

Corporate Governance and Financial Performance Under Environmental and Sustainability Challenges: A Bibliometric Analysis (2015-2025)

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ABSTRACT

Purpose – This research seeks to methodically chart or trace the development of scientific research regarding the linkage between corporate governance and financial performance in the background of environmental and sustainability issues from the year 2015 to 2025. It seeks to clarify how governance mechanisms have adapted to sustainability pressures and how these adaptations affect firms' financial outcomes and long-term resilience.

Design/data/methodology – In this scenario, a bibliometric research design will be used for this research as it will involve a data set of 609 peer-reviewed articles retrievable from the Scopus database. Scientists mapping methods such as co-citation analysis, co-author analysis, and co-word analysis have been employed to understand publishing trends in this field.

Findings – Our findings show a strong and non-linear annual growth rate of 37.02%, with a sharp acceleration after 2019, reflecting the global turn toward sustainability-oriented governance. The geography of knowledge production is multipolar, and China has unmistakably emerged as a core node in the network of international research collaboration. Thematic evolution analysis offers clear signals of paradigmatic changes in conceptual perspectives: from fragmented to integrated approaches of governance ESG-aligned.

Originality/value – This research provides a concise bibliometric synthesis of a rapidly expanding field, clarifying its intellectual and thematic evolution, and demonstrates that corporate governance has moved beyond a procedural role to become a key driver of financial value under environmental and sustainability challenges.

Keywords: Corporate Governance, Financial Performance, Sustainability

Çevresel ve Sürdürülebilirlik Zorlukları Bağlamında Kurumsal Yönetişim ve Finansal Performans: Bibliyometrik Bir Analiz (2015-2025)

ÖZET

Amaç – Bu araştırma, 2015–2025 döneminde çevresel ve sürdürülebilirlik sorunları bağlamında kurumsal yönetim ile finansal performans arasındaki ilişkinin bilimsel literatürdeki gelişimini sistematik ve metodik bir biçimde haritalandırmayı amaçlamaktadır. Çalışma, yönetim mekanizmalarının sürdürülebilirlik baskılarına nasıl uyum sağladığını ve bu uyumun firmaların finansal sonuçları ile uzun vadeli dayanıklılığı üzerindeki etkilerini açıklamayı hedeflemektedir.

Tasarım/veri/metodoloji – Bu çalışmada, Scopus veri tabanından elde edilen 609 hakemli makaleden oluşan bir veri setine dayanan bibliyometrik bir araştırma tasarımı benimsenmiştir. Alanın yayın eğilimlerini ve entelektüel yapısını ortaya koymak amacıyla ortak atıf analizi, ortak yazarlık analizi ve anahtar kelime (co-word) analizi gibi bilimsel haritalama teknikleri kullanılmıştır.

Bulgular – Bulgular, yıllık %37,02 oranında güçlü ve doğrusal olmayan bir büyüme hızına işaret etmekte ve özellikle 2019 sonrasında sürdürülebilirlik odaklı yönetime yönelik küresel yönelimi yansıtan belirgin bir ivmelenme göstermektedir. Bilgi üretiminin coğrafyası çok kutuplu bir yapı sergilemekte olup, Çin uluslararası araştırma iş birliği ağında açık biçimde merkezi bir düğüm olarak öne çıkmaktadır. Tematik evrim analizi, kavramsal perspektiflerde paradigmatic bir dönüşüme işaret etmekte; yönetişimin parçalı yaklaşımlardan ESG ile uyumlu bütünleşik yaklaşımlara doğru evrildiğini ortaya koymaktadır.

Özgünlük/değer – Bu çalışma, hızla genişleyen bir araştırma alanına ilişkin özlü ve sistematik bir bibliyometrik sentez sunmakta; alanın entelektüel ve tematik evrimini netleştirmekte ve kurumsal yönetimin çevresel ve sürdürülebilirlik zorlukları altında yalnızca prosedürel bir işlev olmaktan çıkarak finansal değerin temel belirleyicilerinden biri hâline geldiğini göstermektedir.

Anahtar Kelimeler: Kurumsal Yönetişim, Finansal Performans, Sürdürülebilirlik

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1. Introduction

The area of corporate governance (CG) and financial performance (FP) has undergone a significant transformation in recent years, evolving from a peripheral academic concern into one of the central pillars of modern firms confronting increasingly demanding environmental and sustainability challenges. This development reflects a broader change in management and finance scholarship, where the traditional doctrine of shareholder primacy is gradually giving way to the triple bottom line approach. It also signals an important evolution in governance thinking and analysis, as ESG considerations are no longer viewed as marginal to corporate governance strategy but are increasingly recognized as essential factors in assessing corporate resilience and long-term sustainability (Rodriguez-Fernandez, 2016).

The conceptual bases that form the CG-ESG-FP link take their roots in several concepts. First, the Stakeholder Theory stands as a main conceptual framework. According to it, a firm's success is closely linked to stakeholder relationship management. This has been argued as encompassing a firm's relationship with a wide range of stakeholders. They include employees, customers, communities, as well as the natural environment (Donaldson & Preston, 1995). According to the conceptual framework, good firm performance stems from establishing congruity between firm goals and stakeholder interests. Another conceptual framework that supports the relationship workflow link is the concept of Stewardship Theory.

On the other hand, Agency Theory highlights the importance of strong governance frameworks as a mechanism for dealing with potential conflicts-of-interest issues arising between management and shareholders in relation to sustainable investment opportunities that often require now-cash flows in the future (Jensen & Meckling, 1976). Finally, Signaling Theory & Legitimation Theory provide a theoretical framework explaining how ESG reporting serves as a strong validation mechanism that reduces issues associated with adverse information asymmetry by allowing companies to gain their social license to operate in a highly regulated and more sustainable environment (Suchman, 1995).

Furthermore, board independence enhances oversight effectiveness and reduces managerial opportunism, thereby strengthening the credibility and transparency of ESG disclosures, while gender-diverse boards contribute broader perspectives and stakeholder-oriented decision-making that support the adoption of sustainable business practices and improved long-term corporate performance. Consequently, the composition and characteristics of the board of directors are widely regarded as fundamental determinants of a firm's ability to integrate ESG considerations into its strategic objectives and value-creation processes.

Share of gender-diverse boards has been one area of research interest, and findings have revealed that for women to have any real say regarding covering divested

environments, there needs to be a critical mass of women on company boards, known as three women or more (Cosma et al., 2024; Patekar & Mahajan, 2025). Greater representation of women on company boards has been linked to inclusive decision-making, ethical perspectives, and risk management practices, ultimately contributing to strong financial performance measured by Return on Equity (ROE) (Sahu et al., 2025).

Besides board composition, corporate governance structures and practices are emerging to have a mediatory/moderating effect between sustainability practices and financial performance. The evidence illustrated through empirical studies of the energy industry within China shows that financially performing corporations often have surplus resources devoted to sustainability practices when good corporate governance structures are embedded, hence promoting long-term sustainability. In other environments, for instance, Jordanian corporations, independence and composition of the audit committee are deep-rooted mediators for sustainability disclosure and firm value because it ensures disclosure practices remain more non-opportunistic and oriented towards shareholders (Elmanaseer & Gerged, 2025). Similarly, the establishment of dedicated Board Sustainability Committees (BSCOM) has proven effective in the banking sector, where these committees enhance oversight of climate-related risks and transform environmental responsibility into a financially value-enhancing strategy (Adu et al., 2024).

The implications of CG-ESG-FP dynamics in terms of finances are also considered a self-reinforcing cycle in which spending on Social and Environmental projects translates into a gain of finances in a sustainable approach reinforcing more sustainability engagement activities (Rodriguez-Fernandez, 2016). Yet, a different reality emerges when examining global empirical evidence. Several studies report that early-stage adoption of sustainability practices may exert downward pressure on short-term profitability due to substantial capital expenditures and increased operational costs (Shaikh, 2022). Notwithstanding, it has been consistently found that ESG performance is a strong risk mitigation tool. Companies' enhanced sustainability performance is associated with smaller idiosyncratic risk, since investors regard them as more stable than their peers and therefore less susceptible to macro-level shocks (Sciarelli et al., 2024). This is associated, in turn, with a cost of capital advantage, since investors are willing to accept smaller returns as they perceive smaller risk, as verified in more developed markets such as the United Kingdom (Gonçalves et al., 2022; Hazaea et al., 2025).

From the knowledge production side, bibliographic data from the period of 2015-2025 indicates an explosive increase in ESG-related research post-2019. This is no surprise in light of the international events such as the Paris Climate Treaty and the shocks of the COVID-19 pandemic, which raised the focus on the subject of sustainable governance (Chytis et al., 2024; Patekar & Mahajan, 2025). For the subject of sustainable governance, research up to the present had been led by the United States and Europe. Over the past few years, there has been an explosive entrance of the developing world of research, in

the form of China, Indian, and Malaysian researchers, in the ESG research domain (Marzuki et al., 2023). Despite this expansion, persistent challenges remain, notably the absence of standardized ESG measurement frameworks, which has generated methodological inconsistency and interpretive ambiguity, as well as the ongoing risk of greenwashing, whereby firms engage in symbolic disclosure without substantive sustainability performance (Lin, 2024; Patekar & Mahajan, 2025).

Despite the fact that there is considerable literature on corporate governance, financial performance, and sustainability, it remains highly fragmented across disciplines, journals, and geographical contexts, with uneven citation patterns and divergent methodological approaches. This fragmentation obscures the intellectual structure of the field and limits cumulative knowledge development. In light of this scientific gap, this research study has conducted a Scopus-based bibliometric analysis for the period 2015–2025 to systematically map the evolution of scientific production and explain the conceptual, social, and thematic foundations underlying research at the CG–FP–sustainability nexus. In particular, this research attempts to answer the following research questions:

1. How has the quantity and trend level of research output on corporate governance and financial performance during environmental and sustainability issues changed from 2015 to 2025?
2. What are the journals, authors, and publications that represent the core of this research field in terms of their productivity and citation data?
3. What kind of distribution of publications is observed regarding geographical areas, as well as the role played by global publication networks?
4. What are the dominant conceptual themes and emerging research fronts within corporate governance–financial performance studies in environmental and sustainability contexts, and how have these themes evolved over time?

2. Literature Review

The interaction between corporate governance (CG) and financial performance (FP) has evolved from a marginal area of research discourse to become one of the foundation stones for current corporate strategies amidst burgeoning environmental and sustainability issues. Recent research contends that while shareholder value maximization stands to be supplanted by a “triple bottom line philosophy,” consideration for societal, environmental, and governance (ESG) components is now increasingly acknowledged to be pivotal to successful value-creation and sustainability institutions. The current discussion intends to condense current research (2015–2025) regarding how sustainability practices are facilitated and shaped through different corporate governance structures and practices worldwide.

2.1. Theoretical Foundations of the CG-ESG-FP Nexus

The academicians' dialogue is mainly rooted in Stakeholder Theory, whose assumption is that for a company to be successful, it is necessary to fulfill different needs pertaining to employees, customers, communities, or the environment (Donaldson & Preston, 1995; Rodriguez-Fernandez, 2016). According to Stakeholder Theory, different cooperative interests can be fulfilled by satisfying these needs. Complementary to this, Stewardship Theory proposes that the interests of managers align with those of the firm's long-term success due to ethical and professional motives, whereas Agency Theory allows governance to control or mitigate conflicts between managers and shareholders through severe monitoring of sustainability initiatives. It was supported by Jensen & Meckling (1976) and Rodriguez-Fernandez (2016). According to Signaling Theory and Legitimacy Theory, good-quality ESG disclosures are a type of hard signals that would communicate verifiable information about a firm's commitment to growth in a sustainable manner, reducing the informational gap between stakeholders and supporting the "social license to operate" (Suchman, 1995).

2.2. The Role of Board Composition and Diversity

A critical consensus in the literature identifies the board of directors as the central authority for decisions regarding CSR and ESG policies. Recent studies have continued to underscore that board size and board independence are positively associated with the quality of sustainability reporting. Larger boards often bring wider expertise and strategic control, which is all the more useful in emergent markets such as that of Pakistan, where an expanded board can assure superior financial value owing to greater diversity of view (Shah et al., 2024).

In addition, board gender diversity has become a very influential variable in determining the enhancement of ESG transparency and performance. Research underscores the importance of a "critical mass"—typically at least three female directors—to significantly influence strategic decisions, such as divesting from carbon-intensive industries or improving social sustainability reporting (Cosma et al., 2024; Patekar & Mahajan, 2025). Female directors are frequently associated with higher levels of empathy and innovative problem-solving, which collectively reduce firm risk and improve Return on Equity (ROE) (Sahu et al., 2025).

2.3. Corporate Governance as a Mediator and Moderator

Corporate governance serves as a pivotal bridge between a firm's financial success and its social responsibility initiatives. In the Chinese power industry, it has been found through research that during high-performance periods, corporations leverage "slack resources" to focus on sustainability by acting as sustainable governance mechanisms (Imran et al., 2023). In emerging countries such as Jordan, it has been found critical to have the support

of the Audit Committee (AC); in fact, it has been found to have a significant impact in making sure that published reports are in favor of stakeholder value as opposed to management goals (Elmanaseer & Gerged, 2025). In this regard, Board Sustainability Committees (BSCOM) have been found beneficial in handling climate risks as well as improving financial performance by making it a “win-win” opportunity to take action on environmental issues (Adu et al., 2024).

2.4. Financial Implications: The "Virtuous Circle" vs. Short-term Trade-offs

There is also the presence of the "virtuous circle," whereby social investments lead to profit, and the profit made subsequently leads to further social investments (Rodriguez-Fernandez, 2016). However, other international evidence provides a more sobering view, suggesting that the initial phases of sustainability practice can lead to short-term decreases in profitability due to high capital expenditure (Capex) and operational overhead (Shaikh, 2022).

In spite of these expenses, ESG performance is growing in prominence as a method for risk management purposes as well. A strong sustainability performance is viewed as having a strong effect in decreasing idiosyncratic corporate risk, as investors see such companies as more stable and less vulnerable to events such as regulatory or corporate crises (Sciarelli et al., 2024). In the United Kingdom, companies that have a strong ESG performance are viewed as having a lowered cost of capital, whether it be equity, debt, or weighted average cost, since investors have accepted that such companies are non-risk or less-risk, thus earning them lowered gains (Hazaea et al., 2025). Notably, there is an "optimal level" regarding sustainability, where investors treat "laggers" and their underinvestment poorly and may treat "leaders" who overinvest, thus wasting resources, poorly by lenders (Gonçalves et al., 2022).

2. 5. Bibliometric Trends and Emerging Challenges (2015–2025)

Bibliometric studies show "explosive growth" of literature related to ESG starting from 2019, triggered by various global events like the Paris Accord and the COVID-19 outbreak (Chytis et al., 2024; Patekar & Mahajan, 2025). Though the United States and Europe have long been leaders in this area of research, developing countries like China, India, and Malaysia have come up as prominent producers of literature in recent times (Marzuki et al., 2023; Patekar & Mahajan, 2025).

Nevertheless, a number of ongoing issues still exist. These begin with a lack of uniform methods for ESG rating systems, creating a problem of "aggregate confusion" relative to different rating institutions (Patekar & Mahajan, 2025). Also, the problem of "greenwashing," or using proxy reporting to conceal poor performance, is still a problem (Lin, 2024). To separate true improvements in operations from only disclosing improvements on the surface, authors use a system termed the Sustainable Growth Rate (SGR) in references to a company's endogenous growth rate that does not require external

investments (Lin, 2024).

In general, it seems that the literature that has been generated between 2015 and 2025 represents an important paradigmatic shift in understanding corporate governance issues from an environmental/sustainability point of view. That is, moving from considering corporate governance mechanisms from an administrative angle to considering them from a strategic point of view, which has far-reaching implications for financial performance, sustainability, and value creation. The existing literature confirms that issues such as board composition, committees, transparency, and stakeholder-oriented corporate governance have played an important mediating role in linking environmental pressures to financial performance.

The existing literature is, however, very scattered. All of this makes it imperative that there exists an overarching bibliometric study that seeks to map out the progress of scientific production and citation impact, uncover key journals, prominent authors, core literature defining this area of study, study geographical and institutional deployment of knowledge and collaboration patterns, and lastly tap into this body of knowledge to uncover its underlying structure of concepts, key ideas, or evolving research frontages in this area of corporate governance linkages to financial performance and sustainability. To this effect, this study presents an in-depth Scopus examination of this ever-expanding body of research.

3. Method

This study employs a systematic bibliometric research design to quantitatively map and analyze the scholarly literature on corporate governance and financial performance under environmental and sustainability challenges over the period 2015–2025. The objective is to examine the field's structural evolution, intellectual foundations, and thematic development by integrating performance analysis with science-mapping techniques. In particular, it aims to: (i) discern the conceptual and theoretical framework of the literature, (ii) analyze collaboration patterns of authors, institutions, and countries, and (iii) identify dominant and emerging themes of future studies.

3.1. Data Source and Scope

To obtain the bibliometric details, only the Scopus database was employed for the search because it is very inclusive with respect to good quality peer-reviewed journals indexed for citation analysis. While conducting the search, only articles published between 2015 and 2025 were included on January 3, 2026, for a Scopus search with a certain query string based on the title, abstract, and authors' keywords.

It provides an analysis of research that is situated at the juncture between corporate governance and financial performance that has specifically focused on environmental sustainability, ESG performance, corporate social responsibility, climate-related financial risks, and sustainable finance. The papers analyzed were limited to peer-

reviewed journal articles published in English and indexed under Business, Management and Accounting and Economics, Econometrics and Finance subject areas.

3.2. Data Collection and Screening

The document selection process followed the PRISMA 2020 framework. The initial search conducted in Scopus on January 3, 2026 yielded 1,271 records. Since the search was performed exclusively in the Scopus database, no duplicate records were identified. A sequential screening procedure was then applied. First, records were restricted to journal articles, excluding conference papers, book chapters, reviews, editorials, notes, and other document types. Second, only publications written in English were retained. Third, the dataset was limited to the subject categories of Business, Management and Accounting and Economics, Econometrics and Finance.

Finally, titles, abstracts, and keywords were manually examined to exclude studies that did not simultaneously address corporate governance, financial performance, and environmental or sustainability-related issues. Following the application of these inclusion and exclusion criteria, the final dataset comprised 609 articles. the final List of bibliometric data extracted from Scopus database reported in Appendix A.

3.3. Bibliometric Techniques

To capture the multidimensional structure of the research field, multiple complementary bibliometric techniques were applied:

- Co-citation analysis to identify the field's intellectual foundations and influential theoretical frameworks.
- Analyze co-authorship on national level for collaboration and knowledge sharing.
- Co-word analysis was used to detect the dominant themes and emergent topics, which may indicate possible future research trajectories based on the co-occurrence of keywords.

3.4. Data Analysis Tools

Data analysis and visualisation were performed using dedicated bibliometric tools. Descriptive statistics, performance indicators and longitudinal analyses were performed using Bibliometrix and its web interface Biblioshiny (R environment). Cluster structures in the literature were identified using co-citation, co-authorship and co-word networks built and visualised with VOSviewer. Data organization and additional descriptive analyses were conducted using Microsoft Excel.

The analysis of co-authorship, co-citation and keyword co-occurrence was carried out using full counting, which assigns equal weight to all occurrences or links, regardless of the number of co-authors or co-occurring items. In VOSviewer, the network visualisations were normalised using the Association Strength method, which is the

default and recommended normalisation method for bibliometric mapping. Specifically, bibliometric analyses were performed using Bibliometrix 4.3 in R 4.4.0 via Biblioshiny, network visualisation was performed using VOSviewer 1.6.20, and Microsoft Excel 365 was used for data pre-processing and descriptive statistics.

3.5. Ethical Considerations and Reproducibility

The study relies exclusively on secondary bibliometric data obtained from publicly available sources and does not involve human subjects; therefore, ethical approval was not required. The dataset does not include any personal or confidential data.

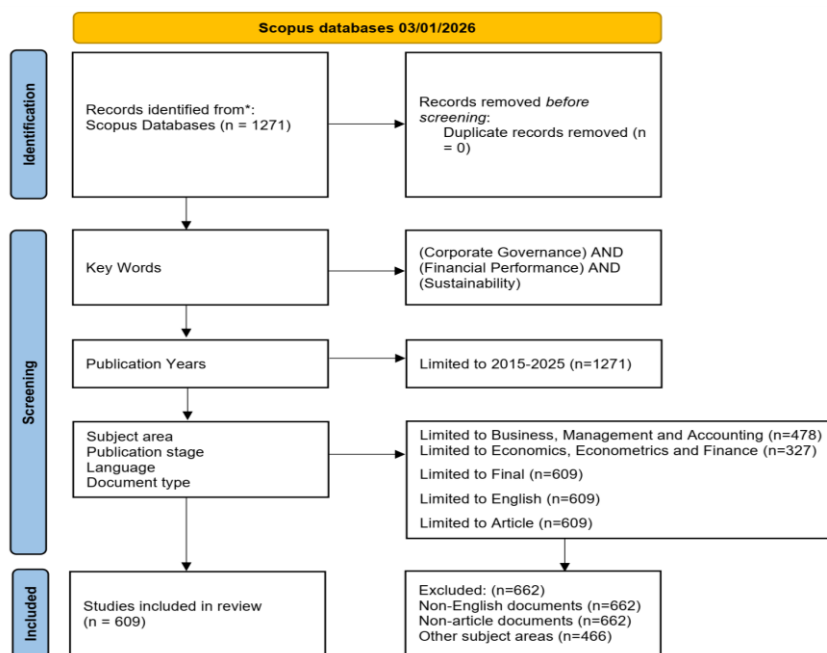
Table 1. PRISMA-Based Screening and Selection Process

Screening stage	Records remaining
Initial Scopus search	1271
Duplicate removal	1271
English language only	662
Article document type only	662
Publication Stage	662
Subject area filtering	466
Relevance screening (title, abstract, keywords)	609

Source: Extracted from Scopus; detailed data is in Appendix A.

The search strategy and analytical methods are entirely transparent and reproducible. Processed datasets and visualization outputs are available from the corresponding author upon reasonable request.

Figure 1. Analytical framework and data selection process



Source: Prepared by the Authors

4. Findings

4.1. Evolution of Scientific Production (RQ1)

Table 2 synthesizes the core descriptive statistics of the Scopus-based dataset and provides an empirical baseline for addressing RQ1 by characterizing the volume, growth dynamics, and citation impact of research on corporate governance and financial performance under environmental and sustainability challenges over the period 2015–2025. The corpus includes 609 peer-reviewed articles dispersed over 269 unique sources, which indicate a very wide and interdisciplinary spread of this particular subject among Governance, Finance, Sustainability, and Management Journals. The annual growth rate of 37.02% demonstrates a strong and sustained expansion of scientific production, confirming that this research domain has experienced accelerated scholarly attention over the last decade. This growth trajectory is further supported by the relatively low average document age (3.08 years), which signals the topical novelty and ongoing relevance of the field rather than a mature or saturated research stream.

Regarding the impact, the corpus fares well in terms of citation intensity, with an average of 30.96 citations per document and a cumulative reference base of 3,886 cited works. Looking at the citation analysis, it can be inferred that research related to the nexus of corporate governance, financial performance, and sustainability challenges is not only quantitatively increasing but is also getting adequately noted in the domain of academic literature. The authorship analysis also brings into focus the research structure of co-authored research, as is evident from the fact that there are 1,634 research contributors and the average of co-authors per document is 3.03, and solo-authored research is very limited. Notably, international co-authorships account for 31.53% of publications, indicating a significant level of cross-country collaboration and reinforcing the global relevance of sustainability-driven governance and performance debates.

Taken together, the dataset cited within Table 2 illustrates that a significant trend within research concerning corporate governance and financial performance amidst environmental/sustainability issues exists between 2015 and 2025, such that the development of research on this subject matter has shifted towards a rapidly increasing international network that is also very highly cited. This empirical trend directly answers RQ1 in regard to assessing a strong positive trend for production, a strong citation impact, and a collaborative production pattern.

Figure 2 synthesizes the temporal evolution of scientific production on corporate governance and financial performance under environmental and sustainability challenges over the 2015–2025 period and provides direct evidence to address RQ1. The results reveal a non-linear but clearly accelerating growth trajectory of the literature. Regarding the first period (2015–2018), it appears that the number of publications is quite modest and fluctuating, reflecting a reconnaissance process where sustainability-driven corporate

governance did not turn into a central research thread yet. Then, from 2019 on, a clear structural shift emerges, which corresponds to an increased annual number of publications.

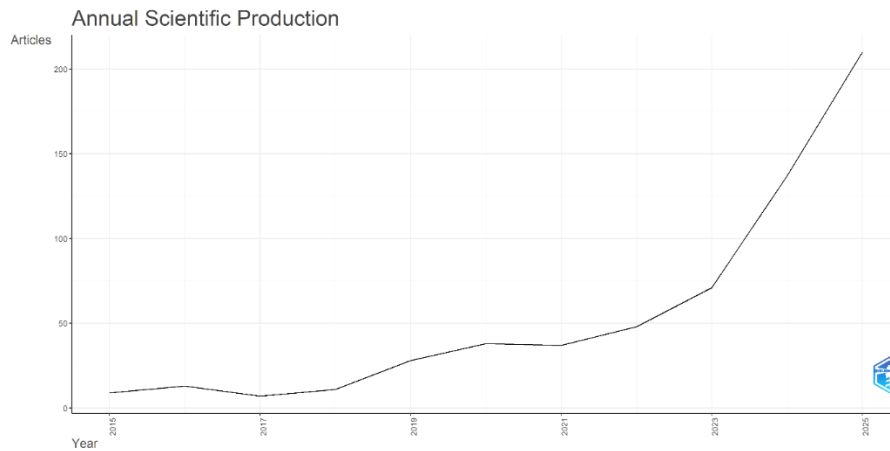
Table 2. Descriptive statistics of the dataset

Description	Results
Timespan	2015:2025
Sources (Journals, Books, etc)	269
Documents	609
Annual Growth Rate %	37,02
Document Average Age	3,08
Average citations per doc	30,96
References	3886
Keywords Plus (ID)	514
Author's Keywords (DE)	1630
Authors	1634
Authors of single-authored docs	61
AUTHORS COLLABORATION	
Single-authored docs	69
Co-Authors per Doc	3,03
International co-authorships %	31,53
DOCUMENT TYPES	
Article	609

Source: Extracted from Bibliometrix

The most prominent implication is evident within the post-2021 period, and the publication number jumps significantly with an utmost increase by 2025. It is apprehended that it indicates the end of the incremental increase and the beginning of exponential growth due to the worldwide adoption of ESG reporting, the pull of improved regulatory measures for corporate governance, and increased research focus on the financial impact of environmental and sustainability issues on the economy and financial markets. The largely increased publication numbers indicate that the corresponding publication push may also result in utmost citation impact due to the exponential increase of research boundaries found on expanding fronts.

As can be evidenced in Figure 2, overall, it is apparent that the scientific production within this specific domain is no longer a nascent subject matter, having increased instead into a significant growth sector. Finally answering directly RQ1, it is apparent that scientific production within this domain indeed marks a significant growth pattern in publication production towards 2015-2025. This points towards a subsequent maturation process within this domain concerning citation impact.

Figure 2. Annual growth of publications (2015–2025)

Source: Extracted from Bibliometrix

4.2. Intellectual Structure: Core Sources, Authors, and Foundational Works (RQ2)

Table 3 identifies the most productive journals publishing research on corporate governance and financial performance under environmental and sustainability challenges over the period 2015–2025. The distribution of articles shows that there is a core of highly concentrated journals, and this core is what determines the intellectual structure of this particular area of study. Specifically, it is apparent that Corporate Social Responsibility and Environmental Management is the top source with 32 publications, and this is followed closely by Business Strategy and the Environment with 29 publications. The preponderance of such journals indicates that the academic discourse is chiefly centered around the intersection point of corporate governance tools, sustainability approaches, and environment-related accountability, and not necessarily around more traditional journals that are exclusively geared towards finance as a field of study.

Additionally, it is worth noting that the presence of such journals as Journal of Risk and Financial Management, Finance Research Letters, and Journal of Sustainable Finance and Investment indicates a growing convergence of performance assessment, risk, and sustainability-focused governance structures and approaches.

These results empirically support, from the perspective of RQ2, the fact that only a few interdisciplinary journals shape the intellectual structure of research on corporate governance, financial performance, and sustainability challenges as central knowledge hubs that enable the flows of citations and thematic convergence, and the diffusion of foundational contributions across governance, sustainability, and financial research streams.

Table 3. Most relevant journals

Source Title	Articles
Corporate Social Responsibility and Environmental Management	32
Business Strategy and The Environment	29
Journal of Risk and Financial Management	21
Journal of Cleaner Production	16
Cogent Business and Management	15
Business Strategy and Development	14
Corporate Governance (Bingley)	11
Finance Research Letters	11
Social Responsibility Journal	10
Journal of Sustainable Finance and Investment	9

Source: Extracted from Bibliometrix

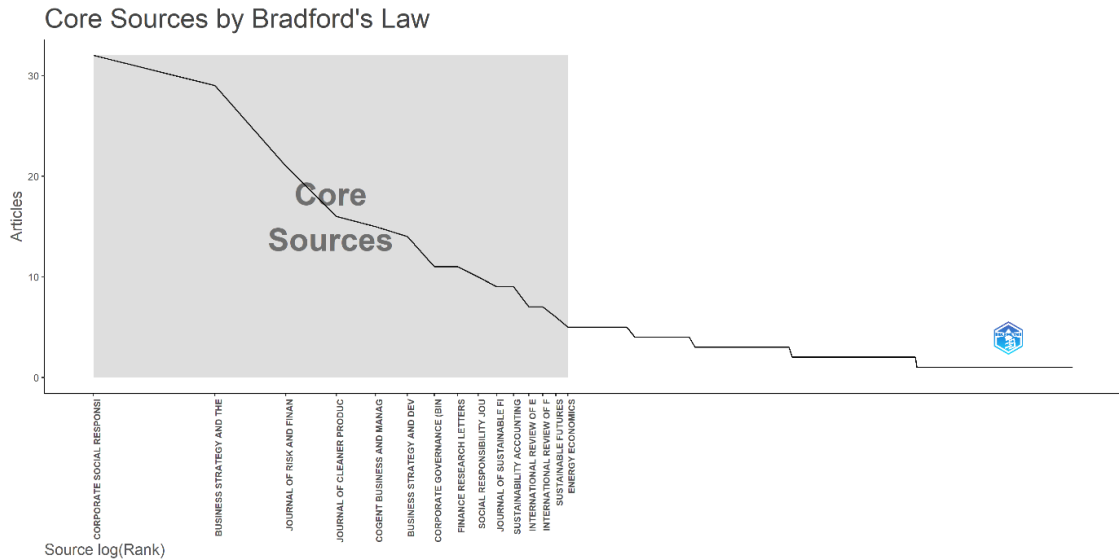
Figure 3 applies Bradford's Law to identify the core journals that structure the intellectual base of research on corporate governance and financial performance under environmental and sustainability challenges over the period 2015–2025. The Bradford distribution reveals a pronounced concentration of scholarly output within a limited nucleus of sources, confirming a highly unequal yet systematic dispersion of articles across journals. In particular, it is a subset of highly prestigious outlets that publishes disproportionately many articles, while the rest are spread over a long tail of less significant sources with productivity declining sharply. This points towards the existence of a well-recognized core literature that is the central place for theorization and empirical justification of methods in this specific area of research.

Looking from the perspective of intellectual structures, the essential sources, as shown in Figure 3, serve as important hotspots where discussions on corporate governance tools, financial performance results, and sustainability pressures meet. Primarily, their dominance can be attributed to their frequency of articles, but also to their ability to drive the research agenda, legitimate new topics (ESG integration, stakeholder governance, and sustainability-oriented performance measurement), and distribute basic studies that are further distributed to secondary and tertiary sources. Conversely, the drastic reduction in article numbers after the Bradford core indicates thematic fragmentation, where selective, often specialized, or interdisciplinary publications contribute peripherally to a particular subject.

The evidence from Figure 3, which speaks directly to RQ2, provides evidence that this intellectual structure of the literature rests on a small core group of journals that play a key role as conduits for influential authors and foundational publications. These journals provide the main platforms through which citation-based relationships are formed and reinforced, thereby shaping the field's cumulative knowledge base. Consequently, the Bradford core delineated here represents not merely a productivity

concentration, but a structural backbone of scholarly influence, indicating where the most impactful contributions to corporate governance, financial performance, and sustainability challenges are most consistently produced and recognized.

Figure 3. Bradford's Law



Source: Extracted from Bibliometrix

The data is synthesized in Table 4 to outline the patterns of productivity among the most fruitful authors within the indexed literature on corporate governance and financial performance in environmental & sustainability challenges during the period 2015-2025. The findings indicate a moderately diversified authorship pattern whereby a limited set of persisting authors is responsible for their extensive share within the published studies, hence determining the trajectory of thought within the domain. The most fruitful set of authors comprises Matuszewska-Pierzynka & Velte with five published studies followed by Rezaee & Yilmaz with four published studies. These sets of authors tend to engage progressively within the domain rather than episodically, suggesting the existence of a set of thought leaders within the domain.

The other authors in Table 4, who have three publications each, constitute a second tier of contributors whose work bolsters and expands dominant research streams without reconfiguring them. All these findings together already answer RQ2 by showing that, instead of being highly diffused, the intellectual structure of the field rests on the work of a few highly influential authors whose sustained productivity indicates agenda-setting for integrating mechanisms of corporate governance with financial performance outcomes under sustainability and environmental constraints. Productivity-based evidence here supplements citation-based analyses by underlining the contribution that sustained authorial output makes to consolidation and maturation processes in the research field.

Table 4. Most productive authors

Author Name	Articles
Matuszewska-Pierzynka, A.	5
Velte, P.	5
Rezaee, Z.	4
Yilmaz, M.K.	4
Adhariani, D.	3
Aksoy, M.	3
Alahdal, W.M.	3
Arayssi, M.	3
Doni, F.	3
Gull, A.A.	3

Source: Extracted from Scopus

Table 5 provides citation-based evidence on the foundational publications and influential authors that structure the intellectual core of research on corporate governance, financial performance, and sustainability challenges during the 2015–2025 period. From an interpretive standpoint, the table does not merely rank highly cited papers; rather, it reveals the theoretical anchors, dominant empirical questions, and core publication outlets that have shaped cumulative knowledge in this field, thereby directly addressing RQ2.

Findings show that the intellectual foundation upon which the body of literature is based is deeply rooted in research on the ESG–financial performance relationship, with Xie et al. (2019) being the most cited publication in absolute and relative values. The very high number of total citations (786) and its citation rate per year emphasize its importance for other research activities: it is a pioneering publication that legitimizes ESG activities not only for ethical but for financial reasons taken into account in a corporate setting. Also prominent is Garcia et al. (2017) in *Journal of Cleaner Production*, underpinning the importance of sector sensitivity, board structure, and sustainability performance issues for the explanation mechanism in being the core area that shapes research activities in its field. Another publication is Naciti (2019) in *Journal of Cleaner Production*, putting emphasis on the same topic.

Apart from the absolute number of citations, the normalized citation values indicate another important measure of influence. Studies such as Nirino et al. (2021) and Naciti (2019) display comparatively high normalized citation scores, indicating strong intellectual relevance relative to publication year. This indicates that recent research emphasizing corporate controversies, ESG moderation effects, and governance mechanisms is quickly solidifying their position in the knowledge base, indicating a change in focus toward more conditional governance-performance relationships. In this sense, influence is not confined to early movers but is dynamically reconstituted through methodological and theoretical refinement.

Moreover, it has been observed that the existence of many highly cited articles in journals like Business Strategy and the Environment, Journal of Cleaner Production, Journal of Corporate Finance, and Sustainability Accounting, Management and Policy Journal supports core-journals pattern. These outlets function as epistemic hubs where governance, sustainability, and financial performance intersect, thereby shaping citation-based relationships and guiding research trajectories. The fact that researchers such as Arayssi keep reappearing, and board diversity, ESG disclosure, and responsible investing remain topics of emphasis, is further evidence that governance characteristics and transparency methods remain research frontiers.

Table 5. Most cited documents

Author	Title	TC	TC per Year	Normalized TC
Xie et al., (2019)	Do environmental, social, and governance activities improve corporate financial performance?	786	98,25	7,99
Garcia et al., (2017)	Sensitive industries produce better ESG performance: Evidence from emerging markets	642	64,20	3,37
Naciti, (2019)	Corporate governance and board of directors: The effect of a board composition on firm sustainability performance	517	64,63	5,25
Ng & Rezaee, (2015)	Business sustainability performance and cost of equity capital	454	37,83	4,76
Arayssi et al., (2020)	The impact of board composition on the level of ESG disclosures in GCC countries	365	52,14	4,25
Nirino et al., (2021)	Corporate controversies and company's financial performance: Exploring the moderating role of ESG practices	361	60,17	5,69
Albitar et al., (2020)	ESG disclosure and firm performance before and after IR: The moderating role of governance mechanisms	335	47,86	3,90
Widyawati, (2020)	A systematic literature review of socially responsible investment and environmental social governance metrics	301	43,00	3,50
Rodriguez-Fernandez, (2016)	Social responsibility and financial performance: The role of good corporate governance	285	25,91	3,70
Arayssi et al., (2016)	Women on boards, sustainability reporting and firm performance	272	24,73	3,53

Source: Extracted from Bibliometrix

In sum, as shown in Table 5, there is a clear set of foundational literature that influences the intellectual structure of the research, with a core set of journals that help to define the research questions and method of inquiry. In addressing RQ2, the results

indicate that productivity and citation influence are centered on governance literature from the perspective of ESG that is published in sustainability-oriented but finance-relevant journals, plus a few highly cited sources that provide a conceptual and empirical point of reference to guide other literature on corporate governance and finance related to sustainability threats.

Figure 4 addresses RQ2 by revealing the intellectual structure of research on corporate governance, financial performance, and sustainability challenges through a co-citation analysis of foundational references. By applying a strict threshold of 15 citations, the work identifies 20 highly influential publications out of 3886 cited references. This highly concentrates the knowledge base, which is anchoring the field. Three clusters are thus identified to indicate different yet interrelated theoretical and empirical streams that collectively shape scholarly understanding in this domain.

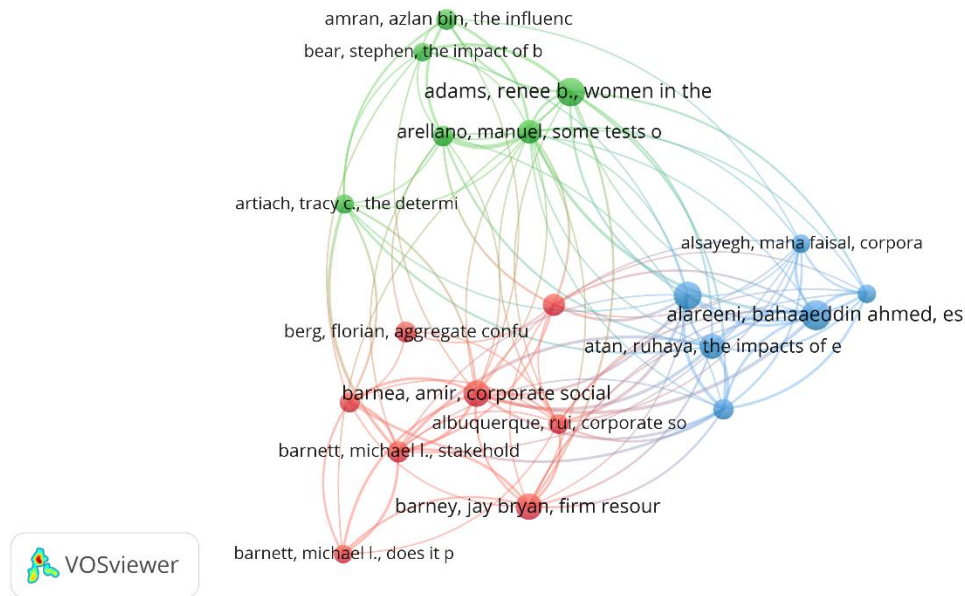
“First cluster (Cluster 1)” comprises the theoretical and conceptual foundations of this literature and encompasses stakeholder theories, resource-based models, as well as Risk-Return trade-offs for corporate social responsibility. Key foundational research by Barney (1991) as well as Barnett (2007), Barnett & Salomon (2012) illustrates the strategic rationale underlining the relationship between firm resources and stakeholder power and their impact on returns to financial assets. More contemporary perspectives by Barnea & Rubin (2010) and later research by Albuquerque et al (2019) are then seen to apply agency theories as well as Risk-based frameworks to both Corporate Social Responsibility and ESG Engagement. The addition of Berg et al (2022) to this cluster then also reflects a level of maturity in this field to critically evaluate issues regarding valid measurements in ESG data and their subsequent impact on inference.

The second cluster (Cluster 2) reflects the governance aspects and methodological basis of literature. Governance studies focusing on board attributes and structures, gender diversity, or gender effects (ESG), like (Adams & Ferreira, 2009; Bear et al., 2010; Amran et al., 2014), are strongly co-cited with methodological papers of dynamic panel analysis for panel data sets (Arellano & Bond, 1991; Arellano & Bover, 1995). This interpretation shows again that research literature on sustainability-related governance-performance analysis has its methodological roots in dynamic panel analysis because of its ability to correct for endogeneity and individual effects of observed values for panel data analysis of various studies to measure their effects of ESG and good corporate governance.

The third cluster reflects the applied ESG disclosure-performance nexus, with an emphasis on firm-level value implications across both developed and emerging markets. High co-citation of studies like (Aboud & Diab, 2018; Alareeni & Hamdan, 2020; Aouadi & Marsat, 2018; Atan et al., 2018) center on ESG disclosure quality, controversies, and performance sensitivity, hence, really shifting toward context-specific and market-based validation of sustainability claims. Incoherence of the cluster would mean ESG disclosure has presently become the main empirical channel in which governance and sustainability

are measured in financial performance research.

Figure 4. Co-citation of references



Source: Extracted from VOSviewer

On the whole, it is clear from Figure 4 that the intellectual landscape of the area of interest is organized around three integrative pillars: (i) foundational theories that interrelate governance, CSR/ESG, and financial performance; (ii) governance characteristics and econometric approaches that make it possible to establish causality; and (iii) practical applications of ESG disclosure and value relevance analysis. Furthermore, that the number of highly co-cited references is relatively low also suggests that a relatively small number of central journals and foundational works—such as Academy of Management Journal, Strategic Management Journal, Journal of Business Ethics, Journal of Financial Economics, and Management Science—noted in these references has a disproportionate influence on the scholarly debate. The above points have formed a definitive and systematic response to Research Question 2.

4.3. Social and Geographical Structure of Research Collaboration (RQ3)

Table 6 reports the most productive institutional affiliations contributing to research on corporate governance and financial performance under environmental and sustainability challenges during the 2015–2025 period. The findings indicate a degree of moderate concentration but also geographic diversity in the institutional setting, which is dominated by Asian and European universities. The Malaysian institutions stand out as very prominent in this setting since they occupy four out of the top ten affiliations. This is followed by the University Technology Mara, which publishes the most research on the topic (9 publications). The existence of research centers now rooted in their national settings through this institutional aggregation supports the idea that there is a strategic

focus on the topic of sustainable corporate governance. The presence of top-tier institutions in Europe, such as the University of Lodz, Sapienza Università di Roma, or the Bucharest University of Economic Studies, also testifies to the global spread of knowledge production on issues pertaining to sustainability in corporate governance.

Importantly, this relatively comparable set of publication counts across institutions from different countries would point out that the field is not dominated by any single global center but rather is organized around various mid-scale institutional nodes. This pattern therefore fits a research domain characterized by international collaboration networks and not by hierarchical dominance, as the production and dissemination of knowledge are facilitated by inter-institutional linkages across Asia and Europe. With regard to RQ3, these findings showed that the geographical and institutional distribution of knowledge in this field is patterned around regionally concentrated centers of expertise which remain internationally connected, thus enabling the cross-national flow of research output and fostering the global consolidation of sustainability-driven corporate governance research.

Table 6. Most productive affiliations

Affiliation	Country	Articles
University Technology MARA	Malaysia	9
University of Lodz	Poland	7
Sapienza Università di Roma	Italy	7
University Malaysia Terengganu	Malaysia	7
Bucharest University of Economic Studies	Romania	7
The Hong Kong Polytechnic University	Hong Kong	6
University of Southampton	England	6
University Putra Malaysia	Malaysia	6
Leuphana Universität Lüneburg	Germany	6
University Sains Malaysia	Malaysia	5

Source: Extracted from Scopus

Table 7 synthesizes the country-level scientific production in the field of corporate governance and financial performance under environmental and sustainability challenges over the period 2015–2025. Results reflect a strongly asymmetrical geography of knowledge production, dominated by a few countries. China leads the contributions with 178 publications, followed by India (114) and Italy (96), which attests to the strong positioning of both emerging and established economies in terms of setting the research agenda of this domain. The leading positions of Asian countries—China, India, Indonesia (80), and Malaysia (71)—underline a clear shift of scholarly activity toward regions facing rapid economic growth in concert with sharp sustainability and governance challenges. At the same time, European countries such as Italy, the UK (75), and Spain (46) remain important contributors reflective of institutionalized research on sustainability-oriented

governance within mature regulatory environments. Finally, the United States scores a relatively low output of 52, implying that though influential, its contribution is less volumetric and therefore presumably more concentrated in high-impact or collaborative research streams.

Taken together, Table 7 reveals that knowledge generation in this area has both been geography-constrained but is also tending towards becoming multipolar, thereby verifying RQ3 by illustrating how imbalances in research capability at the regional levels affect global patterns of knowledge generation. The imbalances at this juncture also have the implication that knowledge networks across the global regions might have an important facilitating function for knowledge diffusion from regions of emerging global economies to already established research knowledge hubs in Europe and North America.

Table 7. Countries' scientific production

Country	Freq
China	178
India	114
Italy	96
Indonesia	80
UK	75
Malaysia	71
USA	52
Spain	46
Australia	32
Saudi Arabia	32

Source: Extracted from Bibliometrix

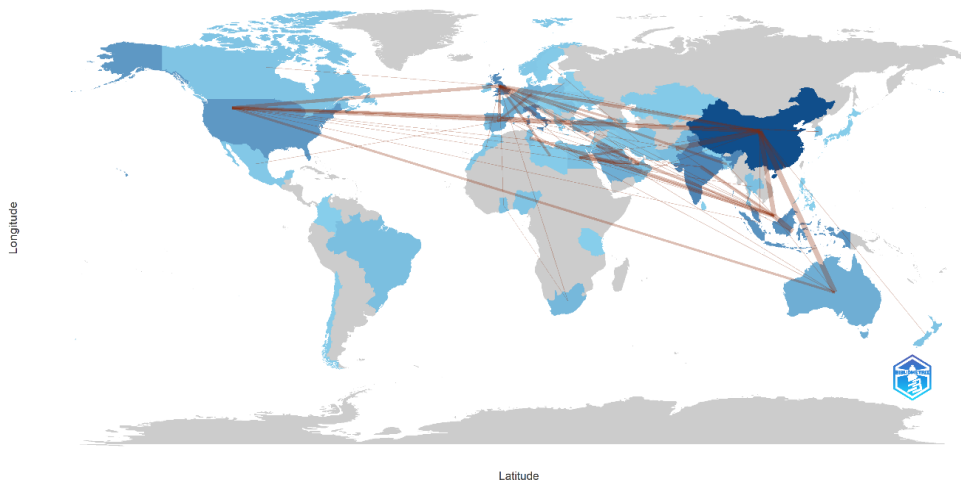
Figure 5 provides empirical evidence on how knowledge production in the field of corporate governance and financial performance under environmental and sustainability challenges is geographically structured and internationally diffused through cross-country collaboration networks. In direct response to RQ3, the collaboration map demonstrates a highly centralized and asymmetrical global research network, in which a limited number of countries function as core knowledge hubs, while the majority of others participate as peripheral or intermediary contributors. Specifically, East Asia—most notably China—emerges as a dominant node with extensive transcontinental collaboration ties, indicating both high research output and strong integration into international co-authorship networks. This centrality is also reflected by strong collaborative links to research systems in Europe and North America and reflects a situation where global knowledge diffusion for this theme domain is to a large extent facilitated by partnerships between emerging economies of high output and Western research institutions.

In addition, from the results of the network structure, it is found that the

international collaboration has a structuring function rather than an enabling function, meaning that those countries which have been positioned at the core of this structure not only produce an outsize number of publications but also serve as bridges for transferring methods, framing thoughts, and setting research agendas for different regions of the world. The present structure of this study is still comparatively disorganized in terms of existing research outputs in Africa, Latin America, and developing economies of Asia. Altogether, it is clear from Figure 5 that knowledge distribution in this study is imbalanced from a geographical & institutional perspective, while the global networks of collaboration serve to be an important mechanism which addresses RQ3 by emphasizing that global research partnerships have played an important role in unprecedented concentration of research diffusion in the global intellectual structure of sustainability-oriented corporate governance research.

Figure 5. Collaboration world map

Country Collaboration Map



Source: Extracted from Bibliometrix

Figure 6 addresses RQ3 by mapping the international co-authorship network in research on corporate governance and financial performance under environmental and sustainability challenges over the period 2015–2025. Using a threshold of a minimum of five documents per country and no citation restriction, 45 of the 83 identified countries met the inclusion criteria, resulting in a network of 44 countries organized into six distinct collaboration clusters. This map displays how the worldwide knowledge system is very much clustered and hierarchical, showing that research production and diffusion across this field of knowledge are driven by regional collaboration blocs and relatively few internationally central actors.

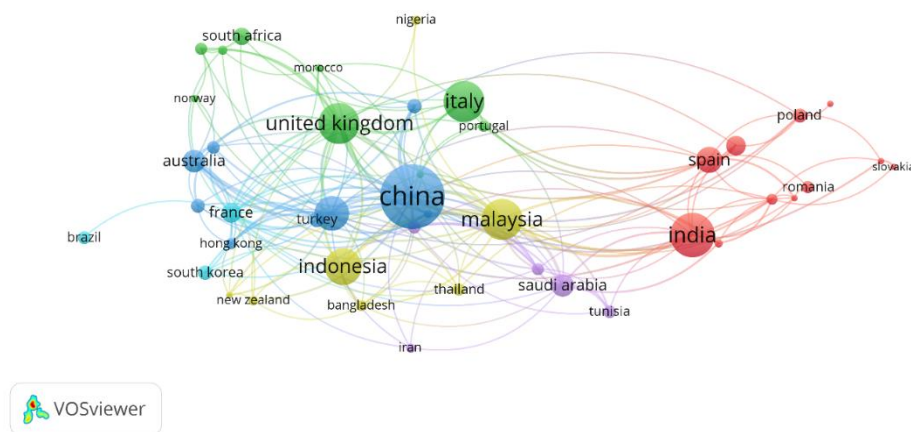
Within the heart of the network, China stands out as the foremost global center, having the strongest connectivity among various clusters. China's central place indicates that it has an important role in integrating research communities in Asia, Europe, and the

Middle East. Additionally, the United Kingdom and Italy serve as secondary centers, hence Europe's integrating role is reemphasized through the bridge created among established research infrastructures, new research systems, new economies, as well as among developed nations.

At the cluster level, there appears to be strong strategic and geographical specialization. Cluster 1, centered in India and Spain, groups a range of East and Central European countries, hinting at joint efforts based on common strategic concerns in the area of sustainability governance, harmonization, and emerging market financial performance. Cluster 2, centered in the United Kingdom and Italy, has strong connections within Europe and Africa-European countries, reflecting established research networks and strategic associations. Cluster 3, centered in China, the United States, and Australia, comprised of core, transcontinental research centers, covers strong research collaboration for impactful corporate sustainability, ESG analysis, and corresponding firm-level finance performance.

On the other hand, Clusters 4 & 5, dominated by countries in South-East and Middle-East regions like Malaysia, Indonesia, Saudi Arabia, and UAE, tend to have regional patterns of co-operation with limited international links. Though their publication productivity in research is rising, their international diffusion of knowledge is relatively localized. Cluster 6, including countries like France, Brazil, and South Korea, is the smaller cluster with bridging roles in linking peripheral areas with the overall network but with low internal density.

Figure 6. Co-authorship network



Source: Extracted from VOSviewer

In general, the structure of co-authorship shown in Figure 6 above indicates that global collaboration contributes to research on corporate governance and financial performance related to sustainability in defining research in this field. Knowledge production is unevenly distributed and concentrated around a small number of globally central countries that act as brokers between regional research systems. This

interconnected yet asymmetric configuration confirms that institutional capacity, international openness, and cross-border collaboration are critical mechanisms through which research in this field gains visibility and impact, thereby providing a direct and robust answer to RQ3.

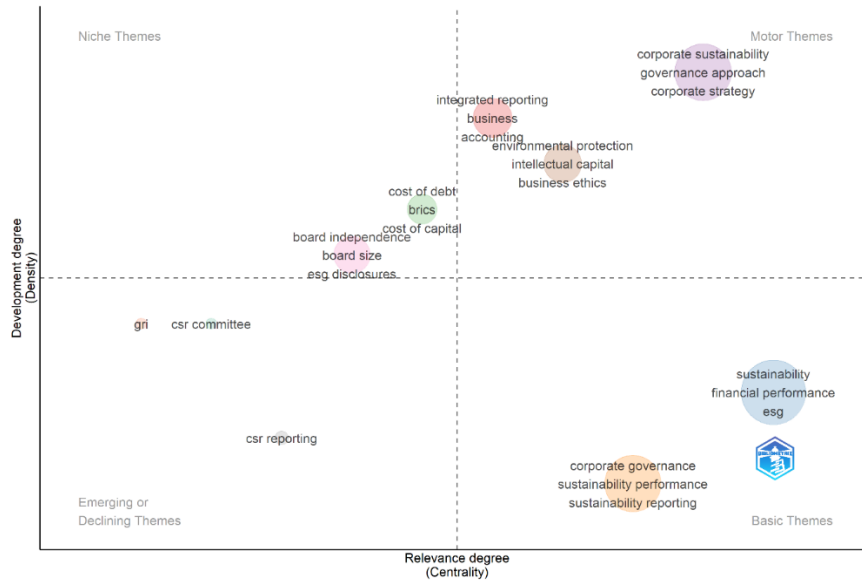
4.4. Conceptual and Thematic Evolution of the Field (RQ4)

Figure 7 synthesizes the conceptual and thematic architecture of corporate governance–financial performance research under environmental and sustainability challenges by positioning clusters according to their centrality and density, thereby capturing both thematic relevance and internal development. In direct response to RQ4, the map reveals a stratified and evolving knowledge structure in which a limited number of highly central themes anchor the field, while several governance- and disclosure-oriented topics occupy transitional or emergent positions. Specifically, the basic themes quadrant is dominated by the tightly connected cluster linking ESG, financial performance, and sustainability, indicating that the ESG–performance nexus constitutes the conceptual backbone of the literature and functions as a shared analytical foundation across studies.

This indicates that sustainability issues are now firmly embedded in mainstream literature related to finance and financial performance rather than being considered marginal issues. Closely related but slightly less developed is the literature cluster focusing on corporate governance, sustainability performance, and sustainability reporting, as it prominently shows that governance structures are widely recognized as having major structural significance despite being comparatively fragmented in terms of analytical integration in literature.

On the other hand, the motor themes Quadrant sheds light on a mature stream of research focusing on the concepts of corporate sustainability, governance approach, and corporate strategy, illustrating a strategic shift in focus within the literature towards the creation of sustainability value through a governance-based approach. At the same time, themes clustering around the center of the map including integrated reporting, Accounting & Management Accounting, Business & Business Ethics, Intellectual Capital, as well as Environmental Protection, play a bridging-role indicative of a theoretical integration between the structure of governance, non-financial disclosure systems, and sectors related to ethical & environmental issues.

Lastly, the incorporation of CSR Reporting, GRI, & CSR Committees within the Emerging/Declining Quadrant indicates a paradigm shift towards strategy-infused frameworks rather than traditional CSR views. Collectively, Figure 7 demonstrates that the field has evolved from descriptive CSR disclosure research toward a more conceptually integrated architecture in which corporate governance operates as a strategic lever linking sustainability practices to financial performance outcomes, thereby clarifying both dominant research trajectories and future research frontiers.

Figure 7. Thematic map

Source: Extracted from Bibliometrix

Figure 8 explains the conceptual and thematic developments of corporate governance-financial performance studies within environmental and sustainability contexts during the period 2015-2025, thus directly answering RQ4. Trend analysis shows a successive transformation of the research structure, with a shift in early focuses on social performance, corporate social performance, and sustainability disclosure towards more inclusive, governance-focused and ESG-based concepts. Previous themes (2018-2020) prevail over accountability and reporting tools, showing an early stage of interest in transparency, stakeholder relationships and the consolidation of methods through content and empirical analyses.

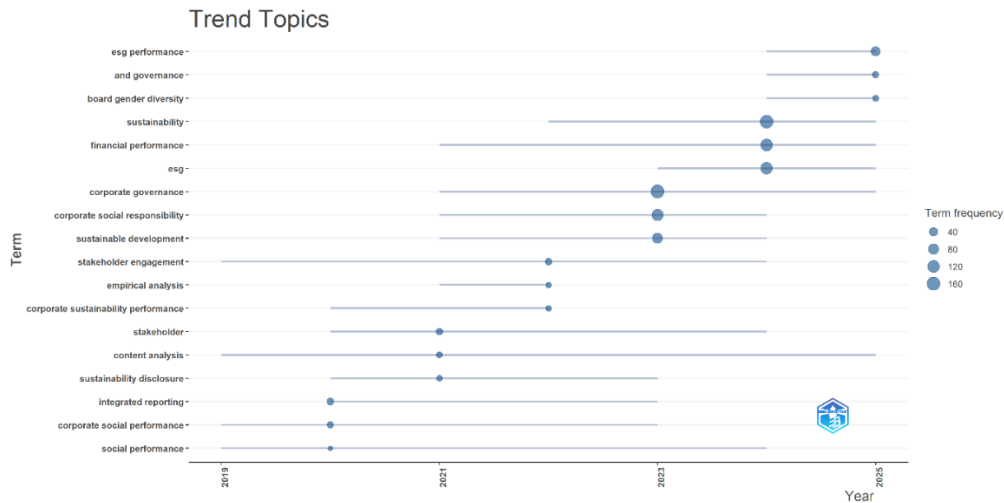
Starting in 2021, the conceptual thickness of the literature really comes into its own, with a good deal of central organizing around the linking of mechanisms of governance to financial outcomes as a function of sustainability pressures: corporate governance, corporate social responsibility, and sustainable development. The latter phase reflects a move beyond descriptive, disclosure-based studies toward causal and structural tests of how governance attributes condition firm performance in environmentally constrained contexts.

Most notably, the recent surge (2023–2025) in ESG, financial performance, sustainability, board gender diversity, and ESG performance signals the formation of an advanced research frontier, where governance structures are increasingly analyzed through multidimensional ESG lenses. This also shows a kind of maturity or evolution in the area towards a focus on strategic governance effectiveness over sustainability.

Figure 8, taken as a whole, illustrates the progression of the thematic structure of the literature from disintegrated social and disclosure-focused models of analysis to a

unified, ESG-integrated paradigm of governance and performance, pointing to the recognition of consensus among scholars and experts which views financial performance as being fundamentally affected by the quality of governance and its adaptation to the environment and sustainability. This evolution confirms that contemporary research is converging toward holistic, performance-oriented governance frameworks, thereby answering RQ4 by mapping both dominant themes and emerging conceptual trajectories over time.

Figure 8. Trend topics



Source: Extracted from Bibliometrix

Figure 9 presents the co-word analysis network that delineates the conceptual and thematic architecture of research on corporate governance and financial performance within environmental and sustainability contexts. Applying a stringent occurrence threshold of 20 keywords reduced the conceptual space to 21 core terms (out of 1950), which cluster into three thematically coherent but interlinked knowledge domains. This structure directly addresses RQ4 by revealing how dominant themes are organized and how emerging research fronts are positioned within the field.

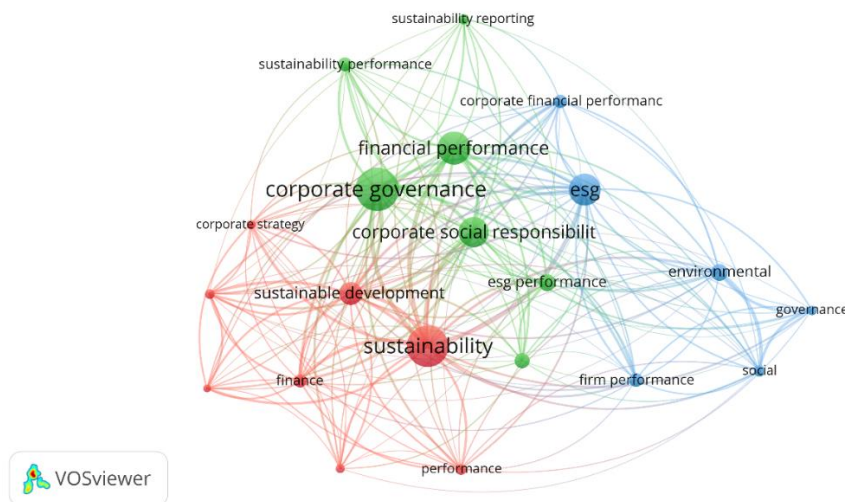
The first cluster represents a macro-level sustainability–performance nexus, integrating sustainability, sustainable development, environmental economics, environmental performance, and finance with strategic and performance-oriented constructs. This cluster corresponds to a research stream which conceptualizes sustainability issues as systemic economic and strategic concerns. This composition of themes points to a research development pathway in which sustainability research began with being conceptualized as either a constraint or a context for financial outcomes.

The second cluster constitutes the core governance–performance architecture of the field and occupies a structurally central position in the network. Anchored by corporate governance, corporate social responsibility, financial performance, ESG performance, sustainability performance, and sustainability reporting, this cluster

evidences the consolidation of governance mechanisms as the primary analytical lens through which sustainability and financial outcomes are jointly examined. The dense interconnections within this cluster indicate a mature research paradigm in which governance structures, disclosure practices, and CSR policies are theorized as mediating and moderating channels linking environmental and sustainability pressures to financial performance. This cluster therefore represents the dominant intellectual backbone of the literature.

The third cluster captures a disaggregated ESG–performance research front, structured around environmental, social, governance, ESG, firm performance, and corporate financial performance. Unlike the integrative governance-focused second cluster, this domain reflects a more granular analytical shift toward isolating ESG dimensions and assessing their differentiated impacts on firm-level financial outcomes. Its strong connectivity with both the governance and sustainability clusters suggests an ongoing thematic evolution toward performance measurement, ESG scoring, and empirical validation of ESG–financial performance linkages, marking this cluster as an emergent and rapidly expanding research frontier.

Figure 9. Co-word network



Source: Extracted from VOSviewer

Taken together, the co-word network in Figure 9 demonstrates a clear thematic evolution from broad sustainability–development concerns (Cluster 1), toward governance-centered integrative frameworks (Cluster 2), and further into ESG-specific, performance-driven empirical inquiry (Cluster 3). This layered architecture confirms that contemporary corporate governance–financial performance research is no longer conceptually fragmented but increasingly structured around ESG-oriented governance mechanisms as the principal interface between environmental sustainability challenges and firm financial outcomes, thereby providing a comprehensive answer to RQ4.

5. Discussion and Results

5.1. Discussion

The bibliometric evidence demonstrates that research on corporate governance (CG) and financial performance (FP) under environmental and sustainability challenges has entered a phase of accelerated and structural expansion between 2015 and 2025. The extremely rapid rate of annual growth (37.02%), together with the sharp increase in momentum post-2019, serves to support the notion of a shift in focus for sustainability as a niche ethical issue towards becoming a key consideration in governance and investment choices. The point of shift shows a congruent connection to exogenous events such as the Paris Agreement and particularly the COVID-19 pandemic in redefining a focus for sustainability as a necessary ingredient of resilience and a key area of risk management in its own right. The results relate to earlier bibliographic analysis evidence of a post-2018 shift towards a focus on investor-related literature as a key area of sustainable finance research in ESG considerations.

5.1.2. *Intellectual Foundations and Theoretical Evolution*

The intellectual landscape depicts a prominent paradigm transformation towards more value-based creation models and away from the shareholder maximization model. Stakeholder Theory has continued to offer the most prominent theoretical foundation to further support the assumption of corporations' financial sustainability for creating value for all interested parties by balancing economic interests with social and environmental concerns (Donaldson & Preston, 1995). Nevertheless, a trend of theoretical amalgamation emerges, and one of these blends or amalgamations has been achieved by subsuming Agency Theory and Stewardship Theory. Governance structures, rather than acting solely to limit managerial opportunistic behaviors for controlling corporate self-interest (Jensen & Meckling, 1976), encompass enablers of long-term sustainability-oriented investments.

Groundbreaking research such as that conducted by Xie et al. (2019) has been the catalyst that ensured ESG engagement became recognized not just as a means of improving governance but also as a cost not left to discretion. Furthermore, Garcia et al. (2017) have also emphasized that studying institutional and sectoral contexts, more specifically in emerging markets that have different structures of governance and different methods of enforcement of rules from the more developed economies. Concerning the analysis procedures of such studies, it has moved from merely explaining the disclosure of CSR information towards methods that are ESG-driven financial models that use dynamic panels and methods that correct endogeneity.

5.1.2. *Governance Mechanisms and Board Dynamics*

Thematic mapping identifies the board of directors as the focal point of sustainability governance. Consensus is strong that board size, independence, and expertise are

positively related to ESG disclosure quality and strategic alignment with sustainability. The most impactful among these board-level mechanisms is board gender diversity. There is consistent empirical support for the "critical mass" hypothesis that one needs at least three female directors to have possible influence on strategic orientation toward decarbonization, transparency, and social accountability (Cosma et al., 2024; Patekar & Mahajan, 2025).

At the same time, the importance of specialized board committees as a mediation factor is emphasized in contemporary literature. Sustainability committees improve the ability to identify Risks related to finance on a climate level in banks and capital-intensive industries. Audit committees in emerging countries act as a means for governance that ensures alignment with stakeholder interests rather than pushing the signaling hypothesis (Adu et al., 2024; Elmanaseer & Gerged, 2025). Taken together, these observations illustrate support for the idea that the quality of governance is more significant than sustainability engagement on whether ESG activities impact finance.

5.1.3. Financial Implications: Risk, Performance, and Value Creation

From a financial standpoint, the findings strongly support the "virtuous circle" hypothesis, which states that investment in sustainability strengthens firm reputation, reduces risk exposure, and, in turn, strengthens financial performance (Rodriguez-Fernandez, 2016). While short-run profitability pressures, associated with high levels of capital expenditure, are still relatively apparent in specific industries (Shaikh, 2022), the consensus over the longer run emanating from the literature is not ambiguous. High ESG performance is characterized by low idiosyncratic risk, low cost of capital, and high earnings stability, as markets increasingly view sustainability engagement as a signal of better governance and regulatory preparedness (Sciarelli et al., 2024; Hazaea et al., 2025).

Significantly, the new focus on risk management rather than return optimization marks a paradigm shift in financial reasoning in the literature on governance. Sustainability is no longer conceived as an antidote to returns in a solely positive manner but also in a protective context of environmental and reputational risks.

5.1.4. Geographical Reconfiguration and Persistent Challenges

Geographically, the field shows a clear transition toward a multipolar knowledge structure. While the early conceptual and empirical underpinning was laid in the US and Europe, the period 2015–2025 is marked by the rapid rise of China, India, and Southeast Asian economies. China, in particular, becomes a strong hub in international collaboration, reflecting both its regulatory push toward green finance and its growing academic influence.

Notwithstanding this cognitive maturity, there remain many open issues that continue to shape the research agenda in this area. The lack of standardization in these ESG rating approaches, characterized as "aggregate confusion" in the literature, is still an

issue (Berg et al., 2022; Patekar and Mahajan, 2025). Furthermore, the threat of greenwashing is still an open issue, where researchers have turned to more result-focused measures, like the Sustainable Growth Rate (SGR), in order to distinguish between actual process upgrades and mere disclosure activities.

5.2. Conclusion

The current research highlights and focuses on a holistic bibliometric mapping process regarding the research intensity and development state pertaining to corporate governance (CG) and financial performance (FP) issues under environmental and sustainability factors and challenges over the period from 2015 through 2025 through 609 scholarly pieces reviewed.

The data show that there has been an intense growth of scientific output with an average growth rate of 37.02% per annum. The research trend is non-linear, displaying what might be termed an 'explosive growth' phase from 2019 onwards, driven by worldwide factors such as the Paris Climate Agreement and COVID-19. The research trend is also very visible in academia, with an average of 30.96 citations per document, which indicates that this area of research has moved from an explore/establish phase to a strategically central phase of research. The young average document age of 3.08 years further reinforces the fact that this issue of CG-FP sustainability is recent and of immediate importance.

The intellectual foundations are built upon an intense core of inter-disciplinary journals, only comprising Corporate Social Responsibility and Environmental Management, Business Strategy and the Environment, and others. The core is supported by influential studies such as that by Xie et al. (2019), that provided credentials for ESG activities as value-enhancing instruments of governance. The foundations have migrated from classical theories for maximizing shareholder value towards a 'triple bottom-line approach,' and Stakeholder Theory has become the principal anchor for examinations concerning value creation. However, co-citation analysis also reveals a maturity in methodology, in that studies now dynamically apply panel data methodologies in treating endogeneity in studies concerning governance and performance.

The knowledge production process in this field is geographically imbalanced and is therefore becoming multipolar. Although European and North American institutions laid the groundwork with their research output, China, India, and Malaysia are emerging as strong contributors between 2015 and 2025. China is particularly taking center stage as the leading global hub and is thereby allowing inter-regional knowledge flow and creation through strong global collaboration networks. Universiti Teknologi MARA (Malaysia) is particularly evident as the leading productive affiliation and thereby reflects on the emphasis placed on sustainability research with particular higher educational systems. International co-authorships contribute largely (31.53%) to this dataset and are

thereby a strong determinant for inter-regionalization on methodological rigor and theories.

The thematic evolution of the field unveils a paradigmatic shift from descriptive disclosure on CSR issues to integrated, ESG-oriented governance-performance frameworks. The conceptual backbone is defined by the nexus between ESG and performance, which over the last two decades has become established in mainstream financial research. Board gender diversity and board independence show up as high-impact variables in the analysis, and there is evidence that "critical mass" is required in terms of the number of female directors to see any impact on strategic pivots toward sustainability. Finally, risk mitigation is an emergent research front where high ESG performance is associated with lower idiosyncratic firm risk and lower cost of capital.

In conclusion, corporate governance has moved from a mere compliance-oriented mechanism to become a strategic driver of institutional resilience and financial success in view of environmental constraints. Yet, despite the recognition of the importance of corporate sustainability, such areas still present a series of challenges: "aggregate confusion" associated with non-standardized ESG ratings, such as the risk of greenwashing. Indeed, more future research is needed regarding the mitigation of these information frictions and the investigation of the "virtuous circle" of social investment and profit across varied regulatory environments. This review systematically sets the baseline for scholars and practitioners who seek to address the complex, rapidly evolving landscape of sustainability-driven corporate governance.

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Conflict of interest

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APPENDICES

Appendix 1. List of bibliometric data extracted from Scopus

Githublink: <https://github.com/aissaguettala/Appendix-A.-List-of-bibliometric-data-extracted-from-Scopus.git>