Eagle International Journal of Research, Innovation and Health Sciences

An International Peer Reviewed, Open-Access and Multidisciplinary Journal
Volume 1 | Issue 3 | June 2026 |ISSN:3141-4907
Website: https://eijrihs.com

GREEN FINANCE AND ESG STRATEGY UNDER ENVIRONMENTAL GOVERNANCE SYSTEMS: A BIBLIOMETRIC AND SYSTEMATIC REVIEW (2015–2026)

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Abstract

In this study, literature review was conducted using the method of bibliometric and systematic review, which covered the period of 2015-2026. The study focused on the Stakeholder Theory, Institutional Theory and the Natural Resource-Based View Theory which explains the growing inclusion of sustainability issues in corporate governance and financial systems. The bibliometric data obtained from the Dimensions database was used for analysis in VOSviewer and Biblioshiny to look for publication trends and the field's intellectual structure. The results showed that there is a significant increase in research related to sustainability, especially since 2020, due to the rise in focus on ESG disclosure, climate finance and environmental responsibility globally. The research also identified thematic clusters as the most important ones concerning green finance, integration of ESG principles, environmental governance, corporate sustainability and green innovation. Overall, the results showed that the study of sustainability governance is a developing and growing interdisciplinary field, with growing scholarly and policy relevance.

Keywords: Bibliometric analysis; Corporate sustainability; ESG strategy; Environmental governance; Green finance

1.0 INTRODUCTION

The debate on sustainability has transitioned from a voluntary CSR to a systematic incorporation of financial, strategic and compliance strategies in the global dialogue. In particular, the overlap between systems of environmental governance and financial tools for green investments is a central legacy from an present-day conversation on sustainability or corporate responsibility (OECD, 2020; United Nations Environment Programme (UNEP), 2023).

Over the past decade green finance has evolved from a targeted policy instrument to a financial framework designed systematically to leverage capital flows into sustaining and transforming green investments. Climate funds (Zhou et al., 2022), green bonds, and sustainability-linked loans are all well-established instruments used to address environmental externalities and low carbon transitions. Alongside, a recent trend of escalating scrutiny from investors and the stricter expectations from regulators as well as reputational concerns for firms is reflected in the rising prominence of ESG strategy with more companies tending to embed environmental and/or social considerations into core strategic decision-making processes (Friede et al. 2015; Gillan et al. 2021).

Environmental governance systems, the regulatory foundations that get constructed through laws, institutions, enforcement and policy frameworks have a large impact on how sustainable challenges are addressed by firms and financial markets. Long established governance frameworks have positive impacts on environmental performance, transparency and green capital utilisation (World Bank 2022). However, these systems in developed and emerging economies perform differently depending on respective levels of development of institutions and enforcement structures, with a wide disparity (Li & Ullah, 2023).

Despite the emergence of abundant literature across different disciplines related to green finance and green strategy in the context of ESG strategy, it remains still fragmented. Whereas the finance community care more about investment performance and risk management, the management scholars are primarily interested in what it means for integration of ESG, and firm-level strategy. Similarly, environmental law and policy studies analyze how well regulation works and often miss the economics or strategy. Such disconnection limits the opportunity for establishing a unified conceptual view of the relationship between environmental governance systems and corporate strategy and financial innovation and sustainability outcomes.

Although a considerable number of empirical studies focusing on specific relationships such as ESG-disclosure and performance of the firms or green finance and carbon reduction, vast studies mapping its intellectual structure and thematic development in this interdisciplinary field are lacking. In particular, what is missing are systematic bibliometric studies that connect green finance strategically and environmentally in the context of ESG strategy and governance.

These gaps have recently been more broadly filled with the help of two literature review methods that researchers can utilize to trace how research flows, examining scientific publications quantitatively through bibliometric analysis or systematic literature reviews, respectively (Donthu et al., 2021). Such methods offer a more structured and reproducible synthesis of knowledge compared to the "traditional" narrative review, particularly in rapidly changing fields like sustainability and climate finance.

In this context, this research presents a bibliometric review and a systematic literature review of literature related to green finance and ESG strategy in environmental governance systems from 2015 to 2026. The study concentrates on two major focuses:

1. To analyse publication trends and growth patterns in research on green finance, ESG strategy, and environmental governance.
2. To identify the intellectual structure and thematic clusters shaping the field.

By addressing these objectives, the study aims to provide a consolidated understanding of how sustainability-oriented financial systems and governance structures interact, while also highlighting emerging research directions for scholars, policymakers, and practitioners.

2.0 LITERATURE REVIEW

2.1 Green Finance and the Transition Toward Sustainable Capital Allocation

Green finance has emerged as a critical tool to facilitate the transition of economies towards green. Overall, green finance includes the financing of sustainable projects, climate mitigation, renewable energies and low-carbon economy (Organisation for Economic Co-operation and Development [OECD], 2020). In the absence of existing environmental externalities specific to the traditional financial system, coupled with climate change, and environmental degradation rising to prominence on the international stage, green finance is increasingly becoming a priority task in the world (United Nations Environment Programme [UNEP], 2023).

In the last ten years, an increasing number of financial products and instruments targeting environmental projects have been launched in the financial markets (see for example green bonds, sustainability linked loans, climate funds etc. Over the 10 years, financial markers have published many green bonds sustainability linked loans climate funds etc. across the globe. There is an increasing number of sustainable financial instruments showing a structural change in resources allocation where environmental factors play a bigger role in determining investment behavior (Zhou et al., 2020). International commitments such as the Paris Climate Accord and the Sustainable Development Goals (SDGs) have further tantalized this change by emphasizing a link between our financial systems and sustainable development.

Methodologically, the development of green finance will be analysed using institutional theory that posits the behaviour of organisations as governed by regulatory pressures (coercive isomorphism), normative expectations and social legitimacy needs (DiMaggio & Powell, 1983). Environmental Sustainability is increasingly a dimension of global governance and firms and financial institutions are progressively adopting green financing practices to maintain legitimacy in order to live up to societal expectations.

Despite the increasing discourse surrounding green finance, literature remains bifocal and decentralized across disciplines. A number of studies look at the likely profitability or return implications from green investment, and other studies examine implementation of green policy, environmental effects or investor behaviour in isolation. Accordingly, the connections between green finance literature and wider ESG strategy and environmental governance systems are insufficiently formed at this time.

Moreover, past studies highlight an ambiguous influence of green finance on the long-term sustainability outcomes. In addition, weak regulation frameworks, and also greenwashing can diminish the effectiveness of green finance but others argue surrounding its potential for carbon reduction and sustainable innovation (UNEP 2023). The contradictory findings lead us to propose an integrated understanding of institutional and strategic determinants in embracing or implementing green finance.

2.2 ESG Strategy and Corporate Sustainability Transformation

The Environmental, Social and Governance (ESG) strategy has been an increasing component of the sustainability dialogue for companies in recent times. The ESG strategy is the embedding of environmental, social and governance (ESG) principles into processes used to make corporate decisions, develop corporate strategies and assess potential investment opportunities for corporates (Gillan et al., 2021). ESG strategy is instead often embedded within governance structures and long-term value creation in the organisation, as opposed to being centered on conventional corporate social responsibility strategies.

This is based on increasing focus by stakeholders (due to the heightened awareness of environmental and social issues, especially following the pandemic), regulatory scrutiny (increasing disclosures related to ESG practices across many geographies), and investor expectation/reputation. Whole companies have been challenged over the last few years to demonstrate transparency for their actions in environmental management, social responsibility and governance quality—these are important for legitimacy within global markets (Friede et al. Consequently, ESG disclosures have gained significance as one of the most important dimensions of corporate responsibility and sustainability.

The ESG strategy is founded by the stakeholder theory whish states that there are obligations on organisations to a wider range of stakeholders than shareholders, who are affected by the actions of organisations (Freeman, 1984). Status quo ECOP Published on January 11, 2022 In this regard, the ESG practices have designed to be strategically executed as a tool for the companies based on stakeholder relationship management, legitimacy reduction and the enhanced sustainability of the firm in a horizon.

It has been empirically proven that a well-managed ESG performance generates (i) higher resilience against financial difficulties, (ii) lower costs of capital and (iii) an improved image among stakeholders (Gillan et al., 2021). But there are also some roadblocks to ESG implementation. These include comparing the real sustainability impact from goods between industries and jurisdictions, inconsistencies in disclosure standards and ESG rating methodologies.

A further problem revolves around the inconsistent nature of conducting ESG practices across countries. There are several sustainability reporting frameworks available, but there are many developing economies where such corporate disclosures are neither well established nor widely comparable as well (LiUllah, 2023) processes and regulations in developed economies incite stricter investor expectations. The institutional difference shows that the ESG strategy is not entirely comprehensible in isolation unless embodied environmental governance systems within which organisations are embedded are considered as a critical aspect of our holistic understanding.

Despite a growing amount of ESG research in overall, as the chart below indicates, the available research is almost entirely confined to either firm performance or disclosure quality (see Figure 1). Organizational forms of environmental governance have received less attention in terms of their impact on ESG strategy adoption and linkages from ESG practices to green financial systems. Many of them are working in silos, leading to fragmentation that prevents the expansion of a large-scale sustainability governance framework.

2.3 Environmental Governance Systems and Regulatory Influence

Environmental governance is a term used to describe the set of institutional structures, laws, regulations, and enforcement that govern environmental resources and activities that affect the environment (World Bank, 2022). These governance systems are local, national and international, and they are essential to influencing corporate environmental conduct and sustainability results.

The challenges of climate change, biodiversity loss, pollution and resource depletion have grown more and more urgent globally, making environmental governance systems more significant. Over the years, Governments and international organisations have therefore stepped up their work to develop environmental standards, carbon disclosure mandates and sustainability reporting frameworks to encourage responsible business practice (UNEP, 2023).

Environmental governance systems can work very differently at the institutional level. Enforcement capacity, sustainability reporting frameworks and monitoring systems are typically more robust in developed economies. On the other hand, regulatory uncertainty, poor institutional enforcement, and lack of environmental accountability tools remain issues in many emerging markets (Li & Ullah, 2023).

The legitimacy theory (Suchman, 1995) can be used to explain the link between firms and environmental governance systems, since organisations strive to gain (or maintain) social acceptance and institutional legitimacy within their operating environments. Stricter environmental legislation makes companies more inclined to implement sustainability-related actions, such as releasing environmental, social, and governance (ESG) reports and green financing projects, to meet society's expectations and sustain their business legitimacy.

Still, in the field of environmental governance, financial systems and the corporate strategy are typically secondary issues rather than the core drivers of sustainability transition. This means that the direct impact of governance systems on the adoption of green finance and implementation of green strategies remains to be understood. This is especially relevant in the context of the mutual dependence of environmental regulation, financial sustainability and corporate governance as these are becoming more intertwined.

2.4 Integrating Green Finance, ESG Strategy, and Environmental Governance

While green finance, ESG strategy and environmental governance are commonly researched in the sustainability literature, there are often studies in isolation that focus on one aspect of sustainability, rather than treating them as three interrelated dimensions of a larger sustainability landscape. Numerous empirical studies analyse only one specific relationship (e.g. ESG and firm performance, green finance and environmental investment, governance and regulatory compliance, etc.), and few studies have sufficiently combined all three dimensions into a single analytical framework.

In reality, these are very interdependent, however. Environmental governance systems set guidelines and requirements for compliance, influencing the sustainability behaviour of organisations. ESG strategy is the internal strategic approach that companies have taken to meet the expectations and green finance is the financial tools to finance sustainability-driven projects and transition.

This interrelationship can be explained further by the Resource Based View (RBV) that suggests that the firm attains sustainable competitive advantage by cultivating valuable and hard-to-imitate organisational capabilities (Barney, 1991). In this sense, ESG capabilities and green finance appear as strategic resources that will be able to strengthen the long-term competitiveness, institutional legitimacy and adaptive capacity of companies in environmentally regulated markets.

Although there is conceptual congruence, the literature is still theoretically and empirically disparate. There are limited studies that offer a comprehensive synthesis of the relationship between environmental governance systems and green finance mechanisms and their impact on the ESG strategy. This growing research field is therefore not yet well understood in terms of its intellectual framework.

2.5 Theoretical Synthesis and Research Gap

Based on the literature reviewed in this study, the three most common paradigms in the research literature investigating the concepts of green finance, ESG strategy, and environmental governance systems are identified. First, in the institutional perspective, regulatory and societal forces shape the financial and organisational behaviour related to sustainability (DiMaggio & Powell, 1983). Second, stakeholder theory calls attention to the importance of stakeholder expectations in influencing the decisions made in formulating the ESG strategy (Freeman, 1984). Thirdly, the Resource Based View suggests how the sustainability capabilities can be understood as strategic organizational resources that can help sustain organizational competitiveness (Barney, 1991).

Such theoretical perspectives offer valuable insights, but are seldom combined in one analytical framework. Likewise, the existing empirical research is scattered across different fields of disciplines, which does not allow for a systemic understanding of the interdependent links between green finance, ESG strategy and environmental governance systems.

Therefore, there is an urgent need for a structured bibliometric and systematic review that can capture the intellectual structure, thematic development and emerging trends in this fast growing field. This would give a more holistic appreciation of the dynamics between sustainability-oriented financial systems, strategic environmental, social and governance (ESG) management and environmental governance mechanisms in the current body of research.

3.0 METHODOLOGY

3.1 Research Design

This study is designed as a combination of bibliometric analysis and systematic literature review. Based on the presented research questions, this study follows a hybrid bibliometric and systematic literature review methodology in order to analyze the intellectual structure and thematic evolution of research on green finance, ESG strategy, and environmental governance systems. This methodological approach is in line with the expanding body of knowledge in sustainability that spans finance, strategic management, environmental policy and governance studies.

A bibliometric review is, basically, a quantitative study of academic publications that produces statistics and visualisations to elucidate the dynamics of publishing, citation structure, research trends, and scholarly networks (Donthu et al., 2021). Bibliometric approach is more objective and less subjective compared to narrative approach to review, which makes it more reproducible for synthesis of vast number of scientific publications. Research trends in a field can be quantitatively and qualitatively described by bibliometric analysis, which utilizes systematic review procedures.

The bibliometric and systematic review method is an increasingly utilized methodology in recent sustainability studies as it well provides helpful insights regarding the subliminal intellectual structure, new emerging trends and research gap in a fragmented knowledge domain (Baier-Fuentes et al., 2019). To the extent that a methodological approach which combines both is considered appropriate to analyzing the growing body of literature that specifically links green finance, ESG strategy and environmental governance.

3.2 Data Source and Database Selection

The following data were retrieved and analyzed in this study from the Dimensions database. Dimensions is a multi-disciplinary scholarly database that offers comprehensive coverage of peer-reviewed academic publications through various research areas such as business, finance, environmental sciences, public policy and sustainability studies (Digital Science, 2024).

There are a number of justifications for the choice of Dimensions. First, the database provides wide multidisciplinary coverage and rich bibliographic metadata which increases the reliability and completeness of bibliometric analysis. Second, the use of Dimensions is growing in modern-day bibliometric and systematic review research due to its integration with analytical tools like VOSviewer and Biblioshiny, which enable citation mapping, keyword co-occurrence analysis, and thematic grouping, among others (Donthu et al., 2021). Third, the database covers the literature comprehensively in the field of sustainability, and thus is particularly suitable for studying interdisciplinary research areas like green finance, ESG strategy, or environmental governance systems.

While other databases like Web of Science and Scopus are also commonly used in bibliometric studies, the present study was selected to be conducted in Dimensions because of its accessibility, its indexing scheme and its ability to be used for large scale bibliometric mapping and systematic literature analysis, as the database is multidisciplinary.

3.3 Search Strategy and Data Retrieval Process

A pre-defined and structured search strategy to systematically identify relevant literature. Identification of Classification Schema The query was centered around the three significant conceptual domains that constitute the study; on green finance, ESG strategy and environmental governance.

We created the search string via combinations of keywords and Boolean operators as follows:

(“green finance” OR “sustainable finance” OR “climate finance” OR “green investment”)
AND
(ESG OR environmental social governance OR ESG strategy OR sustainability strategy)
AND
(“governance of the environment” OR “regulation of the environment” OR “policy on climate” OR “climate governance”)

The search query was employed to build the articles' titles, and it was placed into the abstracts as well as in the author keywords to enhance thematic relevance and reduce thematic miss by excluding potentially relevant articles from search. Four types of filtering relevant to time, four related to type or kind of publication and one not directly related (as the people). This time frame was selected because of the increasing relevance of sustainable or social finance reporting frameworks, climate financing efforts and investments behavior tied to environmental, social and governance (ESG) issues following the Paris Climate Agreement and Sustainable Development Goals (SDGs) (OECD, 2020). The first search yielded a large number of publications which were subsequently screened with an increasingly focused approach using the same criteria by topic i.e automatic and methodological relevance. The exported records were saved in a csv file for the purpose of bibliometric mapping and analysis using bibliometric visualisation tools.

3.4 Inclusion and Exclusion Criteria

To ensure the quality and relevance of the dataset, clearly defined inclusion and exclusion criteria were established before the screening process. These criteria were developed to enhance transparency, consistency, and replicability within the review procedure.

Inclusion criteria:

- Peer-reviewed journal articles
- Publications written in the English language
- Articles published between 2015 and 2026
- Studies focusing on green finance, ESG strategy, or environmental governance
- Publications retrieved from the Dimensions database

Exclusion criteria:

- Conference papers, editorials, book chapters, notes, and review comments
- Duplicate publications
- Articles lacking abstracts or complete bibliographic information
- Studies unrelated to sustainability finance, ESG systems, or environmental governance

The application of inclusion and exclusion criteria is essential in systematic review studies because it enhances conceptual consistency and minimises the inclusion of irrelevant or low-quality publications (Snyder, 2019).

3.5 Screening and Data Cleaning Procedure

After screening, retrieved items were downloaded from the Dimension database in CSV file (see supplementary file) for bibliometric analysis. To ensure there was no duplication within the data set, duplicate records were identified and removed. The titles and abstracts of the articles were then screened by hand for relevance to the aims of the study. As supplementary material, the bibliometric data exported in CSV format was kept to ensure transparency and reproducibility.

Data cleaning is an important step for bibliometric analysis as the raw databases exported can contain unrelated records, inconsistent keywords and incomplete metadata which may lead to distorted analytical outputs (Donthu et al., 2021). This screening process therefore excluded studies that were not conceptually relevant to the framework and only incorporated those studies that included the term "green finance" or "ESG strategy" or "environmental governance systems" for analysis.

Apart from that, the procedures of keyword harmonization were also carried out to increase the consistency in the thematic mapping process. To minimize the fragmentation of keywords and terminology in the use of similar keywords during the keyword co-occurrence analysis, the terminology was standardized. For instance, in order to enhance the consistency of the analyses, the terms "ESG", "environmental social governance" and "ESG practices" were harmonised as appropriate in the context of clustering the interpretation.

3.6 Bibliometric Analysis Techniques

The study employs both performance analysis and science mapping techniques to examine publication trends and the intellectual structure of the literature. Performance analysis was used to evaluate the growth and development of research within the field. Specifically, the analysis focused on:

- annual publication trends,
- citation patterns,
- influential journals,
- and major contributing countries.

Science mapping techniques were employed to visualise conceptual relationships within the literature. These techniques include:

- keyword co-occurrence analysis,
- citation analysis,
- and thematic clustering.

Keyword co-occurrence analysis was especially relevant, as it allowed researchers to determine both dominant research fields and new concepts or trends in the literature (van Eck & Waltman, 2010). Citation analysis was also used to help identify influential publications in the intellectual structure of the field, and thematic clustering to group related sustainability themes in the dataset. For the purpose of the study's goals of performance analysis and identification of thematic structure, this combination of the two types of techniques was deemed suitable.

3.7 Analytical Tools

VOSviewer and Biblioshiny are two popular bibliometric software packages that are used for scientific mapping and data visualization.

VOSviewer was used to create network visualisation maps from the citation relationships and the word co-occurrence patterns in the dataset. Van Eck and Waltman (2010) found that VOSviewer's clustering and mapping features are especially useful in visualising large bibliometric networks.

Some descriptive bibliometric statistics and thematic evolution maps were created with the aid of Biblioshiny, a program developed within R. These tools were integrated to support analytical robustness and thematic or conceptual relationships were visualised from the literature.

The application of VOSviewer and Biblioshiny was deemed relevant for the identification of publication trends, of thematic clusters, and of the intellectual structure of research on green finance, on the ESG strategy, and on the environmental governance systems.

3.8 Reliability and Validity Considerations

The reliability and validity of the study was ensured by implementing several measures. The use of the Dimensions database made it easier to have more reliable data, as it offered wide coverage of multidisciplinary data and standardised bibliographic metadata for bibliometric analysis. Second, the use of established inclusion and exclusion criteria enhanced the construct validity of the study by only including those publications within the study that are relevant in concept.

Furthermore, the methodological consistency and the reproducibility were improved by implementing transparent screening and data cleaning. Analytical reliability and consistency in mapping was further reinforced by the use of recognized Bibliometric tools, including the VOSviewer and Biblioshiny. In order to ensure an interpretive validity, the bibliometric results were supplemented with systematic thematic interpretation. This hybrid method allowed for both quantitative mapping and qualitative synthesis, resulting in a holistic understanding of the research landscape in the field of green finance, environmental governance systems, and an ESG strategy.

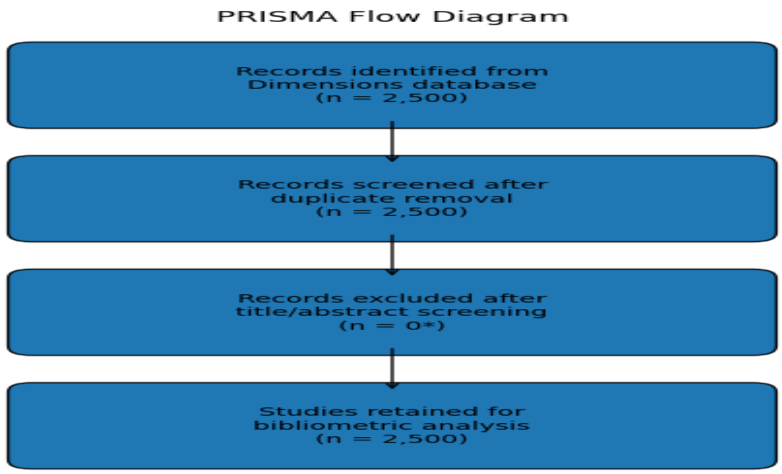

Figure 3.1: PRISMA flow diagram of the literature retrieval and screening process.
Source: Author's compilation using Dimensions database (2026)

`4.0 RESULTS AND DISCUSSION

4.1 Overview of the Retrieved Literature

Additional literature retrieved also highlighted the interdisciplinary nature of the field as papers were spread across journals of environmental management, sustainability studies, corporate governance, finance, public policy, and strategic management. The interdisciplinary distribution suggests that the research on green finance and ESG strategy has gone beyond the traditional environmental studies scope to the wider governance and strategic management arena.

4.2 Publication Trends and Growth Patterns

As shown by Table 4.1, during this period, the number of scholarly publications on the topic of green finance, ESG strategy and environmental governance has increased significantly. The volume of publications also began to grow significantly since 2020, showing mounting world scientific interest in financial systems and governance that are focused on sustainability.

Table 4.1: Annual Publication Output (2015–2026)

Year	Number of Publications
2015	1
2016	1
2017	1
2018	4
2019	7
2020	27
2021	56
2022	128
2023	279
2024	529
2025	1,043
2026	424
Total	**2,500**

Source: Author's bibliometric analysis using Dimensions database (2026)

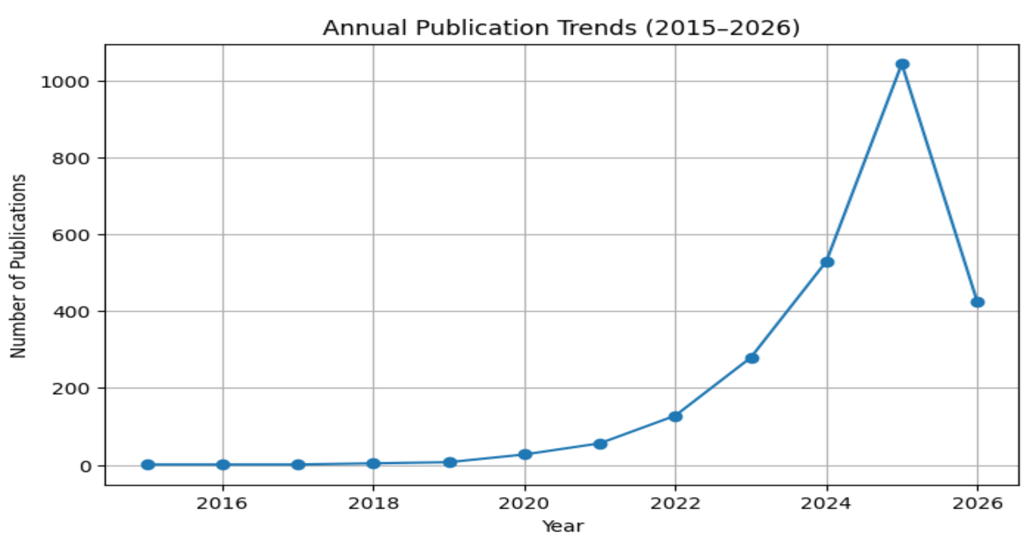

Figure 4.1: Annual publication trends in green finance, ESG strategy, and environmental governance research (2015–2026).
Source: Author's bibliometric analysis using Dimensions database (2026).

As shown in Figure 4.1, the volume of publications on the subject of green finance, ESG strategy, and environmental governance has significantly grown from 2015 to 2026. The results show that the level of publication has not been high in the years studied (2015–2019) and only a few studies have been published each year in the initial years of the review period. Specifically, one publication in 2015, one in 2016, one in 2017, four in 2018 and seven in 2019.

Since 2020 however, there has been a significant increase in the rate of publications. In 2020, 27 publications were released and in 2021 the number of publications rose to 56, and then to 128 publications in 2022. This was further accentuated during the following years, with 279 publications in 2023 and 529 publications in 2024. The number of publications peaked in 2025 with 1,043 publications, and at the time of data extraction 424 publications have been recorded in 2026.

The noticeable rise in publications since 2020 indicates a burgeoning global academic interest in governance systems and responsible financial practices that promote sustainability. The increase in the need for greater international uptake of ESG disclosure frameworks, climate finance, carbon neutrality, and sustainable investment systems as a result of major global sustainability policy initiatives like the Paris Climate Accords and Sustainable Development Goals (OECD, 2020) could contribute to the growth pattern.

The results show that the study of green finance, ESG strategy and environmental governance is in the process of becoming a rapidly growing and increasingly influential interdisciplinary research field.

4.3 Leading Journals and Source Distribution

Table 4.2: Leading Journals in the Dataset

Rank	Journal	Number of Publications
1	*Journal of Environmental Management*	376
2	*Environmental Science and Pollution Research*	177
3	*Sustainability*	135
4	*PLOS ONE*	106
5	*Heliyon*	92

Source: Author's computation from the Dimensions dataset (2026)

From the results shown in Table 4.2, journals on sustainability and environmental management drive publications activity in this field. This suggests that research on green finance and ESG systems would remain closely connected to the debates in environmental governance and sustainability up until October 2023.

The bibliometric results identified some of the journals as the biggest publication outlets for this field. The number of sustainability-related academic publications, in the topic and by journals, indicates that research on this field is heavily concentrated in domain of environmental management.

The publisher with the greatest number of publications in the data set was Journal of Environmental Management (376), which encompasses journal articles and book reviews on sustainability finance, ESG systems, and environmental governance. Environmental Science and Pollution Research came next, with 177 publications, followed by Sustainability (135 publications). PLOS ONE and Heliyon, two of the journals in the dataset that have made an impact on interdisciplinary sustainability research.

Except for most environmental management and sustainability journals, green finance and ESG research predominantly has strong linkages with the discussions of environmental governance and sustainability policy. At the same time, there is an increasing overlap among the publications, with interdisciplinary journals emerging on governance, finance and sustainability issues appearing in social science-oriented publications.

In addition, the findings indicate that research on sustainability/gGovernance has been incorporated in mainstream debates about corporate responsibility, climate change adaptation, environmental laws and sustainable development.

4.4 Geographic Distribution of Research Output

Table 4.3: Major Contributing Countries

Rank	Country	Number of Publications
1	China	987
2	India	98
3	Italy	41
4	United Kingdom	37

Source: Author's computation from the Dimensions dataset (2026)

According to Table 4.3, China becomes the one with most research contribution in this data set and he has been increasingly studying on green finance, ESG systems and sustainability governance. Findings also reveal an increasing participation of developed and developing countries in this kind of research.

Most publications are dominated by a few, very geographically concentrated producing countries. In the data, China was at the top position in number of papers with 987 publications. This again was a relatively large contribution versus other countries in the dataset.

India ranked second with 98 publications, followed by Italy (41 publications), and United Kingdom (37 publications). The analysis shows that academic research on sustainability, from the financial and governance dimensions, is increasingly published globally (i.e., in both developed and emerging economies), however publishing continues to be very concentrated.

That helps to explain why China has a high research footprint, as its investment in green finance programs, climate governance reform and transformations of the economic system that focus on sustainable development only increases. This may have something to do with the increased emphasis on carbon neutrality, sustainable investment, and environmental responsibility in China, as academic research in those fields has surged.

Although there has been an increase in internationalisation of sustainability research, the results indicate a low share of outputs originating from many developing countries, particularly in Africa and lower-middle-income economies. This suggests that sustainability governance research across the worlds institutional contexts still lacks uniformity.

4.5 Intellectual Structure and Thematic Clusters

Table 4.4: Major Thematic Clusters Identified in the Literature

Cluster	Major Keywords	Research Focus
Cluster 1	Green finance, green bonds, climate finance, sustainable investment	Sustainable financial systems and climate-oriented investment
Cluster 2	ESG, ESG disclosure, corporate governance, sustainability strategy	Corporate sustainability and ESG integration
Cluster 3	Environmental governance, environmental regulation, climate governance	Governance systems and environmental accountability
Cluster 4	Green innovation, sustainable development, environmental technology	Sustainability innovation and organisational adaptation

Source: Author's thematic clustering from bibliometric mapping using Dimensions database (2026).

The thematic clustering analysis, as seen in Table 4.4, demonstrates that the literature is structured around interconnected sustainability themes linking finance, governance, corporate strategy, and environmental innovation systems.

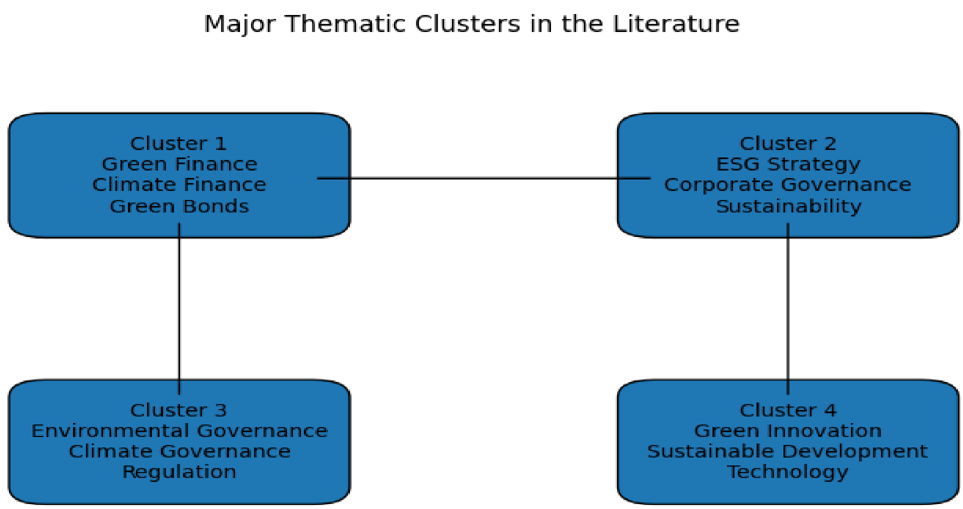

Figure 4.2: Major thematic clusters identified in the literature.
Source: Author's bibliometric mapping using Dimensions database (2026).

Keyword co-occurrence analysis and thematic mapping were performed as two data analysis methods for the intellectual structure of literature. The results suggest that the sustainability literature has many concepts and themes that are interrelated.

Here, we collect the most frequent words in our data set:

- green finance,
- ESG,
- sustainability,
- environmental governance,
- climate finance,
- sustainable development,
- environmental regulation,
- corporate governance,
- and green innovation.

According to bibliometric mapping, the identified keywords are extremely related with sustainability finance, the governance systems and the corporate sustainability practices. The findings also indicate that the intellectual scope of this area has moved away from sustainability discussions towards more inter-disciplinary explorations of finance, governance and accountability systems within environmental accounting.

As shown in figure 4.4, the analysis of thematic mapping showed that there are four main thematic clusters in the literature.

Cluster One: Green Finance and Sustainable Investment

The first one focuses primarily on the systems and mechanisms of green finance and sustainable investment. This cluster is characterised by different terminologies such as green bonds, climate finance, sustainable investment, carbon financing to a more environmentally oriented financial systems. There have been research works in this domain that examine the power of financial institutions and The political economy of financing investments for sustainability objectives and low carbon economic transitions.

Cluster 2: Corporate Sustainability and ESG Strategy

The second set is focused on ESG strategy, sustainability disclosure/corporate governance and accountability to stakeholders. Research within this cluster centres largely on the integration of ESG and its consideraton in corporate decision-making processes and sustainability reporting. The findings indicate an increasing attention in the academic field regarding ESG disclosure frameworks and sustainability performance of companies.

Cluster 3: Environmental Governance systems, environmental policy frameworks, climate governance and regulatory compliance mechanisms. This cluster of studies liaise with the communes centric area of operation researching factors that affect environmental accountability and sustainability practices, focusing on institutional & regulatory frameworks both in respect to organisations and financial systems.

Cluster Four: Green Innovation and Sustainable Graduate

The fourth thematic cluster concerns green innovation, sustainable technology development and sustainability transformation of organisations. In recent years, innovation and sustainable capacities are being consulted for their role in achieving the goal of sustainable environmental and economic objectives.

4.6 Discussion of Findings

This study affirms the expansion of green finance, ESG strategy and environmental governance research over last 5 years as a more interdisciplinary and connected topic.

The trend analysis of publications indicates that the field of sustainability financial and governance research has generated much more momentum, particularly since 2020. It demonstrates the increased interest in global financial systems for climate change, ESG reporting and sustainability governance within academia and institutions.

The thematic structure also illustrating how green finance intersects with ESG strategy and environmental governance under modern sustainability concepts. Older research usually covered these topics independently, but newer research has been beginning to overlap financial governance and strategic sustainability perspectives within the notion of sustainability governance.

To some extent, however, the results also reflect ongoing geographic polarization, notably relevant among larger economies like China. This suggests for much more comprehensive academic interest in governance issues around sustainability within unexamined developing regions.

The bibliometric evidence does indeed demonstrate that the research of green finance, ESG strategy and environmental governance systems is a rapidly evolving field of research with continued high publication output, increasing thematisation and interdisciplinary synthesis.

5. CONCLUSION AND FUTURE RESEARCH DIRECTIONS

The aim of the present study is to carry out a bibliometric and systematic review of the literature on the topics of green finance, ESG strategy, and environmental governance systems that occurred in the period 2015–2026. The study explored publication trends, and the intellectual structure underlying sustainability-focused financial and governance research using data retrieved from the Dimensions database and analysed with bibliometric and theme mapping methods. The results indicate a significant growth in scholarly research on green finance and governance systems for ESG over the past years, especially since 2020. The surge in publications highlights the significant rise in the importance of sustainability reporting, carbon neutrality, climate finance mechanisms, and environmentally responsible investment systems in recent years at a global level. The results accordingly validate the development of sustainability oriented governance research as an interdisciplinary field that has grown in everyday speed and has gained growing attention among academia, institutions and policies.

The study also shows that the literature essentially has a framework of themes that are interconnected and organize the literature around green finance, ESG strategy, environmental governance, sustainable investment systems and green innovation. The thematic clustering analysis shows a growing convergence between sustainability finance and governance-related research in the movement towards more comprehensive sustainability governance frameworks. Furthermore, the results indicate a geographical polarisation of research production in a limited number of countries, with China as the main producer in the sample. This indicates that research on sustainability governance is still heavily skewed by countries with more robust institutional arrangements, sustainability policies and research capacities.

Beyond the field's expansion, the results suggest some research gaps as well. In particular, there is little representation from developing countries, particularly from Africa and from low-income institutional settings, pointing to the need for more in-depth empirical and policy research on sustainability governance systems in underrepresented areas. Moreover, the dynamic character of the ESG disclosure systems, the climate governance systems and sustainable finance laws suggest that the field will continue to witness significant conceptual and methodological diversification in the near future. The study enriches literature with a unified view of trends, thematic structures, and intellectual evolutions in the area of the interplay of green finance, ESG strategy and environmental governance systems. In methodological terms, the study also illustrates the value of bibliometric methods in order to map new fields of sustainability research and to reveal new conceptual connections between different disciplines in sustainability-related research.

5.1 Implications of the Study

The results of this study have significant implications for researchers, policy makers, financial institutions and corporate organisations. The study offers a detailed account of the main themes of the existing research literature on sustainability governance and the new conceptual trends. The thematic mapping hence can help future students locate areas which are still not explored and need further empirical research. The results suggest growing relevance of embedding sustainability governance mechanisms in financial and environmental policy systems for policymakers and regulatory institutions. The academic focus on the disclosure of environmental, social, and governance (ESG) data, climate finance, and environmental stewardship is a sign of the broader institutional interest in sustainable governance reforms and environmentally responsible economic systems. The results for corporate organisations and financial institutions highlight the significance of integrating ESG principles into business strategies, sustainability reporting, and the incorporation of ESG into investment decisions in today's business landscape. The greater interdependency between governance systems and sustainability finance implies that system-oriented strategic adaptation with a sustainability focus might increasingly be essential for long-term competitiveness of organisations.

5.2 Limitations of the Study

While the study offers valuable insights into the current literature on green finance, its findings on ESG strategy and environmental governance, it has some limitations that need to be recognized. The first limitation of the study was that it used only the Dimensions database to get data. While Dimensions offers broad multidisciplinary coverage, some relevant publications may have been missed, or may have been included in other bibliographic databases that are not covered by Dimensions. Secondly, the study was concentrated on publications in English. Therefore, there is a possibility that other language publications of relevant studies may not have been included in the dataset. Third, Bibliometric analysis focuses on the characteristics of publications, citation structure and keyword usage, but not on detailed empirical results of the individual studies. Thus, the research is more about the intellectual structure and thematic development than on substantive assessment of empirical sustainability results. In spite of these constraints, the study conveys a comprehensive picture of the nature of the development of the sustainability governance research and the thematic structure within the period of the study.

5.3 Suggestions for Future Research

The present research could be expanded in a number of significant directions in the future. First, future bibliometric studies can use more than just one database (e.g., Scopus, Web of Science, Dimensions) to enhance the comprehensiveness of the dataset and to allow for a more comprehensive comparative analysis. Second, future studies could be more focused on the sustainability governance system in less developing regions of developing economy, such as the African region and the emerging institutional environment where the sustainability governance system is still in development. Third, future research can undertake longitudinal empirical studies to explore the impacts of ESG systems, green finance tools and environmental governance solutions on the sustainability performance of organisations, and how these drive climate adaptation outcomes. In turn, future scholars could focus on the new fields of artificial intelligence based sustainability governance, green fintech systems, disclosure technology for climate risk, and sustainable digital transformation systems, that are currently influencing recent sustainability debates.

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