


Financial Management in the ESG Context: A Bibliometric Review and Author Network Analysis

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Article Info	ABSTRACT
<p>Article history:</p> <p>Received September, 2025 Revised September, 2025 Accepted September, 2025</p> <hr/> <p>Keywords:</p> <p>ESG Financial Management Sustainability Corporate Social Responsibility Green Finance Bibliometric Analysis</p>	<p>This study presents a comprehensive bibliometric review and author network analysis of scholarly literature on financial management within the context of Environmental, Social, and Governance (ESG) principles. Utilizing data from the Scopus database and VOSviewer software, the analysis maps the intellectual structure, thematic evolution, and collaborative patterns of publications from 2000 to 2025. The findings reveal that core concepts such as sustainability, corporate social responsibility, ESG performance, and financial performance dominate the research landscape. Emerging themes, including green finance, climate risk, and stakeholder engagement, indicate a growing interdisciplinary interest and the expansion of ESG-related financial strategies. Author and institutional co-authorship networks highlight fragmented yet globally distributed collaboration, with China, the United States, and the United Kingdom playing central roles in knowledge production. This study provides critical insights for researchers, practitioners, and policymakers, while also identifying theoretical gaps and future research directions in the integration of ESG into financial management practices.</p> <p><i>This is an open access article under the CC BY-SA license.</i></p> <div></div>

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1. INTRODUCTION

Over the past two decades, the concept of Environmental, Social, and Governance (ESG) has emerged as a transformative force in the global financial and corporate landscape [1], [2]. Initially driven by investor pressure and sustainability reporting mandates, ESG has evolved into a strategic imperative that reshapes how organizations approach financial management. In traditional finance, the primary focus has been on profitability, risk management, and shareholder value. However, with rising concerns about climate

change, inequality, and corporate governance failures, financial decision-making is increasingly interlinked with ESG considerations [3], [4].

This paradigm shift has fueled a growing body of academic literature and professional discourse around ESG-aligned financial practices. Topics such as sustainable investment, green bonds, ESG disclosure, impact measurement, and integrated reporting [5] have gained prominence in both developed and emerging economies [6]. Financial managers are no longer evaluated solely on traditional metrics such as ROI or liquidity ratios but are expected to

demonstrate ESG alignment, stakeholder responsiveness, and long-term value creation. These shifts reflect the broader realignment of finance with sustainable development goals (SDGs) and responsible capitalism [7], [8].

Parallel to these practical transformations is an evolving academic interest in ESG-driven financial management. The body of knowledge now includes works analyzing ESG's influence on financial performance, capital structure, cost of capital, and risk management strategies [9]. However, the multidimensionality of ESG and its intersection with diverse financial theories has led to fragmented research streams that require systematic mapping and synthesis. A clear understanding of the intellectual structure, thematic trends, and author collaborations in this field is crucial to guide future research and policy-making.

Bibliometric analysis has proven to be a robust method for synthesizing literature in rapidly evolving and multidisciplinary fields such as ESG. Unlike narrative reviews, bibliometrics leverages citation data and co-authorship networks to identify influential publications, core themes, and knowledge diffusion patterns [5]. In recent years, bibliometric methods using tools like VOSviewer and Bibliometrix have been applied in domains such as green finance, sustainable accounting, and CSR reporting, but few have focused specifically on the nexus of ESG and financial management.

Moreover, the collaborative structure of researchers working in this field remains underexplored. Author network analysis provides insights into research productivity, institutional clusters, and international collaboration patterns, factors that significantly influence the development and dissemination of ESG-related financial knowledge. Identifying leading authors, prolific institutions, and co-authorship networks can help early-career researchers and policymakers engage more effectively with the scholarly community and promote cross-border knowledge exchange.

Given the increasingly strategic role of ESG in reshaping financial systems, a comprehensive bibliometric and author

network analysis of financial management research in the ESG context is timely and necessary. This review seeks not only to map the evolution of research themes but also to uncover knowledge gaps, theoretical underpinnings, and methodological trends. By doing so, it aims to bridge the divide between ESG theory and financial practice and contribute to a more cohesive scholarly framework that reflects the complexity and urgency of sustainability challenges.

Despite the exponential growth in ESG-related research and the proliferation of ESG standards, there is a lack of clarity about how financial management has been conceptually and empirically situated within the ESG framework. Existing literature tends to focus on isolated variables such as ESG scores, financial returns, or reporting quality, without integrating these into a holistic narrative. Furthermore, few studies have applied bibliometric techniques to trace the evolution of research themes, identify influential authors, or map the collaborative structure of the field. This fragmentation hampers the development of a coherent body of knowledge and limits the practical relevance of academic research for financial managers, investors, and regulators seeking to navigate the ESG transition. The objective of this study is to conduct a bibliometric review and author network analysis of financial management literature within the ESG context.

2. METHODS

This study employs a bibliometric analysis method using VOSviewer software to systematically map the scholarly landscape of financial management within the context of Environmental, Social, and Governance (ESG) principles. Bibliometric analysis enables researchers to uncover structural patterns and thematic developments within a field by analyzing publication metadata such as citations, co-authorship, and keyword co-occurrence. The dataset for this study was retrieved from the Scopus database, which is known for its extensive coverage of peer-reviewed literature across disciplines. The

search was conducted using a combination of terms including "financial management," "ESG," "sustainable finance," and "environmental social governance," filtered for documents published in English from 2000 to 2025.

After retrieving the bibliographic data from Scopus, the records were exported in a format compatible with VOSviewer, specifically as a .CSV and .RIS file including full records and cited references. The data was then processed in VOSviewer to generate visual maps representing the bibliometric networks. Co-authorship analysis was conducted to examine collaboration patterns among authors, institutions, and countries, while co-citation analysis identified key publications that have significantly influenced the development of this research domain. Additionally, keyword co-occurrence analysis was performed to reveal core themes and emerging trends within ESG-related financial management literature. VOSviewer's layout and clustering algorithms were used to visualize and interpret the results through network, overlay, and density views. Thresholds were applied to ensure the relevance of included items, such as a minimum number of occurrences for keywords or citations for authors. The resulting visualizations enabled the identification of influential authors, dominant thematic clusters, and the evolution of key concepts over time.

3. RESULTS AND DISCUSSION

Keyword Co-Occurrence Analysis

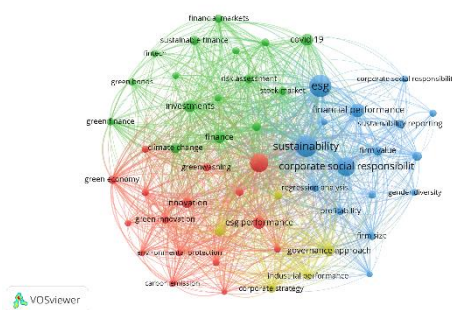


Figure 1. Network Visualization

Source: Data Analysis

Figure 1 illustrates a network of co-occurring keywords defining financial

management in the ESG context. The visualization has been derived on the basis of bibliographic data in the Scopus database, with each node representing a keyword that has been found in the titles and abstracts of the publication set considered. Node size is related to keyword frequency, and edge thickness (lines) is related to co-occurrence relationship strength between words. The theme group clustering algorithm groups similar keywords into thematic groups, depicted here in differing colors (predominantly red, green, blue, and separated some yellows), forming a dense and tight network of knowledge.

Central to the network is the keyword sustainability, drawn as the largest red node, showing that it is the most frequently used term within the ESG-finance literature. It is most closely associated with corporate social responsibility (CSR), which points to the fact that CSR has always been connected with sustainable financial practices. They are the conceptual pillars of the map, linking a number of thematic clusters. The co-location and direct linkage of sustainability, CSR, and financial performance suggest that the majority of the studies investigate the convergence of socially responsible behaviors and their impact on firm performance—financially and reputationally. The green cluster (upper-left quadrant) has ideas like green finance, investments, climate change, financial markets, and risk management.

This implies a strong focus on the environmental dimension of ESG, i.e., on financial products (green bonds, ESG investments, etc.) and market responses to sustainability-related issues. The blue cluster (right-hand side) includes keywords like corporate governance, ESG performance, disclosure, and reporting, which reflects a literature that examines how companies disclose information on ESG and how governance mechanisms affect such disclosures. Concomitantly, the red cluster (bottom-left) groups concepts such as CSR reporting, strategy, management, and corporate finance, outlining a thematic axis on the strategic and managerial consequences of ESG incorporation in financial choices. The

COVID-19 term is actually part of the green cluster, reflecting the impact of the pandemic in ESG-based financial research. Its link to finance, risk, and resilience indicates that the pandemic has prompted discussions about the way ESG systems can buffer economic and social shocks.

Other periphery themes like circular economy, stakeholder value, and corporate strategy demonstrate an expanding domain of inquiry that incorporates broader sustainability concepts into finance. Such a range in themes shows the interdisciplinary character of ESG research, integrating finance, environmental studies, management science, and public policy.

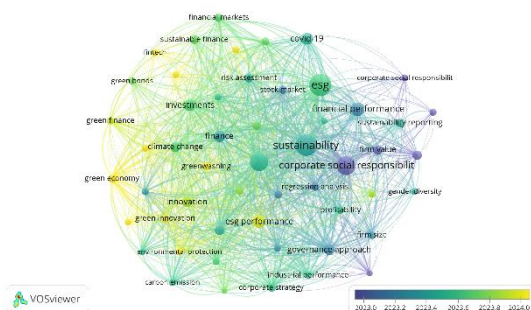


Figure 2. Overlay Visualization
Source: Data Analysis

Figure 2 is co-occurrence by keyword in ESG–financial management research with the color gradient (yellow–blue) representing the average date of publication of articles using each keyword. The basic structure is the same as the usual co-occurrence map, but the overlay adds a time element depicting evolution of subject matter over time. Blue-hued keywords represent themes more prominent in earlier research (around 2018–2020), while yellow hues represent newer themes (2022–2025).

In the middle section, key topics like sustainability, corporate social responsibility, and ESG are indicated in greenish-blue, as they have been persistently appearing over the last few years.

These are key words with persistent relevance in the topic area. Keywords like green finance, climate change, risk management, and stakeholder engagement—to the left and top-left—are trending towards yellow, as these topics are receiving new or

rising research interest after 2022. Interestingly enough, terms like COVID-19, financial resilience, and circular economy are also yellow-marked, which means that they are emerging themes linked to global disruptions and shifts towards sustainability. The bluish hues on the right side of the map, which include keywords like corporate governance, disclosure, and reporting, show that these themes had already been developed earlier in the literature on ESG-financial management.

This temporal divide signifies the manner in which the region is unfolding from reporting and governance (early 2010s–2020) towards more forward-looking finance tools and strategic risk frames (2021 and beyond). Since ESG is further evolving, this visualization reflects a shift toward the incorporation of environmental risk, innovation, and impact within financial management language.

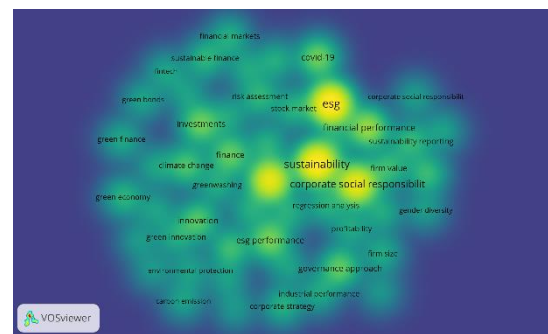


Figure 3. Density Visualization
Source: Data Analysis

This is a VOSviewer density visualization image that presents the co-occurrence landscape of keywords in financial management literature using ESG as context. In this case, more frequent occurrence of keywords and higher co-occurrence density are indicated by the whiter yellow areas, and less common or peripheral keywords by the darker blue areas. In the center of the map, prominent words such as sustainability, corporate social responsibility, and ESG are marked in hot yellow, which shows that they have a primary position and are pervasive throughout the study. They are the intellectual core of ESG-finance research and

reflect their widespread application throughout masses of research.

Surrounding this hub are more dense areas with terms like financial performance, investments, climate change, green finance, and governance. Their green hue means they are important but not core. Moving further towards the periphery, terms like carbon emission, industrial performance, and gender diversity appear in darker shades, which implies that while they are part of the discourse, they are not studied as much. This visualization not only points to prevailing research topics but also anticipates future lines of research on less-explored but emerging themes, such as circular economy, risk management, and stakeholder theory in ESG-based financial management systems.

Citation Analysis

Table 1. Top Cited Literature

Citations	Author	Title
96	[10]	ESG performance, capital financing decisions, and audit quality: empirical evidence from Chinese state-owned enterprises
37	[11]	Boosting Sustainability in Healthcare Sector through Fintech: Analyzing the Moderating Role of Financial and ICT Development
36	[12]	A study on the impact of ESG rating on green technology innovation in enterprises: An empirical study based on informal environmental governance
28	[13]	ESG investing and the financial performance: a panel data analysis

		of developed REIT markets
22	[14]	ESG performance and green innovation of Chinese enterprises: Based on the perspective of financing constraints
19	[15]	Rethinking the effect of ESG practices on profitability through cross-dimensional substitutability
15	[16]	The impact of environmental, social, and governance (ESG) rating disparities on corporate risk: The mediating role of financing constraints

Co-Authorship Analysis

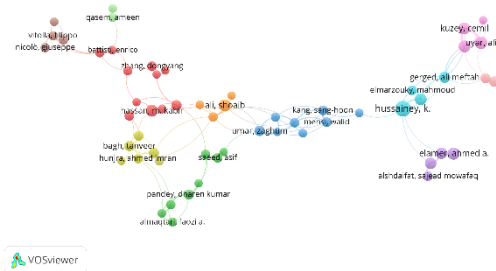


Figure 4. Author Visualization
Source: Data Analysis

Figure 4 is a visualization of an author co-authorship network that indicates the research collaboration structure among researchers in the field of financial management and ESG. Each node represents an author, and the lines (edges) linking them indicate co-authorship relationships. The different colors indicate different clusters of co-authorship, suggesting groups of researchers or institutional

clustering. Most interesting are several well-defined clusters, such as the blue cluster centered around Hussainey, K., that of an extremely collaborative sub-network, and the red cluster around Vitolla, F. and Garzoni, A., that of another large group of authors. Some of the clusters, such as the pink one between Kuzey, C. and Uyar, A., are farther away, that of limited cross-collaboration with other networks.

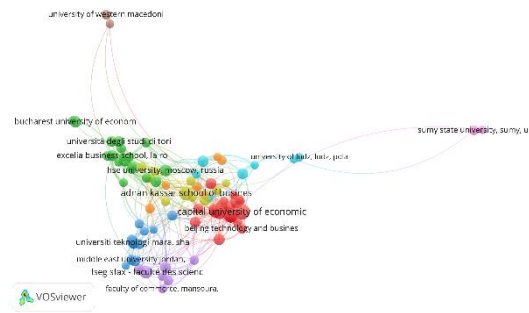


Figure 5. Institution Visualization

Source; Data Analysis

Figure 5 illustrates the network of co-authorship across institutions, with the co-operative relationship between research institutions and universities conducting ESG and financial management studies. Each institution is a node, while co-authorship relationships between institutions are illustrated by the lines connecting the nodes.

The institutions have been colour-coded into clusters based on the intensity and frequency of co-authorships. Centrally positioned in the network, Capitol University of Economic and Adrian Kucher School of Business are central nodes, indicating that they are the most interconnected institutions in this field. The close clustering of European institutions such as Bucharest University of Economic Studies, University of Lodz, and University of Economics, Katowice signifies high regional collaboration. While some nodes like Suny State University and University of Western Macedonia appear more on the periphery with less affiliations, they indicate isolated or emerging contributions.

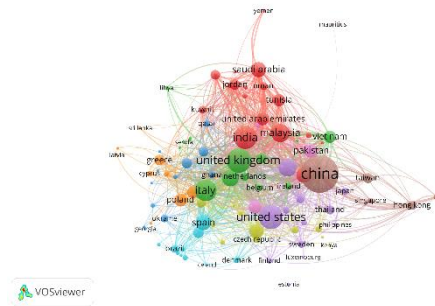


Figure 6. Country Visualization

Source: Data Analysis

Figure 6 is a country co-authorship network in the area of ESG and financial management research. Countries are the nodes, and their sizes represent the number of publications of each country. The thicker lines mean closer collaborative relationships, and the color clusters denote tight interconnection clusters of countries. In the middle of the network, China is the central node, which reflects its leadership in ESG research production and global cooperation. United States, United Kingdom, Italy, and India are other prominent producers, each at the center of their regional or topical clusters. The positioning of countries like Saudi Arabia, Russia, and United Arab Emirates in outer integrated nodes suggests more global connectivity. The close web of citations indicates collaborative global efforts, especially in Asia, Europe, and North America, demonstrating that research on ESG-themed finance is an international collective intellectual endeavour with increasing cross-border communication.

Practical Implication

This study provides actionable insights for financial practitioners, policymakers, ESG analysts, and institutional investors by mapping the most influential themes and actors in the evolving intersection of financial management and ESG. The identification of dominant keywords such as sustainability, corporate social responsibility, ESG performance, and financial performance enables professionals to align their strategies with the most research-supported areas. The findings also offer guidance on emerging concepts like green finance, risk management,

and stakeholder engagement, helping companies future-proof their financial planning against regulatory and reputational risks. Moreover, the co-authorship and institutional collaboration networks can inform research partnerships, consulting networks, and cross-border ESG investment coalitions, especially for organizations seeking to benchmark themselves against leading institutions and countries in this field.

Theoretical Contribution

From a theoretical perspective, this study contributes to the literature by synthesizing a fragmented and interdisciplinary body of research into a cohesive bibliometric framework. It highlights how financial management has been conceptually extended to incorporate ESG principles, offering an integrated understanding of the field's intellectual structure. By identifying core clusters—such as those focused on sustainability performance, governance and disclosure, and strategic risk integration—this study enriches the ongoing theoretical discourse on stakeholder theory, institutional theory, and resource-based views within the ESG context. Furthermore, the temporal evolution of keywords and the identification of thematic gaps provide a platform for future theorizing, particularly around underdeveloped intersections such as ESG and innovation, ESG and behavioral finance, and ESG's impact on emerging market firms.

Limitation

Despite its comprehensive approach, this study has several limitations. First, it relies solely on the Scopus database, which, while extensive, may exclude relevant publications indexed in other repositories such as Web of Science, Dimensions, or SSRN. Second, the bibliometric analysis focuses on metadata (titles, abstracts, and keywords) and does not capture the full semantic depth or

critical content of each publication, which may limit the interpretive richness of the thematic analysis. Third, the use of VOSviewer, although effective for visualizing co-occurrence and collaboration networks, imposes algorithmic clustering that may overlook nuanced interdisciplinary overlaps. Lastly, the static nature of bibliometric data prevents real-time capture of the most recent trends or emerging grey literature, which are often crucial in a fast-evolving field like ESG finance.

4. CONCLUSION

This study offers a comprehensive bibliometric and author network analysis of financial management research within the ESG context, revealing key intellectual structures, thematic trends, and collaborative patterns that have shaped the field over the past two decades. By analyzing co-occurrence of keywords, author and institutional collaborations, and country-level contributions using VOSviewer, the study highlights the central role of sustainability, corporate social responsibility, and ESG performance in contemporary financial discourse. It also identifies emerging topics such as green finance, climate risk, and stakeholder engagement, which signal future directions for both academic inquiry and practical implementation. The author and institutional network maps further underscore the importance of global collaboration and knowledge diffusion in advancing ESG-finance integration. While the study is limited by its reliance on Scopus and metadata-based analysis, it nonetheless provides a valuable foundation for researchers, practitioners, and policymakers seeking to understand and contribute to the evolving landscape of sustainable financial management.

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