainable performance.

Fourth, academic institutions can incorporate the sustainability issue in their curriculum and conduct seminars and conferences to further widen the knowledge in the sustainability area, as this area is emerging and needs massive development.

Fifth, the study can be a basis for future researchers and help them to build their research work based on the themes and gaps identified in this paper. This research can guide further research in this direction; researchers who wish to work in this area can go through the section on future research directions, which is thoroughly elaborated.

4.3 Future Research Directions

Although a comprehensive review covers wide aspects of sustainability, there are some grounds for future research avenues. Regarding the theoretical perspective, the theory of planned behavior, strategic choice theory, and upper echelons theory could be tested in the future as stakeholders' behavior, organization shifts from conventional banking to sustainable banking, and top-level diversity may impact performance. Coverage of other financial institutions (microfinance, insurance companies), comparative study of global south vs. global north, democratic countries vs. communist countries and banks in the western region vs. eastern region, less developed countries vs developing countries are future research avenues according to contextual perspective. From the characteristic's perspective, we found no mediator used in the studies, although some used moderators. Mediators such as support from the government, awareness and educational level of employees, employees' motivation on sustainable practices, green supply chain, and the impact of blockchain technology and artificial intelligence may be used for future study. Likewise, more studies are required to cover operational, social, operational, and strategic performance, as most studies focus on financial performance. We found a dearth of scholarly publications focusing on qualitative and mixed-method approaches, necessitating in-depth study using observation, the Delphi technique, focused group discussion, and interviews. Likewise, we observe negligible studies using primary data. For data analysis, tools such as quantile regression, textual analysis, sentiment analysis, and machine learning tools and techniques can be used for future research.

5 Conclusion

The study's objective was to comprehensively review the previous literature on sustainable financing and FIs' performance using bibliometric and TCCM approaches. The study used the same approach and found that the FI should follow sustainable practices ethically and willingly to achieve better results. The study provides implications and future research directions. Besides, the study has certain limitations as the study used only Scopus and Web of Science databases. Despite this limitation, this is the first study to provide a wider overview of the review in this area using a comprehensive review technique.

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