

SUSTAINABILITY, ESG, AND ACCOUNTING: A BIBLIOMETRIC REVIEW OF THE FINANCIAL REPORTING LITERATURE

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Abstract

Over the past five years, environmental, social, and governance (ESG) considerations have moved from the periphery to the centre of corporate financial reporting, generating a rapidly expanding and increasingly fragmented body of scholarship. This study applies bibliometric and science-mapping techniques to map the intellectual and conceptual structure of the literature situated at the intersection of sustainability, ESG, and accounting. Drawing on a corpus of 1,000 open-access journal articles indexed in The Lens and published between 2020 and 2025, the analysis combines performance analysis (productivity and citation metrics) with science mapping (co-authorship, keyword co-occurrence, and source coupling generated in VOSviewer). The corpus accumulated 18,337 citations (mean = 18.34 per document; corpus h-index = 64) and grew at a compound annual rate of roughly 44% between 2020 and 2024. Sustainability, PLoS ONE, and Heliyon emerged as the most productive outlets, while the most influential documents concentrated on the ESG-financial-performance relationship. Keyword co-occurrence analysis revealed a thematic core organised around ESG, sustainability, corporate governance, financial performance, and sustainable development. The review identifies the dominant research fronts, the leading contributors, and the methodological orientation of the field, and outlines an agenda for future inquiry into sustainability accounting and disclosure. The findings offer researchers, practitioners, and standard-setters a structured overview of a fast-moving and policy-relevant field.

1. INTRODUCTION

The integration of sustainability concerns into corporate financial reporting has become one of the defining developments in contemporary accounting research and practice. What began as a niche literature on voluntary social and environmental disclosure has, within a single decade, evolved into a vast and policy-driven field organised around the tripartite framework of environmental, social, and governance (ESG) performance. Investors increasingly treat ESG information as material to valuation, regulators

across the European Union, the United States, and Asia have introduced mandatory non-financial reporting regimes, and the consolidation of standard-setting under bodies such as the International Sustainability Standards Board has accelerated demand for comparable, decision-useful sustainability information. As a consequence, the scholarly output linking sustainability, ESG, and accounting has expanded at a pace that makes it difficult for any individual researcher to maintain a coherent map of the field.

This rapid expansion is accompanied by considerable fragmentation. Studies are dispersed across accounting, finance, management, environmental science, and interdisciplinary sustainability journals; they draw on competing theoretical lenses legitimacy theory, stakeholder theory, agency theory, and signalling theory and they employ a heterogeneous mix of archival, survey, and analytical methods. The terminology itself is unsettled, with concepts such as sustainability reporting, non-financial disclosure, integrated reporting, ESG disclosure, and corporate social responsibility (CSR) used interchangeably or in subtly different ways. For newcomers and established scholars alike, this heterogeneity raises a practical question: what is the underlying intellectual and conceptual structure of the literature that connects sustainability and ESG to financial reporting?

Bibliometric analysis offers a systematic, reproducible, and quantitative response to this question. Unlike a narrative review, which relies on the subjective selection and interpretation of a limited number of studies, a bibliometric review processes large volumes of metadata to reveal patterns of productivity, influence, and intellectual association that are not visible from close reading alone (Donthu et al., 2021; Zupic & Čater, 2015). Performance analysis quantifies the contribution of authors, sources, institutions, and countries, while science mapping uncovers the relational structure of the field through techniques such as co-authorship analysis, keyword co-occurrence, bibliographic coupling, and co-citation analysis (Aria & Cuccurullo, 2017; van Eck & Waltman, 2010). Together, these methods allow the researcher to describe both the size and shape of a research domain.

A small but growing number of reviews have already attempted to synthesise parts of this terrain. Earlier surveys have examined corporate social responsibility disclosure, the determinants of voluntary environmental reporting, and the maturation of integrated reporting, while more recent contributions have begun to chart the ESG literature specifically. However, many of these reviews either predate the post-2020 acceleration in ESG and sustainability-reporting research, focus

on a single theme such as green finance or assurance, or rely on narrative rather than quantitative synthesis. The very speed at which the field is expanding means that maps drawn even three or four years ago are now incomplete. There is therefore a clear need for an updated, data-driven review that captures the most recent surge in output and that explicitly positions sustainability and ESG within the financial-reporting domain rather than treating them as standalone phenomena. The present study responds to this need by analysing a contemporary corpus and by combining performance and relational analyses within a single integrated framework.

The present study applies these techniques to a corpus of 1,000 journal articles published between 2020 and 2025 and retrieved from The Lens scholarly database. The objective is to map the structure of the financial-reporting literature at its intersection with sustainability and ESG, and to identify the leading contributors, the most influential publications, the dominant themes, and the emerging research fronts. Specifically, the review is guided by four research questions: (RQ1) How has scholarly production and citation impact in this field evolved between 2020 and 2025? (RQ2) Which sources, authors, and documents are most productive and most influential? (RQ3) What is the conceptual structure of the field, as revealed by keyword co-occurrence? (RQ4) What collaborative and intellectual linkages characterise the field, and what research directions do they imply?

By answering these questions, the study makes three contributions. First, it provides an up-to-date and replicable map of a fast-moving field, complementing earlier reviews that predate the recent surge in ESG scholarship. Second, by combining performance metrics with science mapping, it offers a multidimensional account of the field that integrates the “who,” “where,” and “what” of the literature. Third, it surfaces a research agenda for sustainability accounting that is grounded in the observed thematic structure rather than in author intuition. The remainder of the paper is organised as follows. Section 2 describes the data and methods. Section 3 presents

the performance-analysis results. Section 4 reports the science-mapping findings. Section 5 discusses the thematic structure and research fronts, and Section 6 concludes with limitations and directions for future research.

2. Data and Methodology

2.1 Research Design

This study adopts a bibliometric research design, a quantitative approach to the analysis of published scholarship that has become widely used in accounting and finance research (Donthu et al., 2021). Bibliometrics rests on the assumption that the metadata attached to publications authorship, citations, keywords, and venues encode meaningful information about the structure and dynamics of a field (Pritchard, 1969). The analysis proceeds in two complementary stages. The first stage, performance analysis, evaluates the productivity and impact of the constituent units of the field (documents, authors, sources, publishers, and countries). The second stage, science mapping, examines the relational structure of the field using network-based techniques (Cobo et al., 2011; Zupic & Čater, 2015).

2.2 Data Source and Search Strategy

Bibliographic data were retrieved from The Lens (lens.org), an open scholarly-discovery platform that aggregates records from Crossref, PubMed, Microsoft Academic, and other sources, and which provides rich, downloadable metadata including citation counts, references, keywords, and open-access status. The Lens was selected because of its broad coverage, its inclusion of open-access bibliographic metadata, and its suitability for export to science-mapping tools. The search strategy targeted the conceptual intersection of sustainability, ESG, and accounting using the topical terms reflected in the study keywords sustainability reporting, ESG disclosure, sustainability accounting, and financial reporting.

The retrieved records were refined according to the following inclusion criteria: (a) document type restricted to peer-reviewed journal articles, to ensure a baseline of scholarly quality; (b) publication window of 2020 to 2025, capturing

the period of most intense growth in ESG and sustainability-accounting research; and (c) availability of complete bibliographic metadata required for science mapping. The application of these filters yielded a final analytical corpus of 1,000 journal articles. All records in the corpus are open access, a characteristic of the export that enhances the transparency and reproducibility of the underlying sources.

2.3 Analytical Tools and Procedures

Performance analysis was conducted on the exported metadata using standard bibliometric indicators, including the annual number of publications, total and average citations per document, and the h-index of the corpus. The h-index, originally proposed for individual researchers, is applied here at the corpus level: a corpus has an h-index of h when h of its documents have each received at least h citations. Productivity and impact were tabulated for sources, authors, documents, publishers, and source countries, and the top ten units in each category were identified in line with the study brief.

Science mapping was performed in VOSviewer, the network-visualisation software developed by van Eck and Waltman (2010), which constructs and displays bibliometric networks using a distance-based mapping technique. Three networks were generated: (a) a co-authorship network linking authors who have published together; (b) a keyword co-occurrence network linking terms that appear together in the same documents, revealing the conceptual structure of the field; and (c) a source-level network capturing the relatedness of publication venues. For each network, VOSviewer reports the number of occurrences (or documents), the citations, and the total link strength of each node. Total link strength measures the cumulative strength of a node's connections to all other nodes and serves as an indicator of its centrality within the network. The results of these analyses are reported in the tables and figures that follow.

3. Performance Analysis

3.1 Overview of the Corpus

Table 1 summarises the main characteristics of the analytical corpus. The 1,000 journal articles were published across 367 distinct sources and 261 publishers over the 2020–2025 window, and were authored by 2,640 unique researchers. Collectively, the corpus has attracted 18,337 citations, equivalent to an average of 18.34 citations per document, and exhibits a corpus h-index of 64—indicating that 64 documents have

each been cited at least 64 times. The field is strongly collaborative: with an average of 2.86 authors per article and only 171 single-authored papers, co-authorship is the clear norm. The fact that 28 documents have each surpassed 100 citations, while 145 remain uncited, reflects the highly skewed citation distribution typical of a young and rapidly expanding field, in which a small number of early, agenda-setting papers capture a disproportionate share of attention.

Table 1. Main information about the corpus

Indicator	Value
Timespan	2020–2025
Documents (journal articles)	1,000
Sources (journals)	367
Publishers	261
Unique authors	2,640
Author appearances	2,858
Average authors per document	2.86
Single-authored documents	171
Total citations	18,337
Average citations per document	18.34
Corpus h-index	64
Documents with ≥100 citations	28
Uncited documents	145

3.2 Annual Scientific Production

Figure 1 traces the evolution of annual output and the citations accumulated by each publication year. Production rose sharply from 51 articles in 2020 to a peak of 292 articles in 2022, before settling at 200 and 221 articles in 2023 and 2024 respectively; the 104 articles recorded for 2025 reflect only a partial year at the time of data extraction. Between 2020 and 2024 the field grew at a compound annual rate of approximately 44%, underscoring the explosive expansion of ESG and

sustainability-accounting scholarship over the period. The citation pattern displays the expected inverse relationship with recency: the 2021 and 2022 cohorts have accumulated the largest citation totals (4,211 and 7,052 citations respectively), because earlier papers have had more time to be cited and include several of the field's most influential contributions, whereas the most recent cohorts have not yet reached their citation potential.

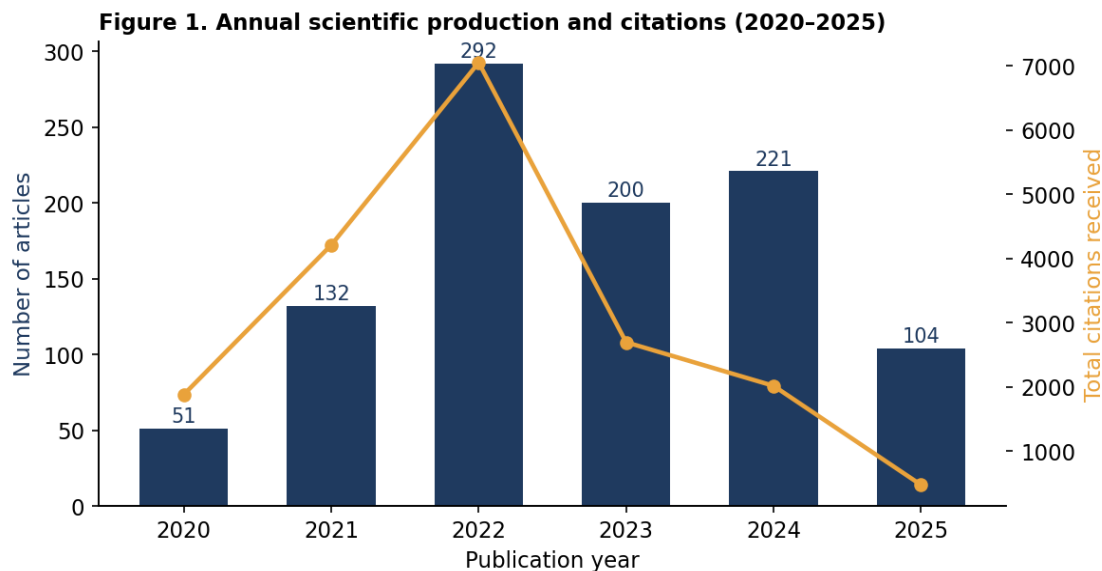


Figure 1. Annual scientific production and citations received (2020–2025).

3.3 Most Productive Sources

The distribution of articles across journals is highly concentrated. As shown in Table 2 and Figure 2, the journal Sustainability alone accounts for 258 of the 1,000 articles—more than a quarter of the entire corpus—and has attracted 9,408 citations, by far the largest of any source. A substantial gap separates it from the next tier, comprising PLoS ONE (44 articles), Heliyon (38 articles), and Frontiers in Environmental Science (19 articles). The prominence of broad-scope,

open-access mega-journals such as Sustainability, PLoS ONE, and Heliyon reflects both the interdisciplinary nature of the field and the open-access character of the corpus. Specialist finance and accounting outlets—including the International Journal of Financial Studies, Cogent Business & Management, and Corporate Ownership and Control—also feature prominently, signalling that the topic has secured a firm foothold within the core accounting and finance literature.

Table 2. Top 10 most productive sources (TLS = total link strength from source coupling)

Source	Docs	Citations	TLS
Sustainability	258	9,408	29895
PloS one	44	507	7977
Heliyon	38	1,054	7832
Frontiers in Environmental Science	19	458	5579
Energies	13	313	2329
Corporate Ownership and Control	13	123	3683
International Journal of Financial Studies	12	401	3114
E3S Web of Conferences	12	82	588
International Journal of Energy Economics and Policy	11	136	212

Source	Docs	Citations	TLS
International journal of environmental research and public health	9	231	1992

Figure 2. Top 10 most productive sources

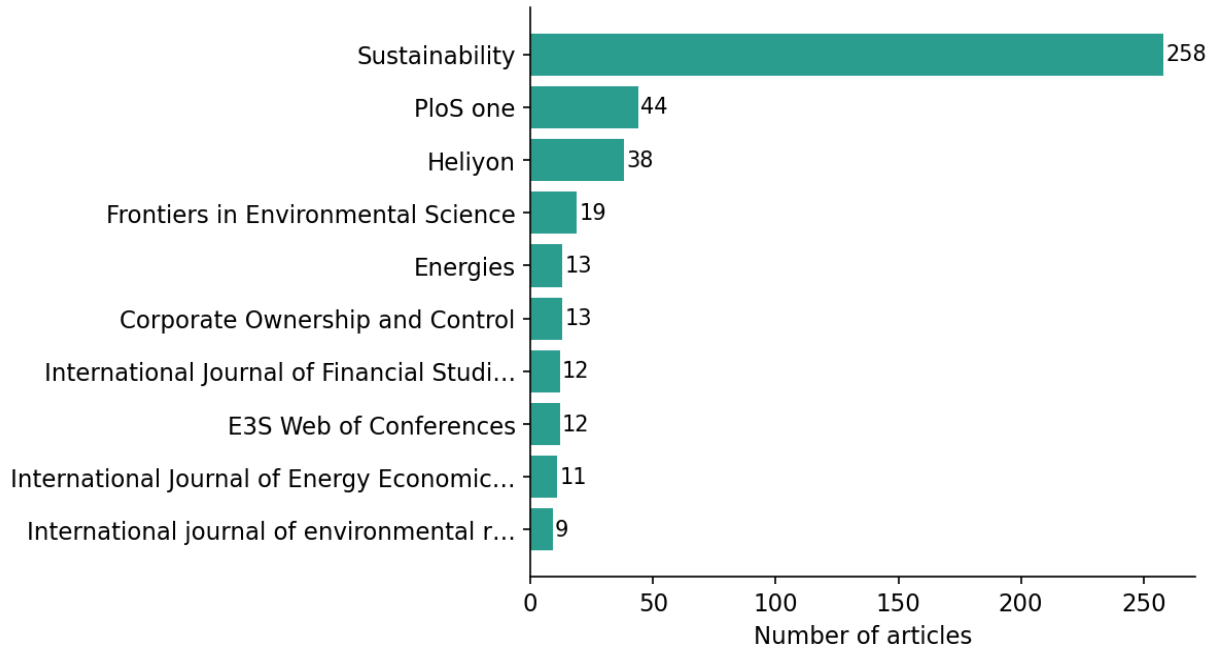




Figure 2. Top 10 most productive sources by number of articles.

3.4 Most Cited Documents

Citation impact at the document level provides a window onto the intellectual core of the field. Table 3 and Figure 3 list the ten most cited articles in the corpus. The single most cited document, Kim and Li (2021), with 290 citations, examines the impact of ESG practices in corporate finance and exemplifies the field's central preoccupation with the relationship between ESG performance and financial outcomes. The remaining members of the top ten reinforce this orientation: Ahmad et al. (2021) revisit the ESG-performance

relationship for FTSE 350 firms; De Lucia et al. (2020) deploy machine-learning methods to ask whether good ESG leads to better financial performance; Pulino et al. (2022) test whether ESG disclosure influences firm performance; and Park and Jang (2021) study the role of ESG in institutional-investor decisions. Notably, eight of the ten most cited documents were published in 2020 or 2021, and six appeared in the journal Sustainability, confirming both the early-mover advantage in citation accumulation and the centrality of that outlet to the field.

Table 3. Top 10 most cited documents

Author (year)	Title (abbrev.)	Source	Cites
Sang Kim et al. (2021)	Understanding the Impact of ESG Practices in Corporate F...	Sustainability	290
Nisar Ahmad et al. (2021)	Revisiting the impact of ESG on financial performance of...	Cogent Business & Manage...	241
Caterina De Lucia et al. (2020)	Does Good ESG Lead to Better Financial Performances by F...	Sustainability	232
Silvia Carnini Pulino et al. (2022)	Does ESG Disclosure Influence Firm Performance?	Sustainability	231
David Gilchrist et al. (2021)	The Limits of Green Finance: A Survey of Literature in t...	Sustainability	230
So Ra Park et al. (2021)	The Impact of ESG Management on Investment Decision: Ins...	International Journal of... of...	216
Mauro Romano et al. (2020)	ESG (Environmental, Social and Governance) Performance a...	Sustainability	203
Imlak Shaikh (2022)	ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) PRACTICE AND...	Journal of Business Econ...	182
Lei Ruan et al. (2021)	Environmental, Social, Governance Activities and Firm Pe...	Sustainability	173
Shauhrat S. Chopra et al. (2024)	Navigating the Challenges of Environmental, Social, and ...	Sustainability	164

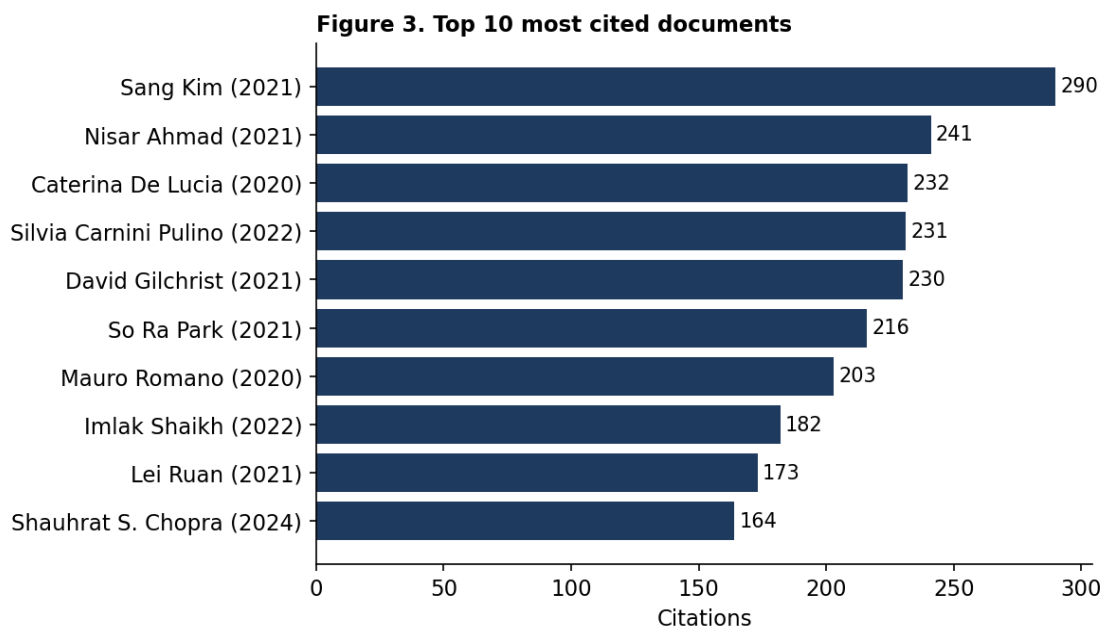
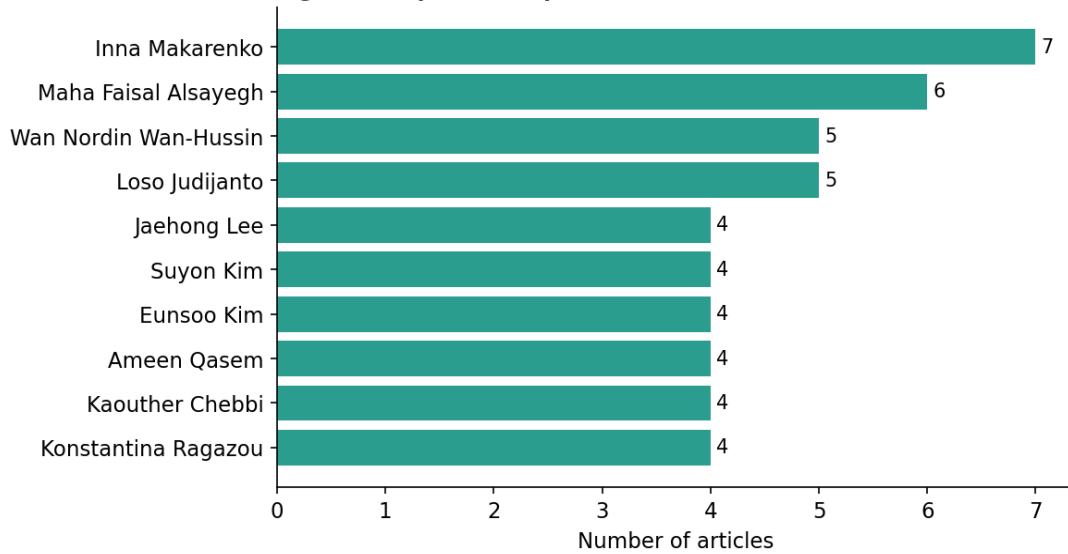


Table 4. Top 10 authors by co-authorship total link strength (TLS)

Author	Docs	Citations	TLS
Wan Nordin Wan-Hussin	5	249	3,471
Ameen Qasem	4	199	3,321
Hasan Mohamad Bamahros	3	167	2,754
Abdulsalam Alquhaif	3	167	2,754
Murad Thomran	3	167	2,754
Shaker Dahan Al-Duais	3	167	2,754
Kaouther Chebbi	4	156	1,459
Thamir Al Barrak	4	33	1,056
Anna Spoz	4	32	1,014
Mohammed Abdullah Ammer	3	186	1,001

Figure 5. Top 10 most productive authors



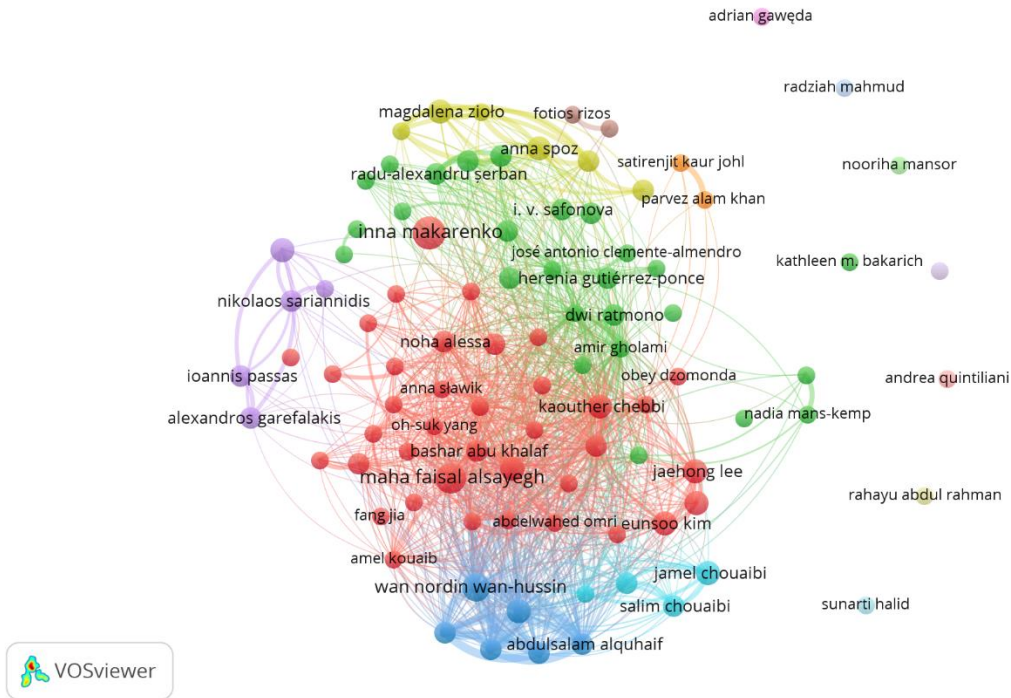


Figure 5. Top 10 most productive authors by number of articles.

3.6 Publishers and Geographic Distribution

At the publisher level the corpus is dominated by MDPI AG, which is responsible for 316 of the 1,000 articles—a direct consequence of the prominence of Sustainability and related MDPI titles. The Public Library of Science (44 articles), Elsevier BV (42 articles), Frontiers Media SA (38 articles), and EDP Sciences (20 articles) follow. Because the corpus is restricted to open-access articles, this distribution partly reflects the open-access publishing models of these houses rather than the field's intellectual centre of gravity alone.

The geographic distribution, captured here through the country of the publishing source, is similarly concentrated: Switzerland (304 articles, reflecting MDPI's and Frontiers' Swiss registration), the United States (56 articles), the Netherlands (41 articles), Ukraine (28 articles), and Turkey (12 articles) lead the ranking. Because source country indexes the journal's country of registration rather than author affiliation, it should be read as a proxy for publishing infrastructure rather than for the national origin of the research itself.

Figure 6. Distribution of articles by publisher

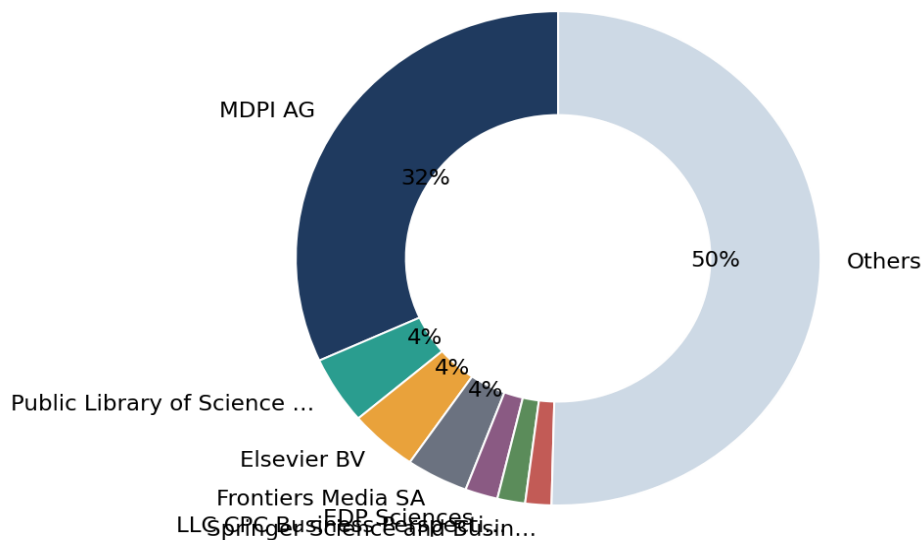


Figure 6. Distribution of articles by publisher.

Figure 9. Top 10 source (publisher) countries

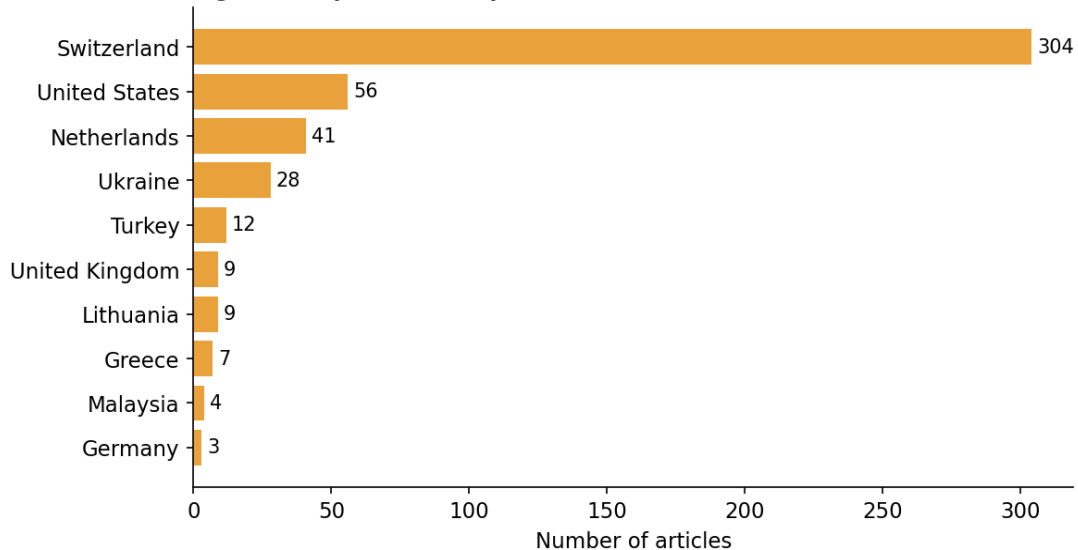


Figure 9. Top 10 source (publisher) countries by number of articles.

4. Science Mapping

4.1 Co-authorship Network

The co-authorship network maps collaborative relationships among researchers and helps locate the field's most central and well-connected contributors. Figure 7 presents the ten authors with the highest total link strength. The network is led by Wan Nordin Wan-Hussin and Ameen

Qasem, whose high link strengths indicate that they collaborate extensively and occupy bridging positions between research groups. The presence of several authors—Bamahros, Alquhaif, Thomran, and Al-Duais—with identical metrics signals a densely interconnected cluster that co-authors as a unit. Overall, the co-authorship structure is characterised by a small number of

cohesive, geographically clustered teams rather than by a single integrated global community, a

pattern consistent with a young field in which collaborative networks are still consolidating.

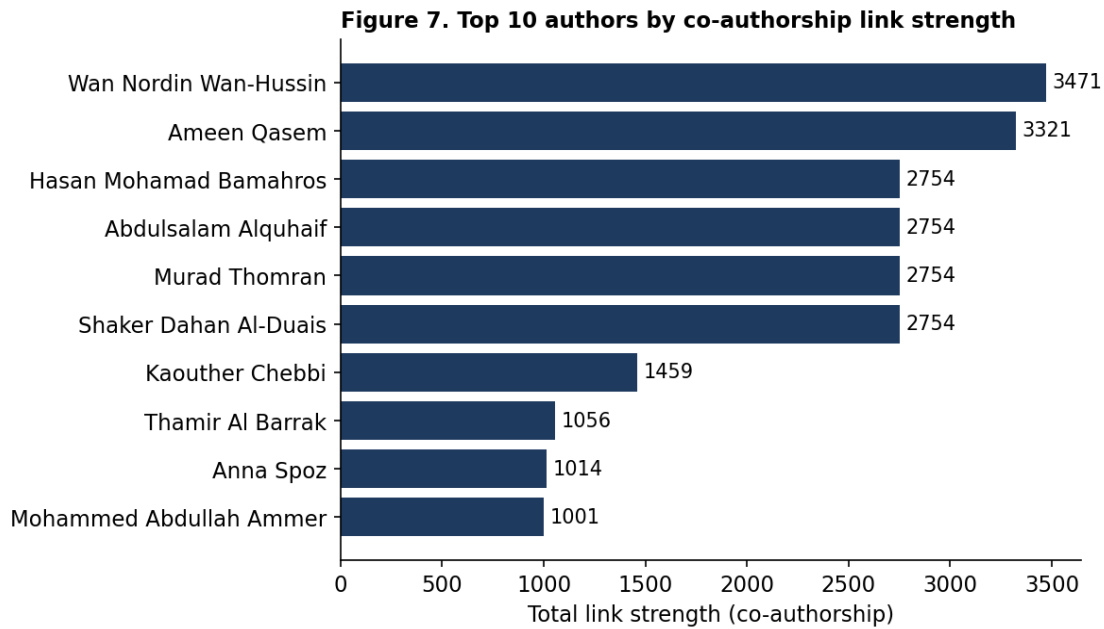


Figure 7. Top 10 authors by co-authorship total link strength.

4.2 Keyword Co-occurrence and Conceptual Structure

Keyword co-occurrence analysis is the most informative lens for revealing the conceptual structure of a field, because it identifies the terms that authors themselves use to describe their work and the way those terms cluster together. Table 5 reports the ten most frequently occurring keywords together with their total link strength. The conceptual core of the field is unambiguous: ESG is by far the dominant term, appearing in 128 documents with a total link strength of 185, followed by sustainability (63 occurrences),

sustainable development (45), corporate governance (36), and financial performance (36). The co-occurrence of these terms—visualised in Figure 8—reveals a thematic structure in which ESG functions as the central hub connecting three adjacent clusters: a governance and disclosure cluster (corporate governance, ESG disclosure, board characteristics), a performance and valuation cluster (financial performance, firm value, ESG performance), and a sustainability and policy cluster (sustainable development, sustainable finance, corporate social responsibility).

Table 5. Top 10 keywords by occurrence (TLS = total link strength of co-occurrence)

Keyword	Occurrences	TLS
esg	128	185
sustainability	63	109
sustainable development	45	85
china	38	80
corporate governance	36	76
financial performance	36	55
esg performance	34	63
corporate social responsibility	32	60
sustainability reporting	32	45
environmental	30	71

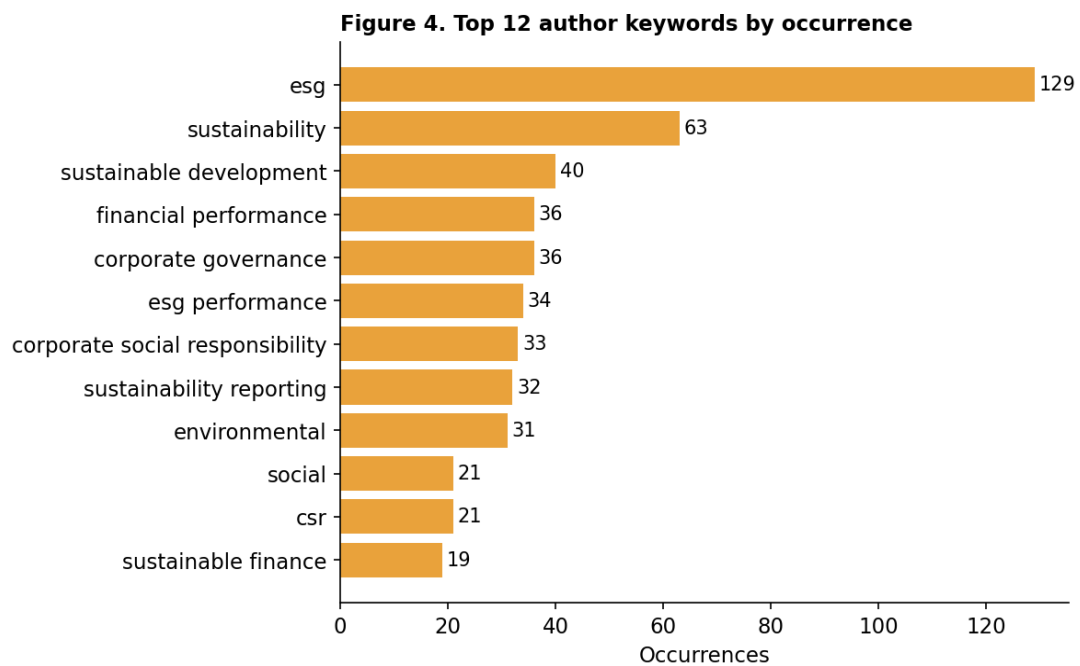


Figure 4. Top 12 author keywords by frequency of occurrence.

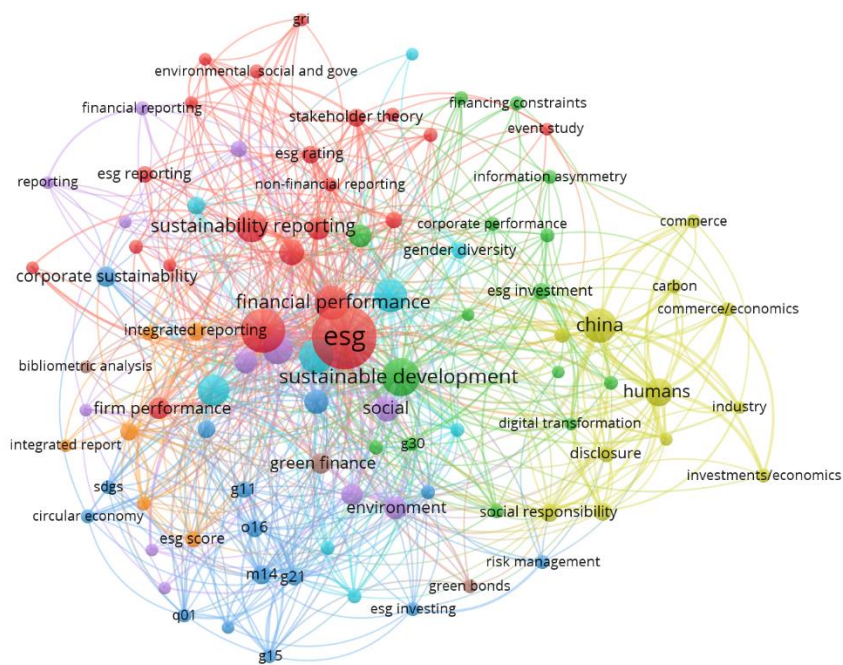
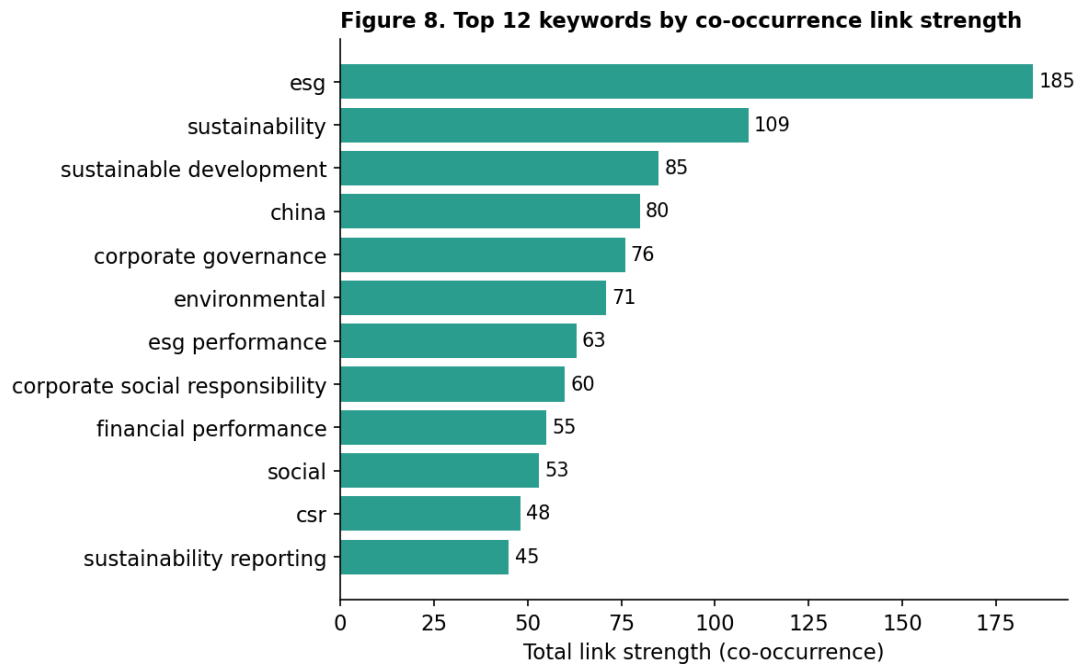


Figure 8. Top 12 keywords by co-occurrence total link strength

4.3 Source Coupling

Analysis of the source-level network confirms the concentration observed in the performance

analysis. Measured by total link strength, Sustainability (link strength 29,895) is overwhelmingly the most central venue, followed

by PLoS ONE (7,977), Heliyon (7,832), and Frontiers in Environmental Science (5,579). The high coupling among these broad-scope outlets, together with the strong showing of dedicated finance journals such as the International Journal of Financial Studies and Cogent Business & Management, indicates that the field's literature is anchored by a small group of interdisciplinary open-access journals that act as shared reference points across otherwise distinct sub-communities.

5. Discussion

Read together, the performance and science-mapping results paint a consistent portrait of a young, fast-growing, and tightly themed field. Three observations merit emphasis. First, the field is overwhelmingly organised around a single empirical question: whether and how ESG performance and disclosure affect financial outcomes. This is evident in the most cited documents—almost all of which test some version of the ESG-performance relationship—and in the keyword network, where ESG, financial performance, firm value, and ESG performance form a tightly linked cluster. Sustainability accounting in this body of work is therefore largely instrumental: sustainability and ESG information is studied for its consequences for valuation, investment decisions, and firm performance, rather than primarily as an accounting-measurement or accountability problem in its own right.

Second, the conceptual structure reveals the coexistence of several theoretical and disciplinary traditions. The governance-and-disclosure cluster connects ESG to the established corporate-governance literature on boards, ownership structure, and voluntary disclosure, and is typically framed through agency and legitimacy theory. The sustainability-and-policy cluster links the field to the broader sustainable-development and sustainable-finance agendas, including the Sustainable Development Goals and green finance, and is more frequently framed through stakeholder theory. The recurrent appearance of corporate social responsibility alongside ESG confirms that the field has not fully resolved the terminological relationship between these

concepts, which remains a source of construct ambiguity.

The theoretical underpinnings of the field deserve particular comment, because they shape how the same empirical relationships are interpreted. Legitimacy theory frames sustainability and ESG disclosure as a means by which firms secure and maintain their social licence to operate, predicting that firms facing greater scrutiny will disclose more; this lens recurs throughout the determinants-of-disclosure studies that populate the governance cluster. Stakeholder theory, dominant in the sustainability-and-policy cluster, instead casts disclosure as a response to the legitimate information demands of a broad set of constituents beyond shareholders. Agency and signalling theories, meanwhile, underpin much of the performance-and-valuation work, treating ESG disclosure as a device for reducing information asymmetry and signalling quality to capital markets. The coexistence of these competing yet complementary frameworks explains why the literature can simultaneously report positive, negative, and insignificant associations between ESG and financial performance: the sign and magnitude of the relationship depend heavily on context, measurement, and the theoretical assumptions embedded in each study's design. A more deliberate engagement with theory—and with the boundary conditions each framework implies—would help the field move from accumulating individual findings toward genuine theoretical synthesis.

Third, the structural features of the field—its skewed citation distribution, its dependence on a small number of open-access mega-journals, and its organisation around cohesive co-authoring teams—are characteristic of an emerging research front rather than a mature paradigm. The dominance of Sustainability as both the most productive and the most central source is a double-edged finding: it has provided a rapid and accessible publication outlet that has helped the field scale, but the heavy reliance on a single venue and publisher also raises questions about the diversity of editorial and peer-review perspectives shaping the literature.

These findings carry implications for several audiences. For researchers, the analysis highlights an opportunity to move beyond the saturated ESG-performance question toward under-examined topics such as the measurement properties and comparability of ESG metrics, the effects of mandatory sustainability-reporting regimes, assurance of non-financial information, and the integration of sustainability data into mainstream financial statements. For standard-setters and regulators, the concentration of research on disclosure determinants and consequences provides an evidence base relevant to the design of reporting frameworks, while the construct ambiguity surrounding ESG and CSR underscores the value of clear, harmonised definitions. For practitioners and investors, the consistent—if not unanimous—evidence linking ESG performance to financial outcomes reinforces the materiality case for sustainability information, while the unsettled state of the literature counsels caution in drawing strong causal conclusions.

6. Conclusion

This study set out to map the intellectual and conceptual structure of the literature at the intersection of sustainability, ESG, and accounting, using a bibliometric analysis of 1,000 open-access journal articles published between 2020 and 2025. The performance analysis documented a field expanding at roughly 44% per year, accumulating more than 18,000 citations, and anchored by a small set of highly cited, early-mover documents and a dominant publication outlet. The science mapping revealed a conceptual core centred on ESG and connected to adjacent clusters concerning governance and disclosure, performance and valuation, and sustainable development. Collaboration is the norm, and the field is propelled by a handful of cohesive and well-connected research teams.

In answer to the guiding research questions: scholarly production grew rapidly and then plateaued at a high level after a 2022 peak (RQ1); Sustainability, PLoS ONE, and Heliyon are the most productive sources, Wan Nordin Wan-Hussin and Ameen Qasem the most central

authors, and Kim and Li (2021) the most cited document (RQ2); the conceptual structure is organised around ESG, sustainability, corporate governance, and financial performance (RQ3); and the collaborative and intellectual linkages point toward a research front still consolidating around the ESG-performance question while branching into governance, disclosure, and sustainable-finance themes (RQ4).

Several limitations should be acknowledged. The corpus is drawn from a single database and is restricted to open-access journal articles, which may under-represent subscription-based scholarship and may bias the source and publisher distributions toward open-access publishers. The reliance on author-supplied keywords means that conceptual mapping is sensitive to inconsistent terminology, and citation counts are time-sensitive and continue to accrue. Finally, source country indexes journal registration rather than author affiliation and therefore does not capture the true geography of research production. Future bibliometric work could address these limitations by triangulating across multiple databases, incorporating author-affiliation data to map genuine geographic and institutional contributions, and complementing the quantitative mapping with qualitative content analysis of the leading thematic clusters. Substantively, the field would benefit from greater attention to the measurement, assurance, and comparability of sustainability information—the accounting questions that lie at the heart of credible financial reporting—rather than to the relationship between ESG and performance alone.

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