Value Relevance in Sustainability and ESG: A Bibliometric Analysis

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Abstract

The growing emphasis on sustainability and Environmental, Social, and Governance (ESG) disclosure has repositioned non-financial information as a critical input in investors' decision-making, yet a systematic mapping of the intellectual structure and thematic evolution of value relevance literature in this context remains limited. Grounded in the decision usefulness perspective, this study conducts a bibliometric analysis to map publication trends, key contributors, thematic clusters, and emerging research directions in value relevance research on sustainability and ESG. A dataset of 151 peer-reviewed articles was retrieved from the Scopus database using the search string "value relevance" AND ("sustainability" OR "ESG"), filtered to the Business, Management and Accounting subject area. Co-occurrence, co-authorship, and citation analyses were performed using RStudio with the bibliometrix package. The findings reveal substantial publication growth particularly after 2016, driven by expanding regulatory pressure on non-financial reporting. Sustainability (Switzerland) and Business Strategy and the Environment emerge as the most productive journals, while Lourenço, Branco, and Curto are the most influential authors. India and Korea lead in research output, with growing contributions from Southeast Asian countries including Indonesia and Malaysia. Keyword co-occurrence analysis identifies four thematic clusters: value relevance and ESG disclosure, sustainability governance, firm value and methodology, and corporate accountability. Temporal analysis reveals a research shift from sustainability disclosure toward substantive ESG performance measurement, accelerated by the adoption of international reporting standards such as ISSB. These findings contribute to the theoretical development of sustainability accounting literature and provide a structured research agenda for future ESG value relevance studies across diverse institutional contexts.

Keywords: *Value relevance, ESG, sustainability, bibliometric analysis, decision usefulness, sustainability reporting*

INTRODUCTION

Increasing global attention to sustainability and Environmental, Social, and Governance (ESG) issues has triggered a paradigm shift in corporate reporting, which was previously only oriented solely on financial performance to a more comprehensive approach to measuring long-term value creation. Various stakeholders ranging from investors, creditors to regulators, are now progressively integrating non-financial information as a key consideration in the decision-making process. As a result, companies are increasingly driven to expand the scope of sustainability and ESG disclosures as an integral part of their business strategy and corporate governance framework.

From the point of view of accounting theory, this phenomenon is closely intertwined with the decision usefulness approach. This approach places the relevance and benefits of accounting information as a fundamental principle for users of financial statements. Useful information can influence investor decisions. This is proven when the company's market value changes. Within this framework, the concept of value relevance occupies a central position in accounting research as an instrument to measure the extent to which accounting and non-financial information has predictive power on the capital market.

Several previous studies have confirmed the link between sustainability and ESG disclosures and a company's market value and response. Lourenço et al. (2012) stated that the capital market provides a positive appreciation for companies with superior sustainability performance. In line with Berthelot et al. (2012) affirm that sustainability reporting has substantive relevance for investors in evaluating the company's prospects. Qureshi et al. (2020) confirming the influence of ESG disclosure on corporate value across countries and industry sectors. Further evidence from cross-country studies suggests that capital markets actively respond to greenhouse gas emissions disclosures (Choi and Luo, 2021), while the quality of sustainability reporting has been shown to significantly increase the relevance of the value of accounting information (Jadoon et al., 2021). In the Asia-Pacific region, corporate sustainability performance has been shown to influence the value of stocks in emerging markets (Budsaratragoon and Jitmaneeroj, 2021), with a moderation effect that varies based on each country's institutional context (E-Vahdati et al., 2023). The accumulation of empirical evidence confirms that the process of valuing companies in the capital markets based on factors in sustainability and ESG information has evolved.

The development of value relevance research in the context of sustainability and ESG continues to accelerate in line with the increasing global urgency for sustainable development and the green economy. The focus of research is no longer limited to conventional financial reports, but has developed to include sustainability reporting, integrated reporting, carbon disclosure, and overall ESG performance measurement (Thompson et al., 2022; Wong and Zhang, 2022). This development reflects a growing recognition that sustainability information has significant value content for investors and capital markets.

Some gaps are still not adequately addressed, despite the literature in this area already developing rapidly. First, some existing studies still rely on empirical testing that links ESG disclosures and corporate values, so understanding of the structure and evolution of the literature as a whole is still limited. Second, systematic studies that are still very rarely carried out such as mapping the trajectory of literature development, publication trends, collaboration networks between authors, and future research agendas in the domain of sustainability and ESG value relevance. Third, bibliometric studies that specifically integrate the perspective of decision usefulness into the analysis of the ESG literature are almost not found in existing research. The shift in research focus from mere disclosure to more substantive ESG performance measurement as reflected in the development of mandatory ESG reporting in various jurisdictions further strengthens the urgency of mapping the updated literature (Al-Hiyari and Kolsi, 2024). These gaps show the need for more systematic and comprehensive mapping in the field of research.

Departing from these gaps, this research offers three original contributions. First, theoretically, this study enriches the decision usefulness framework by explicitly integrating it as an analytical lens in the bibliometric mapping of the ESG literature. This approach has not been encountered in previous bibliometric studies. Second, methodologically, the simultaneous use of co-occurrence, co-authorship, and citation analysis through RStudio allows a more comprehensive mapping of the intellectual structure of this field compared to previous bibliometric studies that generally rely on only one analysis technique. Third, contextually, this study specifically highlights the growing contribution of the Southeast Asian region in the ESG value relevance literature. This perspective is underrepresented in existing bibliometric studies and is relevant for extending the

research agenda to the context of emerging markets. Thus, this study provides a more structured foundation for future researchers in designing a contextual and targeted ESG value relevance research agenda.

In full, this study was compiled to answer the following four research questions. First, what is the trajectory of the development of scientific publications regarding value relevance in the context of sustainability and ESG? Second, who are the authors, journals, and countries that have the dominant influence in value relevance research related to sustainability and ESG? Third, how has the research theme and structure of interconnectedness been key concepts in the value relevance literature of sustainability and ESG? Fourth, in which direction do future trends and research agendas in the domain of sustainability and ESG value relevance develop?

Based on the above research questions, this study aims to analyze the development of the value relevance literature in sustainability and ESG through a bibliometric approach based on the Scopus database. More broadly, this research is expected to make a theoretical contribution to the development of accounting theory literature, especially in the realm of decision usefulness and value relevance in addition, it enriches the discourse on sustainability accounting research in supporting the green economy agenda and global sustainable development.

RESEARCH METHODOLOGY

This study adopts a bibliometric approach as the main analytical framework to examine the development of the scientific literature on value relevance in the context of sustainability and ESG. This approach was chosen on the basis of two main considerations. Epistemologically, bibliometrics allows the systematic and measurable mapping of the structure of knowledge, making it more suitable for answering questions about how a field develops than a qualitative-narrative systematic review approach.

The source of the research data was obtained from the Scopus database. The selection of Scopus was based on three considerations, namely its broad coverage of highly reputable international journals in the fields of business and accounting, the availability of structured and consistent metadata for quantitative analysis purposes, and its compatibility with the bibliometric tools used. In addition, its coverage is more comprehensive for journals from the Asian region and developing countries.

The data collection process is carried out using a combination of the keywords "value relevance" AND ("sustainability" OR "ESG"), applied to the title, abstract, and keyword sections of the article through the TITLE-ABS-KEY feature on the Scopus platform. This search strategy is designed to be inclusive of both relevant literature streams. Considering that this study uses sustainability framing and uses ESG terminology explicitly. The two terms developed in parallel but are often used interchangeably in the literature.

To ensure the objectivity and replicability of the selection process, structured inclusion and exclusion criteria are applied. In terms of inclusion, the articles that are included must be in the form of scientific articles, written in English, classified in the field of Business, Management and Accounting, and have complete metadata on the Scopus platform. Restrictions in the fields of Business, Management and Accounting are carried out deliberatively to maintain the thematic coherence of the dataset. Considering that ESG topics are also researched from the perspective of environmental science, engineering, and public policy that have different theoretical frameworks. Documents that do not meet any of these criteria are excluded, including book chapters, conference papers, reviews, editorials, as well as articles in non-English language or with incomplete metadata. The

application of this criterion resulted in a final dataset of 151 articles as an analysis unit.

Data that have met the selection criteria are exported in comma-separated values (CSV) format for further processing purposes using RStudio software with bibliometrix packages. The selection of RStudio and bibliometrix is based on their flexibility in handling various bibliometric analysis techniques in an integrated manner in a single platform, their ability to generate informative network visualizations, and the transparency of the analysis process that can be fully documented and reproduced through scripts.

The analysis was carried out through three stages that complemented each other. First, co-occurrence analysis is carried out to identify patterns of interconnectedness between key concepts based on the co-occurrence of keywords in one document so as to allow the identification of thematic clusters and intellectual structures in the field of study. Second, co-authorship analysis is used to map the structure of collaborative networks between authors and identify the most productive and influential research communities. Third, citation analysis was conducted to identify the articles, journals, and authors with the greatest intellectual impact based on the frequency of citations in the dataset. The resulting network visualization is interpreted to identify research clusters, trace the evolution of the study theme, and detect emerging trends. In addition, temporal dimension-based visualization overlays are applied to observe the shift in research focus over time, thus allowing the identification of the most cutting-edge research directions in the domain under study.

RESULTS AND DISCUSSION

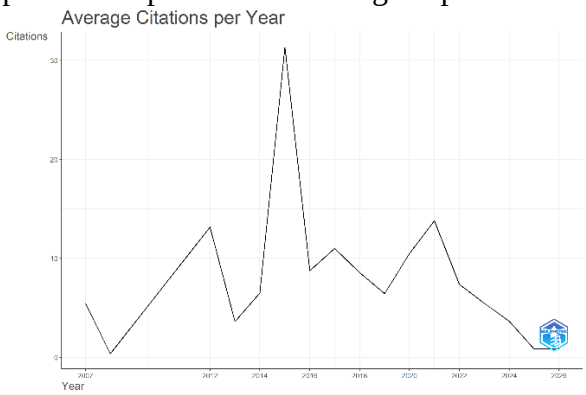
RQ1: Development of Value Relevance Research Publications in the Context of Sustainability and ESG

Analysis of annual scientific production patterns shows a growth trajectory that reflects the academic community's response to regulatory dynamics and global market pressures. In the period 2007–2015, the number of annual publications was relatively limited, ranging from one to four articles per year. The stagnation in the 2009–2011 range is most likely an indirect impact of the 2008 global financial crisis, which diverted the attention of accounting researchers to the issue of market stability and conventional financial reporting, so that the sustainability research agenda was depressed.

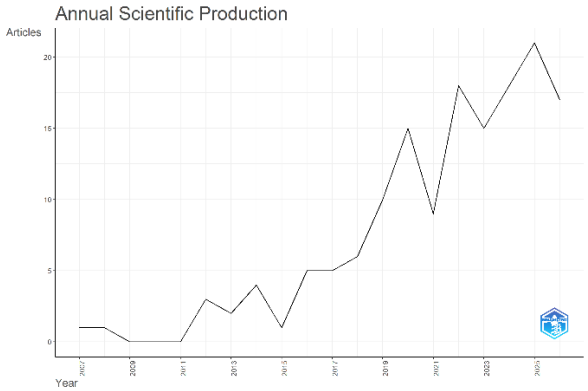
The consistent acceleration of growth since 2016 cannot be separated from the momentum of international regulations, especially the adoption of the Paris Agreement (2015) and the Sustainable Development Goals (SDGs) by the United Nations. Simultaneously driving pressure on corporate non-financial reporting. The peak of 21 articles in 2025 confirms that the ESG framework is no longer a fringe issue in the accounting literature, but has become mainstream. This is consistent with the findings of Qureshi et al. (2020) which show a surge in researchers' attention as non-financial reporting regulations develop, as well as with the widespread adoption of IFRS S1 and S2 standards issued by the International Sustainability Standards Board (ISSB) since 2023. This momentum is also reflected in the increasing market response to mandatory sustainability reporting, as shown by Pandey et al. (2024), as well as from efforts to systematically map the development of statutory sustainability reporting globally (Desai and Vyas, 2026).

The citation pattern shows a peak in 2015, indicating that works from that period serve as foundational works that shape the direction of further research. The study of Peters & Romi (2015) with 376 citations is the most obvious example of this phenomenon. The work not only answers empirical questions, but opens up a new research agenda on sustainability governance that is then widely cited. The average decline in citations in recent publications is a reasonable statistical artifact in bibliometric analysis.

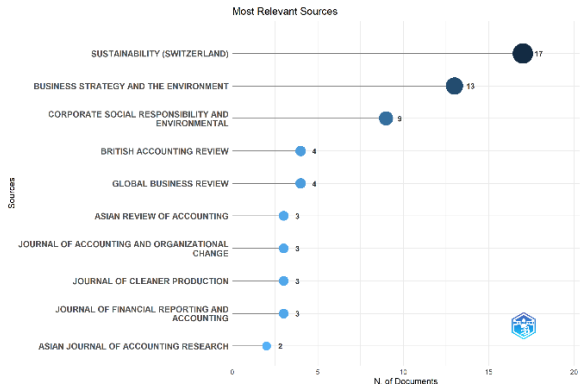
Newly published articles have not had enough time to accumulate citations, so they cannot be interpreted as a decrease in quality or relevance (Wong and Zhang, 2022). In fact, the acceleration of publication volume in 2022–2025 shows that this field is in a productive phase of knowledge expansion.



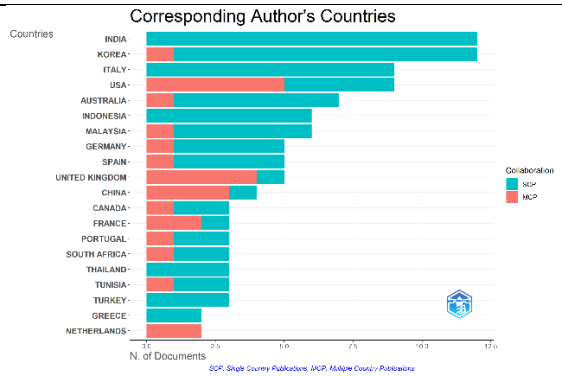
Picture 4.1 Average Citations per Year



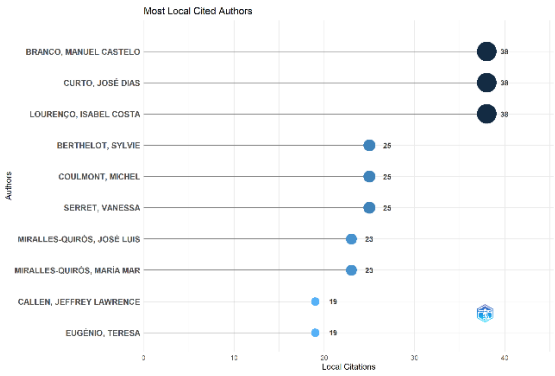
Picture 4.2 Annual Scientific Production



Picture 4.3 Most Relevant Sources



Picture 4.4 Corresponding Author's Countries



Picture 4.5 Most Local Cited Author

RQ2: Most Influential Authors, Journals, and Countries

Domination of Sustainability (Switzerland) with 17 articles and Business Strategy and the Environment with 13 articles reflect that ESG value relevance research is developing at the intersection between accounting and strategic management and not just in mainstream accounting journals. This is implicitly important because it shows that the accounting community has not fully claimed this domain, thus opening up opportunities for accounting researchers to publish more theoretical contributions in top-tier accounting journals that have been relatively quiet on this topic.

The concentration of citations on the trio of Lourenço, Branco, and Curto (all three from Portugal) reveals an interesting pattern: the intellectual foundations of this field are built by relatively small and geographically concentrated networks of collaboration. This indicates the existence of citation

concentration risk, where the perspectives that develop in the literature tend to be biased towards a particular capital market context. Research from emerging market contexts, including Southeast Asia, needs to more actively dialogue its findings with the framework built by these dominant authors in order to contribute to the revision or expansion of the theory.

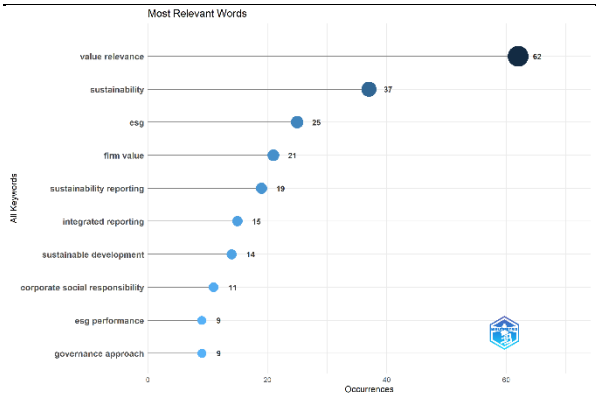
Geographically, the dominance of India and Korea reflects two different contextual factors. In India, regulatory pushes such as the Business Responsibility and Sustainability Reporting (BRSR) required by SEBI since 2022 have massively accelerated the ESG research agenda. In Korea, the mandatory ESG disclosure policy for companies listed on the stock exchange from 2025 creates a similar urgency, as reflected in the study of the value of ESG relevance in the Korean market (Kwon and Shin, 2022). The presence of Indonesia and Malaysia in the list of contributors shows that the Southeast Asian region is starting to play an active role. This confirms the same pattern from recent studies in the region (Hardiningsih et al., 2024; Li et al., 2025; Munir and Pratama, 2025), although most are still Single Country Publications (SCPs). The relevance of ESG value in the Asia-Pacific market is also confirmed by Budsaratragoon & Jitmaneeroj (2021) and Govindan et al. (2021) who show that ESG performance has predictive power on company value across sectors. This pattern indicates that international collaboration between Southeast Asian researchers is still a space that has not been optimally utilized, even though the characteristics of the capital market and ESG regulatory framework in the region are quite unique and worthy of being raised as a distinctive contribution.

RQ3: Evolution of Themes and Structures of Inter-Key Concepts

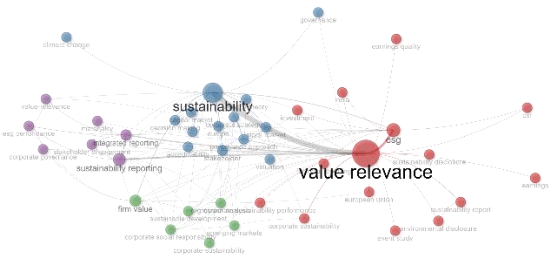
The dominant frequency of value relevance (62 occurrences) that far exceeds other keywords is not just a reflection of thematic focus, but shows that this concept functions as a bridging concept that connects the accounting literature with the discourse on sustainability and governance. In other words, the researchers used the value relevance framework as a theoretical anchor to legitimize ESG studies in the more established tradition of accounting research.

The four clusters identified from the co-occurrence analysis show the intellectual architecture of this field more clearly. The first cluster (value relevance and ESG) represents the empirical core of the literature, focusing on the question of whether and how much ESG information is reflected in stock prices Al-Hiyari & Kolsi (2024; Islam (2025). The second cluster (sustainability and governance) reflects the expansion of the agenda towards the institutional mechanisms that mediate the relationship. This is an important development because it shows that researchers are starting to move from the what question to the why and how question (Kuzey et al., 2023; Schiehll and Kolahgar, 2021). The third cluster (firm value and methodology) indicates that there is an active debate about the choice of appropriate models and proxies (Donkor et al., 2025; Permatasari and Narsa, 2022). While the fourth cluster (reporting and corporate accountability) reflects attention to the institutional and normative dimensions of ESG reporting, including the question of who is responsible for the quality of disclosure (Jeriji and Nasfi, 2023; Thompson et al., 2022; Vander Bauwhede and Van Cauwenberge, 2022).

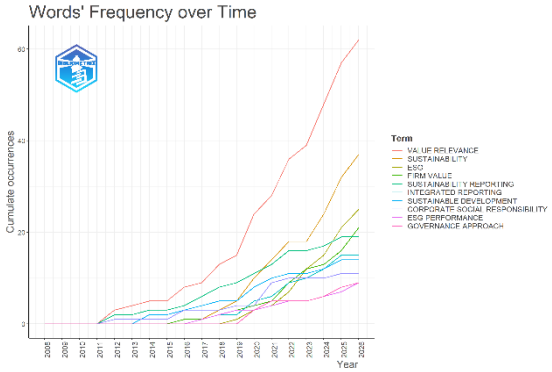
The existence of these four interconnected clusters confirms that this field has gone beyond the initial phase that tends to be monolithic and is now in the phase of theoretical pluralism. A condition that generally indicates the maturity of a research stream (Lourenço et al., 2012). This indication of maturity is also reflected in the development of research that integrates sustainability signals with voluntary reporting decisions (Lunawat et al., 2026).



Picture 4.6 Most Relevant Word



Picture 4.7 Co-occurrence Network



Picture 4.8 Words' Frequency over Time

RQ4: Future Research Trends and Agendas

The acceleration of ESG keywords since 2022 is inseparable from the rapidly changing global regulatory context. The issuance of IFRS S1 and S2 by the ISSB in 2023, CSRD obligations in the European Union, as well as various mandatory ESG disclosures in the Asian market have transformed ESG from voluntary practices to standardized reporting frameworks. This is not just a change in regulations. This is an epistemological change that allows for the study of comparability and consistency of ESG measurement across companies and countries that were previously a major methodological barrier.

The shift from sustainability disclosure to ESG performance and governance approach as increasingly dominant keywords reflects the maturation of research questions. The academic community is no longer content with just knowing whether ESG disclosures are relevant to the market, but is beginning to dig into which dimensions of ESG performance are most valuable, what mechanisms mediate that relevance, and in what institutional contexts these relationships apply. In this context, ESG performance and carbon emission disclosure are proven to have different value content depending on the market context (Al-Hiyari and Kolsi, 2024; Surya et al., 2026), while the relationship between business strategy and sustainability reporting shows a pattern that varies across countries (Delegkos et al., 2025; Nekhili et al., 2021) added that the moderation of employee representation on the board of directors affects the relationship between ESG and financial performance, indicating the importance of internal governance variables in the ESG value relevance model.

Based on this pattern, at least three urgent research agendas can be identified. First, a study that explores the relevance of ESG values by considering institutional heterogeneity particularly in emerging markets with different regulatory frameworks and investor literacy levels than developed countries. Second, a study of the implications of the adoption of the ISSB standard on the comparability and value relevance of ESG information, considering that this standard is only effective and has not been extensively studied empirically. Third, research that integrates the perspective of information asymmetry and capital costs into the ESG value relevance model, as indicated by (García-Sánchez et al., 2019), to deepen understanding of the channels through which

ESG information influences investor judgment.

CONCLUSION

This study analyzes the development of the value relevance literature in the context of sustainability and ESG through a bibliometric approach based on Scopus data with a dataset of 151 articles. Overall, the research findings answer the four formulations of the research questions posed and produce a comprehensive literature map regarding the trajectory, contributors, thematic structure, and direction of research development in this field.

In terms of publication development, the significant acceleration since 2016 reflects the academic community's response to the increasing regulatory pressures of non-financial reporting globally with a peak of 21 articles by 2025. This confirms that ESG value relevance has become mainstream in the sustainability accounting literature. In terms of contributors, Sustainability (Switzerland) and Business Strategy and the Environment proved to be the dominant publication platforms, while Lourenço, Branco, and Curto were listed as the most influential authors. A pattern that indicates the existence of intellectual concentration so that it needs to be balanced by contributions from the context of emerging markets, including Southeast Asia. The cluster analysis identified four interconnected themes, namely value relevance and ESG, sustainability governance, firm value and methodology, and corporate reporting and accountability. This theme collectively shows the development of the field into a multidimensional and theoretically mature field of study. Temporal analysis of keywords reveals a shift in focus from mere disclosure to more substantive ESG performance measurements, in line with the growing adoption of international reporting standards such as the ISSB.

Theoretically, this research contributes to the development of sustainability accounting literature by emphasizing the position of decision usefulness as a framework that is able to integrate conventional value relevance research with the ever-evolving ESG agenda. In practical terms, the resulting literature map provides structured guidance for researchers in identifying research gaps, designing advanced empirical studies, and appropriately positioning their contributions within the existing academic landscape. The most pressing future research agendas include exploring the relevance of ESG values in diverse institutional contexts, testing the implications of the adoption of ISSB standards on the comparability of ESG information, as well as deepening the relationship between ESG performance, information asymmetry, and capital costs in various capital market characteristics, especially in the Southeast Asian region that has been underrepresented but has distinctive institutional characteristics and is relevant for theory development.

RECOMMENDATION

Based on the findings of the research, several recommendations can be submitted to relevant parties. For researchers, international collaboration between Southeast Asian academics needs to be actively encouraged considering that the region is still dominated by Single Country Publications (SCPs), even though the similarities in institutional and regulatory characteristics in this region offer comparative opportunities that have not been tapped in. In addition, empirical research that specifically examines the implications of the adoption of the ISSB standard on the value relevance of ESG information in emerging markets is urgent given that this standard is only effective and has not been widely studied academically.

For regulators and capital market authorities, the findings regarding the shift in research focus from disclosure to substantive ESG performance indicate that a mandatory disclosure framework that is only oriented towards the quantity of disclosure needs to be evaluated. Regulations that encourage the

quality and comparability of ESG reporting. As directed by the ISSB standard, it will be more effective in increasing the relevance of the value of non-financial information to investors.

For practitioners and companies, the resulting thematic cluster map indicates that sustainability governance is a dimension that is increasingly receiving research attention, which means that the quality of the company's internal mechanisms for managing and reporting ESG performance will be increasingly noticed by the capital market and academic community.

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