

ESG Disclosure Research in Business and Management: A Bibliometric Mapping of Global Trends, Collaboration and Thematic Evolution

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Abstract- Environmental, social and governance (ESG) disclosure has become a central mechanism through which firms communicate sustainability risks, governance practices and strategic responses to investors and other stakeholders. This study maps the development, collaboration structure and conceptual evolution of ESG disclosure research using a verified Scopus corpus of 941 English-language journal articles published between 2013 and 2024. Performance analysis and science-mapping techniques were applied using bibliometrix/Biblioshiny and VOSviewer. The corpus shows a pronounced acceleration after 2020, with 399 articles published in 2024 alone. Business, management and accounting form the largest subject-area base, followed by economics and finance, social sciences and environmental science. China is the largest national contributor and a prominent collaboration node, while India, the United States, Italy and the United Kingdom also account for substantial output. The intellectual structure is concentrated around sustainability, corporate governance, corporate social responsibility, investment and performance, whereas blockchain and environmental technology remain more specialised themes. The findings show that ESG disclosure research has moved beyond a narrow reporting perspective toward a strategic-information problem connecting governance, legitimacy, capital allocation and stakeholder accountability. The study contributes by distinguishing disclosure from the wider ESG-performance literature and by translating bibliometric patterns into implications for managers, investors, regulators and researchers. Future work should strengthen construct clarity, cross-country comparability, digital assurance, greenwashing detection, supply-chain disclosure and sector-specific materiality, particularly in heterogeneous emerging-market settings.

Keywords: ESG disclosure; sustainability reporting; bibliometric analysis; corporate governance; green finance; business strategy; digital reporting

I. INTRODUCTION

Environmental, social and governance (ESG) disclosure has developed from a largely voluntary reporting practice into an important component of corporate accountability, investor communication and risk governance. Firms are increasingly expected to explain how environmental exposures, social responsibilities and governance arrangements affect resilience and long-term value creation. At the same time, investors, regulators and other stakeholders require information that is credible, comparable and sufficiently decision-useful to distinguish substantive sustainability performance from symbolic reporting. This shift makes disclosure quality a strategic management issue rather than a purely accounting concern (Hahn & Kühnen, 2013; Kotsantonis et al., 2016; Li et al., 2021).

The literature has consequently expanded across business, management, accounting, finance, sustainability and environmental studies. This breadth has generated useful evidence, but it has also produced conceptual fragmentation. Studies examine the determinants of disclosure, firm-value consequences, governance mechanisms, regulatory and institutional pressures, reporting standardisation, stakeholder responses and digital technologies. They also use overlapping labels such as ESG disclosure, sustainability reporting, non-financial reporting and integrated reporting. Importantly, these concepts should not be treated as interchangeable with ESG performance itself: a firm may perform strongly or weakly on ESG dimensions and, independently,

disclose that performance with different levels of completeness, credibility and comparability (Fatemi et al., 2018; Ellili, 2022; Del Gesso & Lodhi, 2025).

Bibliometric analysis is useful in such a fragmented field because it complements narrative review with systematic evidence about publication growth, disciplinary concentration, collaboration and conceptual structure (Donthu et al., 2021). Earlier studies have mapped sustainability disclosure or the broader ESG domain (Bello, 2021; Ellili, 2022; Zhao et al., 2023; Mukhtar et al., 2025). Ahuja and Rani (2025), for example, analysed 764 Scopus documents in the broader ESG literature and identified streams related to ESG investing, disclosure, integrated reporting, firm value and governance. The maturity of this review literature increases the need for narrower problem definition and transparent analytical choices. The present study therefore focuses specifically on ESG disclosure and reporting as an information mechanism. Its contribution is threefold. First, it maps a verified 2013–2024 Scopus corpus of 941 journal articles using reproducible search and network settings. Second, it integrates performance analysis with international collaboration and thematic interpretation rather than treating publication counts as the main outcome. Third, it converts the resulting structure into a business and management research agenda centred on disclosure credibility, governance, capital allocation, digital assurance and cross-jurisdiction comparability. Asian and emerging economies remain important within this global picture because China and India are among the strongest contributors and because institutional, ownership and supply-chain differences provide meaningful settings for theory development.

Four research questions guide the study: (RQ1) What are the principal publication trends, disciplinary concentrations and leading outlets in ESG disclosure research? (RQ2) What does the international collaboration structure reveal about the geographical development of the field? (RQ3) Which themes are central, mature, emerging or specialised? (RQ4) Which research gaps are most important for the next generation of business and management scholarship on ESG disclosure?

Conceptual Background and Literature Review

ESG Disclosure as a Strategic Information Process

ESG disclosure can be understood as an information and accountability process through which firms communicate environmental, social and governance risks, policies, performance and controls. The drivers are multi-level. At firm level, size, governance arrangements, financing needs and strategic positioning can influence the extent and quality of disclosure. At institutional level, regulation, industry norms and stakeholder expectations shape both the decision to disclose and the form that disclosure takes (Hahn & Kühnen, 2013; Fuhrmann, 2019; Herold et al., 2019). International evidence also shows that disclosure varies across institutional settings, even when firm-level attributes explain an important part of the variation (Yu & Luu, 2021).

This information-process perspective matters for management because ESG disclosure can affect access to capital, stakeholder trust, reputational risk, board oversight and strategic legitimacy. Disclosure is therefore not merely a compliance output. It represents a boundary-spanning activity in which accounting systems, sustainability functions, investor relations, operations and governance structures jointly determine what information becomes visible to external audiences.

II. THEORETICAL FOUNDATIONS

Several theories recur in explanations of corporate and ESG disclosure. Stakeholder theory views disclosure as a response to the information needs and legitimacy claims of investors, employees, customers, regulators and civil society. Legitimacy theory emphasises alignment with social expectations and the maintenance of organisational acceptance. Agency theory treats disclosure as a mechanism for reducing information asymmetry between managers and capital providers. Institutional theory explains convergence in reporting through coercive, normative and mimetic pressures, while signalling theory highlights the possibility that firms use credible disclosure to differentiate themselves in capital markets. These perspectives are frequently combined because no single theory captures all strategic, institutional and accountability dimensions of reporting (Al Amosh &

Khatib, 2022; Lakhani & Herbert, 2022; Del Gesso & Lodhi, 2025).

Empirical work is equally diverse. Studies link ESG information to firm value and financial performance, although reported relationships depend on measurement choices, context and the distinction between ESG performance and ESG disclosure (Friede et al., 2015; Fatemi et al., 2018; Velte, 2017; Lee & Suh, 2022). Other studies focus on governance and sustainability reporting, stakeholder and institutional pressures, or the evolution of reporting standards (Mahmood et al., 2018; Du Toit, 2024). More recent research points toward digital transformation, green finance, data credibility and comparability as important extensions of the field (Martiny et al., 2024; Zhang & Huang, 2024).

III. RESEARCH METHODOLOGY

Data Source, Search Strategy and Corpus Verification
Scopus was used as the bibliographic source because of its broad coverage of business, management, accounting, finance, sustainability and related social-science research. The search/export was run on 19 September 2025 and was restricted to publications from 2013 through 2024 (PUBYEAR > 2012 and PUBYEAR < 2025). The Scopus refine export reported 941 results. Independent verification of the bibliographic export confirmed 941 records and 941 unique Scopus EIDs, with no duplicate EIDs. All records were English-language journal articles; 916 were in final publication stage and 25 were articles in press.

The search was deliberately disclosure-centred rather than a general search for all ESG ratings or performance research. In summary, it used TITLE-ABS-KEY(ESG Disclosure), the 2013–2024 year limits, selected business and related subject areas, article and journal source-type filters, English language, and a set of exact ESG/sustainability/disclosure keywords. The full Scopus query is reproduced in Appendix A to permit replication. Because document type, source type, language, year and subject-area restrictions were embedded in the query, no post-export document-type or language exclusions were required.

Table-1. Corpus and Analytical Design

Component	Specification
Database	Scopus
Search/export date	19 September 2025
Publication window	2013–2024
Final corpus	941 records; 941 unique Scopus EIDs
Document/source type	Journal articles only
Language	English
Publication stage	916 final; 25 articles in press
Performance analysis	Annual output, subject areas, leading sources and countries
Science mapping	Country co-authorship and thematic structure
Software	R 4.6.1; bibliometrix 5.4.1/Biblioshiny; VOSviewer 1.6.21

Source: Authors' compilation from the verified Scopus exports.

Bibliometric Procedures and Thresholds

The analysis combines performance analysis and science mapping in line with established bibliometric guidance (Donthu et al., 2021). Performance analysis describes annual publication growth, disciplinary distribution and leading publication outlets. Science mapping examines international collaboration and conceptual structure. The final reproducibility environment is documented as R version 4.6.1 (R Core Team, 2026) with bibliometrix version 5.4.1 accessed through Biblioshiny (Aria & Cuccurullo, 2017), together with VOSviewer version 1.6.21 (van Eck & Waltman, 2010).

For the Biblioshiny thematic map, the merged keyword field (KW_Merged) was used with the 250 most relevant terms, a minimum-frequency parameter of five, one-word n-grams, no stemming, Louvain community detection, alpha = 0.5 and a fixed random

seed of 1234. Obvious case, spelling and singular/plural variants were harmonised without merging substantively different constructs. The minimum-frequency threshold reduces isolated low-frequency terms while retaining a sufficiently broad conceptual structure for a 941-document corpus.

For the VOSviewer international co-authorship map, country was the unit of analysis and full counting was used. Countries required at least five documents to enter the network; 49 of 85 identified countries met this threshold. Network mapping used association-strength normalisation with the standard VOSviewer clustering resolution of 1.00. A five-document threshold retains the main global and emerging-market contributors while limiting visually unstable nodes, and the 49-country network preserves substantial geographical coverage.

IV. RELIABILITY AND METHODOLOGICAL LIMITATIONS

Bibliometric outputs are sensitive to search syntax, term cleaning, counting rules and network thresholds. Reproducibility is therefore strengthened by reporting the exact Scopus query, export date, final record count, software versions and principal mapping settings. The retained corpus was cross-checked against the Scopus refine summary for annual output, document type, language and source-level counts before interpretation.

The design nevertheless has limitations. Scopus-only coverage may omit relevant work indexed elsewhere. English-language and journal-article restrictions introduce language and publication-type bias. The search is deliberately disclosure-centred and includes exact-keyword filters, so relevant studies using different terminology may be missed. Citation and network indicators are affected by publication age and measure scholarly visibility rather than substantive research quality. Finally, bibliometric mapping identifies structures and associations but does not replace close qualitative assessment of individual studies. The findings should therefore be interpreted as a structured map of the field rather than causal evidence about the effects of ESG disclosure.

V. RESULTS

Publication Growth and Disciplinary Profile

The publication pattern shows a transition from a small research stream to a rapidly expanding field. The verified corpus contains only two articles in 2013 and three in 2014. Output remained modest through 2019, increased to 54 articles in 2020 and 63 in 2021, and then accelerated to 147 in 2022, 197 in 2023 and 399 in 2024. Figure-1 presents the complete annual series. The sharp post-2020 increase is consistent with the wider institutionalisation of ESG reporting and growing investor and regulatory attention, but the bibliometric evidence should be interpreted as publication intensity rather than proof that any single external event caused the rise.

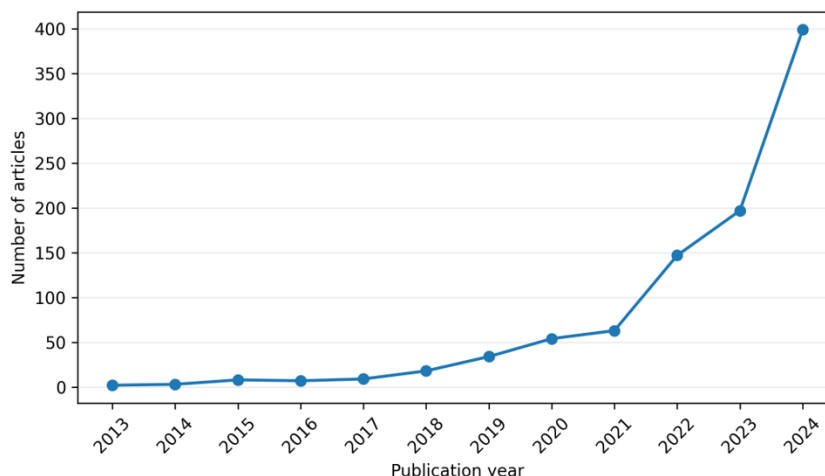


Figure-1. Annual Publication Output in the Verified Scopus Corpus (2013–2024)

Source: Authors' analysis of 941 Scopus records.

The disciplinary profile confirms that ESG disclosure is interdisciplinary but business-led. Business, management and accounting account for 516 subject-area assignments (25.4% of all subject assignments), followed by economics, econometrics and finance with 396 (19.5%), social sciences with 333 (16.4%) and environmental science with 309 (15.2%). Energy represents 8.5%, computer science 5.7%, engineering 3.1% and decision sciences 2.8%. Because Scopus permits multiple subject classifications per source, these figures describe subject-area representation rather than mutually exclusive document shares. The pattern shows that ESG disclosure has expanded beyond traditional corporate reporting while retaining a strong management, accounting and finance core.

VI. LEADING PUBLICATION OUTLETS

Publication activity is concentrated in sustainability, strategy and finance journals. Sustainability (Switzerland) is the most prolific outlet with 97 articles. Business Strategy and the Environment and Corporate Social Responsibility and Environmental Management each contribute 41 articles, followed by Finance Research Letters with 34 and Journal of Cleaner Production with 22. The outlet pattern confirms that disclosure research is situated at the intersection of sustainability management, corporate strategy, finance and environmental management rather than within a single disciplinary conversation.

Table-2. Leading Publication Outlets

Rank	Source title	Articles
1	Sustainability (Switzerland)	97
2	Corporate Social Responsibility and Environmental Management	41
3	Business Strategy and the Environment	41
4	Finance Research Letters	34

Rank	Source title	Articles
5	Journal of Cleaner Production	22
6	Journal of Risk and Financial Management	16
7	Environmental Science and Pollution Research	15
8	Frontiers in Environmental Science	14
9	Sustainability Accounting, Management and Policy Journal	13
10	Research in International Business and Finance	12

Source: Authors' analysis of the Scopus bibliographic export.

VII. INTERNATIONAL DISTRIBUTION AND COLLABORATION

The country profile is globally distributed but uneven. China is the largest national contributor in the Scopus refine summary with 182 documents, followed by India (103), the United States (95), Italy (88), the United Kingdom (88), Malaysia (60), Australia (41) and Indonesia (40). The VOSviewer co-authorship analysis further identifies China as a prominent collaboration node connected with partners across Asia, Europe, North America and Oceania. The United States, the United Kingdom and Germany also occupy visible positions in the international network. India and Japan are part of the Asian collaboration structure, although the network still indicates scope for denser intra-Asian and cross-emerging-market collaboration.

Table-3. Leading Countries by Document Output

Rank	Country	Documents
1	China	182
2	India	103
3	United States	95
4	Italy	88
5	United Kingdom	88
6	Malaysia	60
7	Australia	41
8	Indonesia	40
9	Spain	33
10	France	31

Source: Scopus refine results. Country counts may overlap because internationally co-authored documents can be assigned to more than one country.

Thematic Structure

The thematic map provides a parsimonious view of the field's conceptual structure. Sustainable development,

investments and performance occupy the motor-theme quadrant, indicating relatively high centrality and internal development. Sustainability, governance approach and corporate social responsibility appear as basic themes: they are strongly connected to the field but somewhat less internally developed. Disclosure and interpersonal communication appear in the emerging-or-declining quadrant, while blockchain and environmental technology appear as niche themes. These positions are structural rather than normative; a niche theme can be highly innovative even when it has limited connectivity to the rest of the network.

Keyword co-occurrence patterns reinforce this interpretation. Sustainable development, corporate social responsibility and reporting are closely connected with ESG disclosure, while other groups link governance and corporate responsibility, environmental concerns, and performance/investment questions. The field can therefore be understood through three interdependent conversations: accountability and governance; sustainability and environmental impact; and capital-market/performance consequences. Digital technologies are visible but remain less central than these established streams.

Table-4. Thematic Positioning and Business Interpretation

Thematic position	Representative themes	Business interpretation
Motor themes	Sustainable development; investments; performance	Well-developed and strongly connected themes linking disclosure to strategy, capital allocation and outcomes.
Basic themes	Sustainability; governance approach; corporate social responsibility	Foundational concepts that connect widely across governance, accountability and reporting research.
Emerging/declining	Disclosure; interpersonal communication	Themes with lower development/connectivity that require closer longitudinal interpretation before being labelled as declining.

Thematic position	Representative themes	Business interpretation
Niche themes	Blockchain; environmental technology	Specialised areas with potential relevance for traceability, assurance and technology-enabled ESG information systems.

Source: Authors' interpretation of the Biblioshiny thematic-map output.

VIII. DISCUSSION

From ESG Performance to Disclosure as a Management Mechanism

The first contribution of the mapping is conceptual. Broad ESG reviews necessarily combine ratings, scores, investing, performance and disclosure. Focusing on disclosure foregrounds the process by which sustainability information is produced, governed, verified and communicated. A company can have strong or weak ESG performance and, independently, high or low disclosure quality. Conflating these constructs obscures the mechanisms through which stakeholders obtain information and through which management practices become visible to capital markets and society.

The second contribution is disciplinary. The leading subject areas and outlets demonstrate convergence among management, accounting, finance, sustainability and environmental research. This helps explain why stakeholder, legitimacy, agency, institutional and signalling theories coexist. ESG disclosure can simultaneously operate as a governance mechanism, a strategic signal, a response to institutional pressure and an input into investment decisions. Future studies can improve theoretical precision by identifying the disclosure decision being explained—adoption, extent, quality, assurance, comparability or stakeholder use—rather than invoking multiple theories without linking them to a defined mechanism.

Managerial and Policy Implications

For managers, the results suggest that ESG disclosure should be treated as an organisational information system rather than a periodic communication exercise. The prominence of governance, sustainability, investment and performance themes implies that disclosure quality depends on coordination across

boards, finance, sustainability teams, operations, internal control and investor relations. Comparable metrics, traceable data and clear responsibility for information ownership can reduce inconsistencies between stated ESG commitments and operational evidence.

The specialised position of blockchain and environmental technology also has practical significance. Digital reporting, artificial intelligence and distributed-ledger applications may improve data capture, provenance and continuous assurance, but their value depends on governance and verification rather than technological novelty alone. Managers should therefore evaluate whether new tools improve the reliability, timeliness and auditability of ESG information, especially across complex supply chains. For regulators and standard setters, the mapping reinforces the importance of comparability and interoperability. Fragmented reporting requirements increase compliance complexity and can make cross-firm assessment difficult. The research agenda should move beyond documenting the existence of multiple standards toward examining how firms respond when global expectations interact with domestic rules, stock-exchange requirements and sector-specific materiality.

Implications for Emerging and Asian Economies

The geographical results are especially relevant to emerging economies. China and India are among the largest contributors to the corpus, while Malaysia and Indonesia also feature strongly. This participation should not be interpreted as evidence of a single Asian disclosure model. Regulatory capacity, ownership concentration, capital-market development, family and state ownership, industrial structure and international supply-chain exposure differ substantially across countries. Comparative research can therefore contribute to theory by examining

whether disclosure drivers and consequences travel across institutional settings rather than simply replicating single-country models. Such designs are particularly useful for testing how global reporting expectations interact with domestic enforcement and firm-level governance.

Future Research Agenda

The bibliometric structure points to a future agenda that is both more precise and more managerial. Research should distinguish disclosure content from aggregate ESG performance, link reporting choices to

identifiable stakeholder or capital-market mechanisms, and examine how digital infrastructure changes the production and verification of sustainability information. Sector and stakeholder heterogeneity also deserves greater attention because material ESG information differs across banking, energy, manufacturing, technology and consumer industries, while investors, regulators, employees, customers and civil-society organisations do not have identical information priorities.

Table-5. Future Research Agenda for ESG Disclosure

Priority	Research question	Suggested design	Expected contribution
Disclosure quality and construct clarity	Which dimensions of disclosure—extent, quality, assurance, comparability or timeliness—drive stakeholder outcomes?	Multi-dimensional disclosure measures; archival and survey designs	Reduces conflation of ESG performance with ESG disclosure.
Cross-country institutional comparison	How do regulation, enforcement, ownership and capital-market development alter disclosure drivers and consequences?	Matched-country or multi-level comparative studies	Tests institutional boundary conditions and improves generalisability.
Digital assurance and AI	Can AI-enabled verification and digital reporting improve credibility without creating new opacity or bias?	Field experiments, audit analytics and longitudinal case studies	Connects digital transformation with assurance and information governance.
Greenwashing detection	Which disclosure patterns reliably distinguish substantive sustainability action from symbolic communication?	Text analytics linked to operational ESG outcomes	Improves credibility assessment for investors and regulators.
Supply-chain disclosure	How does information quality propagate across suppliers operating under different regulatory environments?	Network, multi-tier supply-chain and case-comparative designs	Extends ESG disclosure beyond the listed-firm boundary.

Priority	Research question	Suggested design	Expected contribution
Sector-specific materiality	How do material disclosure needs differ across banking, energy, manufacturing, technology and consumer sectors?	Cross-sector designs using materiality-adjusted indicators	Improves managerial relevance and measurement validity.
Capital allocation and green finance	Which specific disclosure dimensions influence financing conditions, investor trust and access to green capital?	Event studies, panel regressions and investor experiments	Links disclosure content directly to economic outcomes.

Source: Authors' synthesis based on the bibliometric and conceptual findings.

IX. CONCLUSION

This bibliometric review maps ESG disclosure scholarship using a verified Scopus corpus of 941 English-language journal articles published between 2013 and 2024. Publication activity accelerated markedly after 2020, business and management disciplines formed the largest subject base, and publication output concentrated in sustainability, strategy and finance outlets. International participation is substantial, with China, India, the United States, Italy and the United Kingdom among the strongest contributors. The thematic structure is anchored in sustainability, governance, corporate responsibility, investment and performance, while blockchain and environmental technology remain more specialised.

The study's main contribution is interpretive rather than purely descriptive. It separates disclosure from the wider ESG-performance literature and shows how the field increasingly treats disclosure as a strategic information mechanism connecting corporate governance, stakeholder accountability, legitimacy and capital allocation. For managers, this implies that ESG reporting quality depends on internal data governance, cross-functional coordination and credible assurance. For researchers, it supports more precise construct definitions, stronger comparative institutional designs and deeper integration of digital assurance, green finance, greenwashing detection and sector-specific materiality.

The findings are bounded by Scopus-only coverage, English-language and journal-article selection, the

disclosure-centred search syntax and the limits of citation/network indicators. Future reviews can triangulate Scopus with Web of Science or regional databases and combine bibliometric mapping with systematic content coding. The reporting of the exact query, corpus size, export date, software environment and mapping thresholds strengthens the transparency and reproducibility of the present study.

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