



## Conceptual Framework of Environmental, Social, and Governance (ESG) Research: Trends, Themes, and Emerging Perspectives

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**ABSTRACT** - This paper aims to assessing the growth and publication patterns in environmental, social and governance (ESG) research, identifying the main issues discussed among influential publications and authors that have shaped the discourse, and exploring the intersection of ESG with other emerging fields or trends. Data from the SCOPUS database were used in this study. The ‘biblioshiny’ R package, also known as ‘bibliometrix 3.0’, was employed to conduct bibliometric analysis, utilising mapping and clustering techniques on 1736 articles, in order to distil the comprehensive knowledge and identify emerging trends in ESG topics. The thematic Map classifies the ESG themes into niche themes (e.g., ESG investing, socially responsible investment, and ESG rating); emerging/declining themes (e.g., Sustainable development, corporate sustainability, and responsible investment); and basic/transversal themes (e.g., ESG, sustainability and CSR). Environmental, social, and governance imply a position between niche themes and motor themes, while the corporate social responsibility, corporate governance, and ESG performance implies a position between motor themes and basic themes. This study sheds light on the nature and patterns of ESG research. Citation rates are estimated by analysis, and journal impact factors are quantifiable and objective measures directly related to published research.

### ARTICLE HISTORY

Received: 08<sup>th</sup> Jul 2023

Revised: 04<sup>th</sup> Oct 2024

Accepted: 18<sup>th</sup> Oct 2024

Published: 01<sup>st</sup> Dec 2024

### KEYWORDS

Bibliometric analysis, bibliometrix R-Tool, ESG, environmental, social, governance.

## INTRODUCTION

Environmental, social, and governance (ESG) performance of businesses has emerged as a critical area of study and practice. According to Scopus information, more than 3,000 academic papers on ESG have been published since the early 1970s. ESG factors have gained significant importance in the corporate world, shaping sustainable practices and responsible business behavior. As the interest in ESG continues to grow, it is crucial to understand the existing body of literature and its characteristics. The various rankings emphasize that the bibliometric assessment of scientific impact is a multidimensional concept.

This study aims to synthesize the literature on ESG, identify recent trends, key themes, influential journals, and authors in recent years. By adopting a broader perspective and addressing recent calls for more research on this topic, this study seeks to shed light on the evolving scholarly discourse on ESG. It builds upon the work of Widyawati (2020) by conducting a comprehensive bibliometric analysis instead of relying solely on systematic literature reviews. The bibliometric analysis complements the qualitative systematic literature review by providing a visual

representation and quantitative analysis of the state of art in ESG research (Liao et al., 2018; Gao et al., 2019).

The study focuses on three main objectives: assessing the growth and publication patterns in ESG research, identifying influential publications and authors that have shaped the discourse, and exploring the intersection of ESG with other emerging fields or trends. Through the analysis of a comprehensive collection of ESG-related publications, this research aims to provide valuable insights into the evolution and current state of ESG research. Understanding the growth patterns and publication trends helps researchers and practitioners gauge the increasing relevance and impact of ESG in contemporary business practices. Identifying influential publications and authors guides future research efforts and highlights key areas of focus within the field. Additionally, exploring the intersection of ESG with other emerging fields reveals the multidisciplinary nature of sustainability and uncovers synergies that shape responsible business practices.

To address these objectives, the study formulates three research questions. Firstly, it examines how the scholarly discourse on ESG has evolved over time (RQ1). By tracking publication patterns and the growth of ESG research, this study provides insights into the emergence and maturation of the field. Secondly, it investigates the key research trends and characteristics within the field of ESG (RQ2). Through an analysis of themes, concepts, and methodologies employed in ESG literature, this research identifies prominent areas of focus and offers a comprehensive overview of the current research landscape. Lastly, the study aims to identify emerging research areas and potential gaps in the literature (RQ3). By uncovering nascent or underexplored research areas, this study highlights opportunities for future investigation and contributes to the ongoing scholarly dialogue on ESG.

By addressing these research questions, this study contributes to the existing literature on ESG by providing a comprehensive analysis of the scholarly discourse. The findings will inform academics, practitioners, and policymakers about the evolution, trends, and research gaps within the field. The multidimensional approach to bibliometric analysis adds depth and richness to our understanding of the impact and influence of ESG research. In the following sections, we will present the methodology employed for this research, including data collection and analysis techniques. Subsequently, we will discuss the key findings that emerged from the bibliometric analysis, addressing each research question in detail. Finally, we will discuss the implications of these findings, highlight their significance for academia and industry, and provide directions for future research in the field of ESG.

## **METHODOLOGY**

### **Five-steps of bibliometric analysis**

This article follows a five-step process adapted from Silvente et al. (2019) and Arslan et al. (2022), known as a bibliometric workflow. The summary of the research process is depicted in Figure 1. The research adopted an objective and reliable approach to analyse three levels of analysis: sources, authors, and documents. Firstly, the relevance of issues associated with each level was determined, with relevance defined as the most productive or referenced item, depending on the unit of analysis. Next, various bibliometric methodologies were employed to identify knowledge structures. Conceptual structures were examined to identify major topics and trends, intellectual structures focused on understanding the influence of individual works on the scientific community, and social structures explored author-country cooperation.

To conduct the bibliometric analysis, the study utilized the bibliometric R-Tool (Aria & Cuccurullo, 2017), a recently released R package that offers specialized tools for comprehensive bibliometric and scientometric research. R, known for its versatility and power in statistical analysis, was chosen for its open-source nature and its ability to integrate with other software packages. In this study, the 'biblioshiny' package in RStudio was specifically used to enhance content analysis. The research process involved data collection, descriptive analysis, and

bibliometric analysis at each level. These robust processes enabled a thorough examination of the scholarly discourse on ESG, uncovering insights into its evolution, publication patterns, influential authors, and the overall knowledge structures.

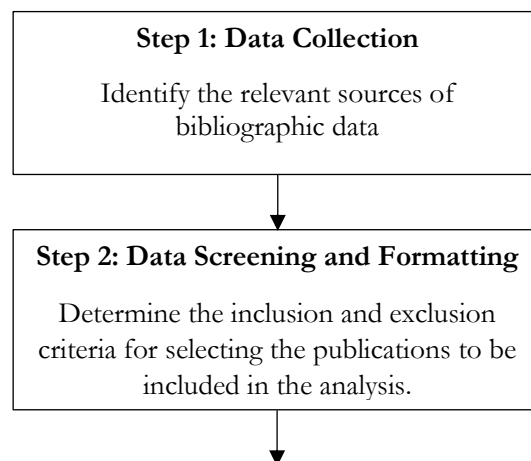
By employing this rigorous methodology, the study provides valuable insights into the field of ESG research, contributing to a deeper understanding of its growth, trends, and key contributors. The findings of this research have important implications for academics, practitioners, and policymakers in the field of ESG, informing future research directions and decision-making in sustainable and responsible business practices.

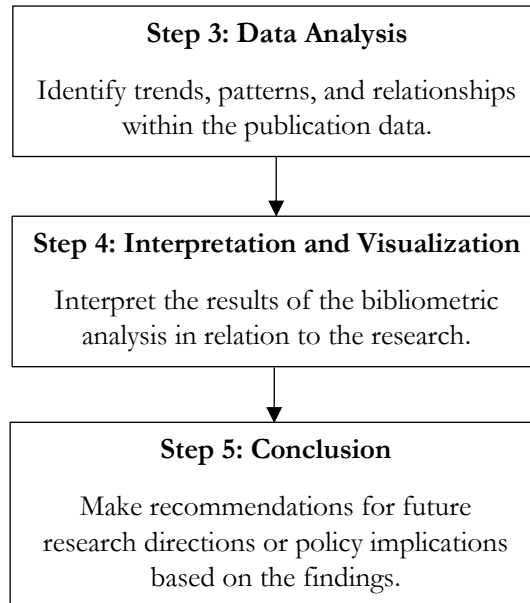
### **Scheme of study**

This study addresses the research questions by providing insights into the evolution of the scholarly discourse on ESG (RQ1), identifying key research trends and characteristics within the field (RQ2), and uncovering emerging research areas and potential gaps in the literature (RQ3). To answer RQ1, descriptive analysis and publication count and growth analysis were conducted to understand the evolution of ESG research over time. Core sources and authors were identified based on source influence, total citations, and net publications per year. Bradford's Law was applied to classify the primary sources into different zones of productivity. Recommendations were made based on the frequency of publications and total citations to highlight the top countries and affiliations in the field.

For RQ2 and RQ3, co-occurrence maps, thematic maps, and thematic evolution analysis were employed to identify key research trends and themes in the ESG literature. Authors' keywords and keywords plus (system-generated keywords) were used to determine research streams and themes. The "biblioshiny" tool in the R-program facilitated this analysis. The co-occurrence analysis of keywords revealed the conceptual structure of the field by demonstrating the affinity of specific terms occurring together (Zupic & Cater, 2015). Keyword clustering analysis generated a map illustrating the interrelationships between terms, providing insights into the network of ideas within the field. Based on these findings, conclusions and recommendations were derived, shaping the future research agenda.

Overall, this study contributes to the understanding of ESG research by examining its evolution, identifying key trends and characteristics, and highlighting emerging research areas. The methodology employed, including bibliometric analysis and visualization tools, enhances the clarity and comprehensiveness of the findings. The implications of this research are significant for academics, practitioners, and policymakers who seek to navigate the multidimensional landscape of ESG. By addressing the research questions and providing actionable insights, this study offers a valuable resource for advancing knowledge and promoting responsible practices in the field of ESG.





Source: Adapted from Silvente et al., (2019) and Arslan et al., (2022)

**Figure 1:** Summary of research process adopted

### **Objectives, Tools, and Technique**

The objective of the current study is to conduct a bibliometric overview of ESG (Environmental, Social, and Governance). The study utilizes the ‘biblioshiny’ web-specific R package, which offers various research tools for analysis. The first objective is to assess the growth and publication patterns in ESG research, analysing factors such as publication count and citation analysis. Additionally, Bradford’s Law is applied to classify primary sources based on their productivity. The second objective is to analyse the influential aspects within the field using research tools such as global citation analysis, h-index, g-index, and m-index. These tools provide insights into the impact and significance of different aspects related to ESG. Furthermore, science mapping techniques are employed to explore the conceptual structure of the field, and authors’ keywords and keywords plus data are analysed to identify major research sources and themes. By employing these methodologies, the study aims to provide a comprehensive analysis of the ESG landscape, uncovering important patterns, influential factors, and key research themes. The findings of this study will contribute to a deeper understanding of the field and inform future research efforts in the domain of ESG, socially responsible investing (SRI), ethical investing, impact investing, and performance analysis.

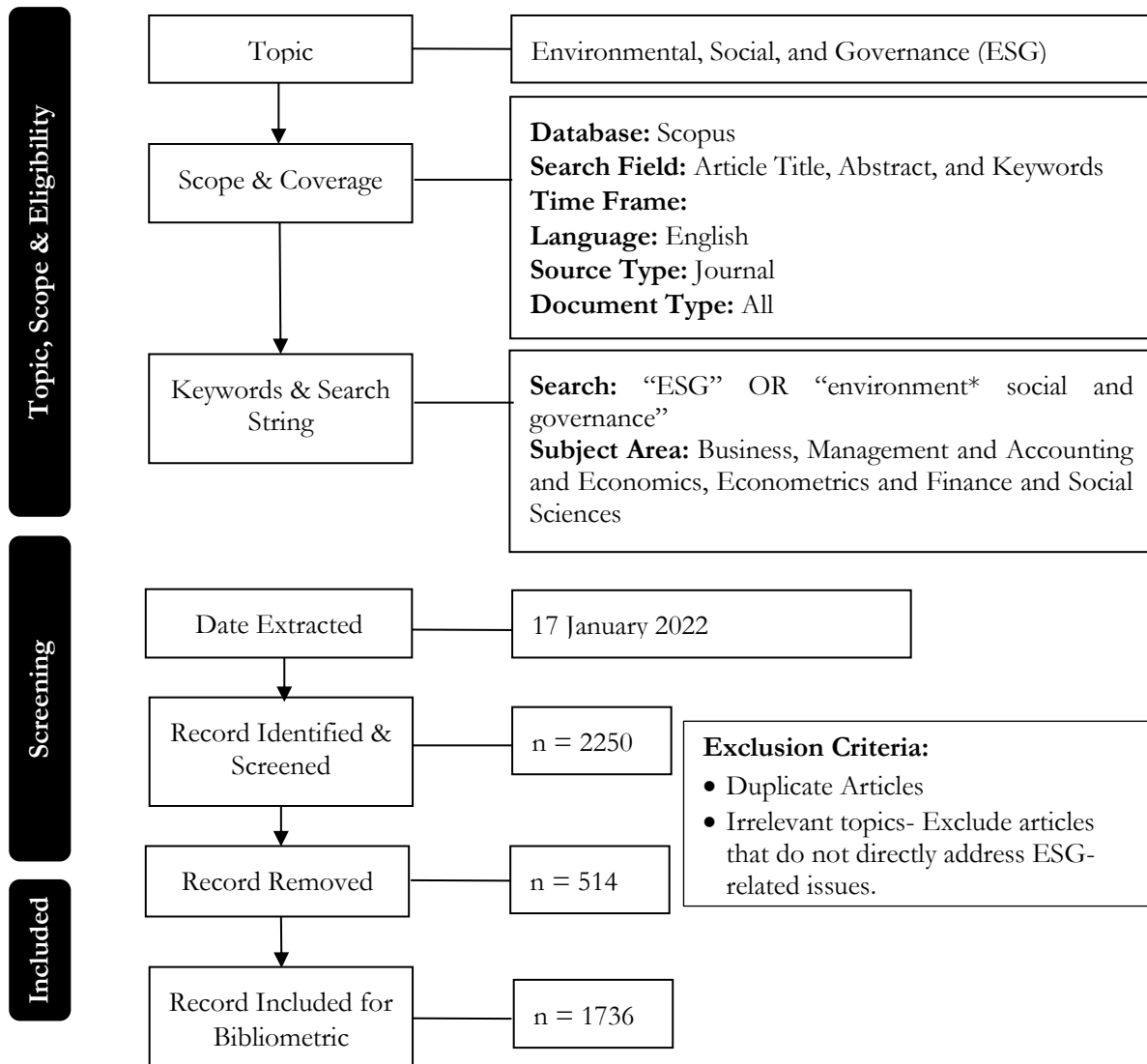
### **Data Collection, Screening and Formatting**

This analysis focused on utilizing a single database, Scopus, for data collection. Scopus was chosen due to its broader coverage compared to other databases such as WOS (Web of Science), making it advantageous for mapping smaller research topics that may be implicitly covered (Zupic & Cater, 2015). The screening process, conducted on January 17, 2022, involved searching for references containing “ESG” or “environment\*, social, and governance” within the subjects of “Business Management, Accounting and Economics, Econometrics, and Finance and Social Sciences.” The bibliometrix R-Tool was utilized to gather metadata from Scopus, specifically covering the period from 2013 to 2023.

Initially, a total of 2,250 publications were identified as potentially relevant to the study’s topic. Through a meticulous screening process, 514 publications were excluded due to criteria such as unrelated content and duplication, resulting in a final dataset of 1,736 publications. These

publications were selected from 471 different sources during the specified time frame. Given the focus of this article on assessing the latest trends in ESG research, the time span was limited to the past ten years. The disciplinary category was confined to accounting, business, economics, econometrics, finance, management, and social sciences.

Once the literature data was cleaned and refined, the subsequent step involved analysing the indicators within the dataset. In bibliometric analysis, two main types of indicators are commonly employed: performance analysis and science mapping (Durieux & Gevenois, 2010). Performance analysis primarily evaluates productivity and influence by examining the number of publications and citations. On the other hand, science mapping aims to visualize the information within the literature and effectively present the research dynamics and structure of the field.



Source: Zakaria et al. (2021)

**Figure 2:** Flow diagram of the search strategy

### Bibliometric analysis and visualization

Biblioshiny, an R package designed for non-coders, enables comprehensive scientometric and bibliometric analysis by offering various options grouped into sources, records, writers, conceptual structure, social structure, and intellectual structure (Moral-Munoz et al., 2019). This study focuses on examining the knowledge structure of research related to ESG, SRI, ethical, and impact

investing using a bibliometric approach. The dataset descriptions adhere to the bibliometric format and provide insights into the selected studies, as outlined in Table 1. The analysis encompasses 1,736 studies from 471 journals.

The analysis reveals a consistent increase in the number of published articles on ESG over time, indicating a growing interest and research activity in this domain. The publication counts gradually rose from 17 articles in 2013 to 22 articles in 2014 and 38 articles in 2015. Subsequently, there was a noticeable rise in publications in 2016, followed by continuous growth in subsequent years. The year 2018 witnessed a significant increase, and this upward trend intensified in 2019, with a notable surge in the number of articles. The publication rate continued to accelerate, reaching its peak with 560 articles in 2022. Although the data for 2023 indicates 375 articles, it is important to note that this count represents the publications up until a specific point in the year and may not encompass the entire annual output. The increasing number of published articles on ESG signifies the growing importance and recognition of ESG issues within academia. It reflects the rising research interest in understanding the environmental, social, and governance aspects and their implications across diverse disciplines. These publication trends highlight the active scholarly discourse surrounding ESG and demonstrate the ongoing efforts to advance knowledge, explore new perspectives, and address emerging challenges in this field.

Figure 3 presents a three-field analysis depicting the distribution of keywords, countries, and affiliations within the studies on ESG. Prominent affiliations in the literature include institutions from the USA, Italy, China, the UK, and India. The most frequently used keywords encompass ESG, corporate social responsibility, sustainability, environment, corporate governance, financial performance, and ESG performance. Notable affiliations contributing to the literature include the American University of the Middle East, Ahlia University, University of Hamburg, Sapienza University of Rome, Bocconi University, Xi'an Jiaotong University, the University of Queensland, and Malaysian universities such as Universiti Utara Malaysia and Universiti Sains Malaysia. Overall, the bibliometric analysis conducted using Biblioshiny offers valuable insights into the publication trends and the research landscape of ESG. The findings highlight the global reach and multidisciplinary nature of ESG research, along with the key topics and affiliations that shape the scholarly discourse in this field.

**Table 1:** The summary of bibliometric analysis based on SCOPUS

Source	SCOPUS	No. of items or no. of articles
Time period	2013:2023	
Keyword	“ESG” OR “environment* social and governance”	
	Sources	471
Document Type	Total contributions	1736
	Articles	1736
Language	English	
Source type	Journal	

Source: SCOPUS

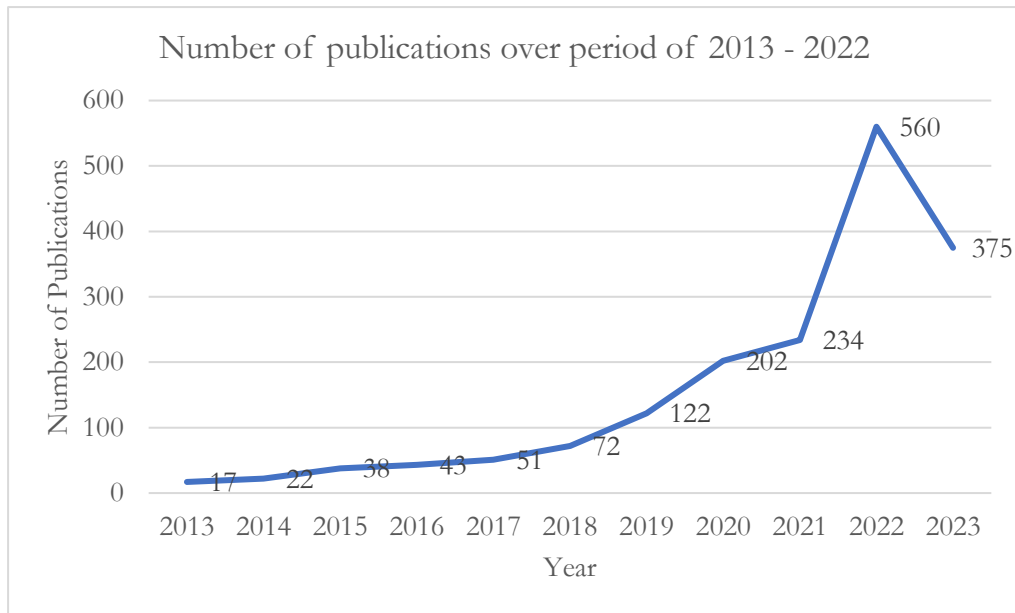


Figure 3: Annual publication trends

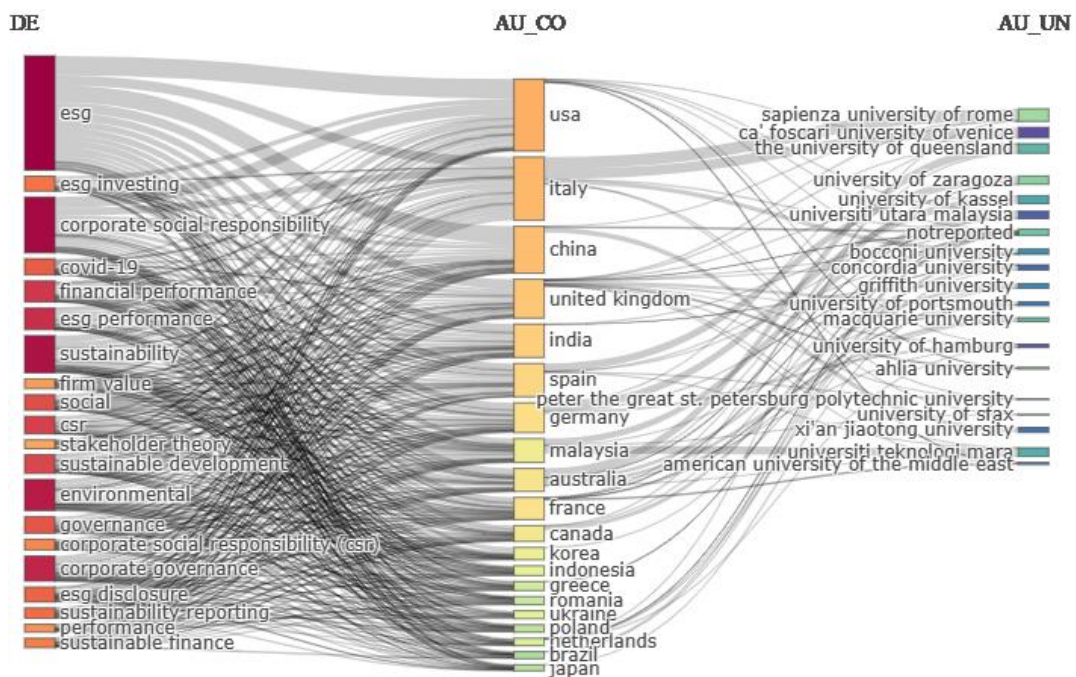


Figure 4: Three-field analysis of “ESG” OR “environment\*, social, and governance”

## INFLUENTIAL ASPECTS OF ESG

### Core journals

We use source impact and Bradford Law to find the key journals that publish ESG literature. According to the Bradford rule, as seen in Table 3, divides the journal into three zones. Zone 1 is immensely valuable and considered a nuclear zone. Zone 2 is slightly productive compared to Zone 1, and Zone 3 is barely productive compared to Zone 1 and 2. We discovered that 16 journals out of 54 falls into core zone 1, and the remaining ones fall into zones 2 and 3. Finance Research Letters is the top-ranked journal according to Bradford rule in Zone 1, and it has published 80

articles on ESG. Table 3 shows the rankings of publications based on the h-, m-, and g-indexes, total citations, and net output (NP), as well as the publication year (PY start). Furthermore, top affiliations are suggested based on publication frequency and their citations.

**Table 2: Journal rankings**

Sources	Rank	Freq	Cumfreq	Zone
Finance Research Letters	1	80	80	Zone 1
Corporate Social Responsibility and Environmental Management	2	67	147	Zone 1
Business Strategy and The Environment	3	63	210	Zone 1
Journal Of Cleaner Production	4	62	272	Zone 1
Journal Of Sustainable Finance and Investment	5	50	322	Zone 1
Journal Of Portfolio Management	6	34	356	Zone 1
Journal Of Business Ethics	7	33	389	Zone 1
International Review of Financial Analysis	8	32	421	Zone 1
Journal Of Asset Management	9	23	444	Zone 1
Research In International Business and Finance	10	23	467	Zone 1
Sustainability Accounting, Management and Policy Journal	11	21	488	Zone 1
Global Finance Journal	12	20	508	Zone 1
Journal Of Risk and Financial Management	13	20	528	Zone 1
Journal Of Business Research	14	17	545	Zone 1
Corporate Governance (Bingley)	15	15	560	Zone 1
Journal Of Investing	16	15	575	Zone 1
Journal Of Corporate Finance	17	14	589	Zone 2
Pacific Basin Finance Journal	18	14	603	Zone 2
Social Responsibility Journal	19	14	617	Zone 2
Australasian Accounting, Business and Finance Journal	20	13	630	Zone 2

Source: Extracted from SCOPUS

**Table 3: Top journal according to source impact**

Element	H_Index	G_Index	M_Index	TC	NP	PY_Start
Business Strategy and The Environment	30	52	2.73	2810	62	2013
Corporate Social Responsibility and Environmental Management	22	39	3.14	1669	62	2017
Journal of Business Ethics	21	33	1.91	2268	33	2013
Journal of Cleaner Production	21	41	1.91	1708	50	2013
Finance Research Letters	18	33	2.00	1171	61	2015
Journal of Sustainable Finance and Investment	16	38	1.45	1513	47	2013
Sustainability Accounting, Management and Policy Journal	13	21	1.18	605	21	2013
Journal of Corporate Finance	12	14	1.33	1181	14	2015
Journal of Business Research	10	16	1.25	567	16	2016
Research in International Business and Finance	10	17	1.43	409	17	2017
Social Responsibility Journal	10	14	0.91	401	14	2013
Corporate Governance (Bingley)	9	14	1.80	341	14	2019
Global Finance Journal	9	18	1.29	547	18	2017
International Review of Financial Analysis	9	16	1.00	282	20	2015
Financial Analysts Journal	8	8	1.33	471	8	2018



Journal of Asset Management	8	17	0.80	479	17	2014
Journal of Banking and Finance	8	8	0.80	633	8	2014
Journal of Portfolio Management	8	18	1.60	387	33	2019
Accounting And Finance	7	10	1.75	233	10	2020
Environment, Development and Sustainability	7	8	0.78	140	8	2015

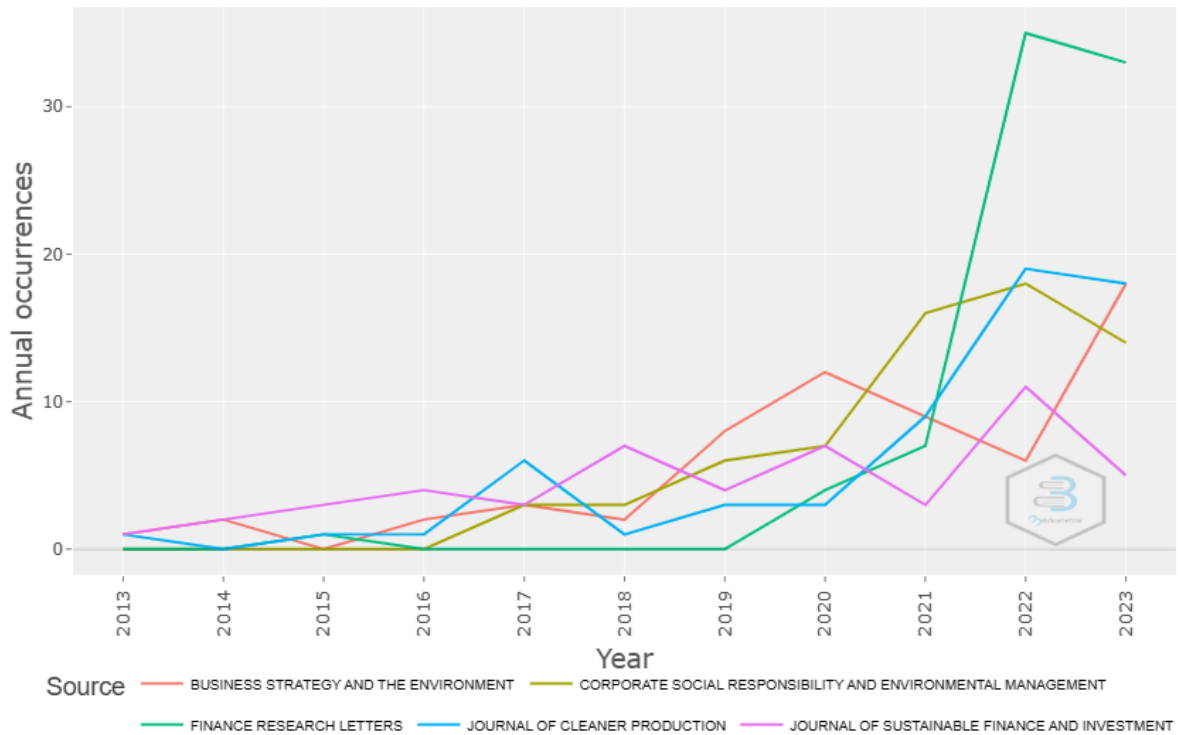
**Source:** Extracted from SCOPUS

The growth in a publication by top journals is depicted in Figure 5. The table displays the publication counts for selected journals in the field of ESG research from 2013 to 2023. The analysis reveals an overall increasing trend in ESG-related publications across the years. Journals such as “Finance Research Letters,” “Corporate Social Responsibility and Environmental Management,” “Business Strategy and the Environment,” “Journal of Cleaner Production,” and “Journal of Sustainable Finance and Investment” have contributed to the growth of ESG literature. The highest number of publications occurred in 2022, indicating a surge of interest in ESG topics. These findings highlight the expanding scholarly discourse on ESG and emphasize the significance of these journals in disseminating research in the field.

### **Core Journal Articles**

The top papers in ESG publications are highlighted in this section. Table 4 shows the top 20 most-cited publications worldwide on the topic. In the first study, Cheng et al. (2014) paper from 2014 titled “Corporate social responsibility and access to finance” has received a total of 1447 citations, making it the most highly cited paper in the dataset. With an average of 144.7 citations per year, this paper has made a lasting impact on the literature. The paper explores the relationship between corporate social responsibility (CSR) practices and access to finance, shedding light on the financial implications of CSR initiatives. The second, Friede et al. (2015) paper from 2015 titled “ESG and financial performance: aggregated evidence from more than 2000 empirical studies” has accumulated 811 citations. This influential paper provides a comprehensive review and analysis of over 2000 empirical studies, examining the relationship between environmental, social, and governance (ESG) factors and financial performance. With an average of 90.1111 citations per year, the paper has contributed to the understanding of the impact of ESG considerations on financial outcomes. The study by Fatemi et al. (2018) focuses on the relationship between ESG performance and firm value, considering the moderating role of disclosure. The paper explores how the extent of ESG disclosure influences the relationship between ESG performance and firm value. By investigating this moderating effect, the study provides insights into the importance of transparent communication and disclosure practices in enhancing the value of ESG performance for firms.

The findings of this paper contribute to the literature on ESG by highlighting the significance of disclosure in realizing the potential benefits of ESG initiatives. By emphasizing the role of transparency and communication in ESG reporting, the paper offers valuable insights for both researchers and practitioners interested in understanding the link between ESG performance, disclosure, and firm value. The substantial citation count suggests that this paper has made a notable impact on the field and has been influential in shaping the discourse around ESG and firm valuation. These top papers highlight the significance of corporate social responsibility, ESG factors, and their implications for financial performance. Their high citation counts demonstrate their influence and recognition within the field, serving as valuable resources for researchers and practitioners interested in the intersection of ESG and finance.



**Figure 5:** Source growth

**Table 4:** Most cited papers

Paper	Title	Total Citations	TC Per Year
Cheng et al. (2014)	Corporate social responsibility and access to finance	1447	144.7
Friede et al. (2015)	ESG and financial performance: aggregated evidence from more than 2000 empirical studies	811	90.1111
Fatemi et al. (2018)	ESG performance and firm value: The moderating role of disclosure	319	53.1667
Amir et al. (2018)	Why and How Investors Use ESG Information	301	50.1667
Gillan et al. (2021)	A review of ESG and CSR research in corporate finance	293	97.6667
Broadstock et al. (2021)	The role of ESG performance during times of financial crisis	279	93
Li et al. (2018)	The impact of environmental, social, and governance disclosure on firm value: The role of CEO power	278	46.3333
Nofsinger et al. (2014)	Socially responsible funds and market crises	256	25.6
Cucari et al. (2018)	Diversity of Board of Directors and Environmental Social Governance: Evidence from Italian Listed Companies	252	42
Wang et al. (2017)	Corporate social responsibility governance, outcomes, and financial performance	251	35.8571
Nollet et al. (2016)	Corporate social responsibility and financial performance	251	31.375

Xie et al. (2019)	Do environmental, social, and governance activities improve corporate financial performance?	247	49.4
Tang et al. (2020)	Do shareholders benefit from green bonds?	233	58.25
Garcia et al. (2017)	Sensitive industries produce better ESG performance	230	32.8571
Kim et al. (2015)	Greenwash vs. Brownwash: Exaggeration and Undue Modesty in Corporate Sustainability Disclosure	221	24.5556
Aouadi et al. (2018)	Do ESG Controversies Matter for Firm Value? Evidence from International Data	219	36.5
Haque et al. (2017)	The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms	199	28.4286
Ng et al. (2015)	Business sustainability performance and cost of equity capital	196	21.7778
Pedersen et al. (2021)	Responsible investing: The ESG-efficient frontier	194	64.6667
Kölbel et al. (2017)	How Media Coverage of Corporate Social Irresponsibility Increases Financial Risk	193	27.5714

**Source:** Extracted from SCOPUS

### Core words

The most used terms in ESG literature are mentioned in Table 5. The table provides insights into the most frequently used terms in the literature on Environmental, Social, and Governance (ESG) topics based on the Author's keywords. These terms represent the key concepts and themes that researchers and practitioners commonly discuss and explore within the ESG field. The term "ESG" itself appears most frequently, highlighting its central role as an overarching framework that encompasses environmental, social, and governance factors. Corporate Social Responsibility (CSR) is another prominent term, emphasizing a company's commitment to integrating social and environmental concerns into its business practices. Sustainability, with its focus on long-term balance between economic development, environmental protection, and social well-being, also features prominently. Environmental issues, corporate governance, and ESG performance are highlighted as key areas of focus within the literature. Other terms such as COVID-19, ESG disclosure, and sustainable finance reflect the evolving nature of the field and the integration of emerging topics. Overall, the most used terms in the ESG literature provide a comprehensive overview of the foundational concepts and contemporary issues that shape discussions and research within the field.

**Table 5:** Most frequent keywords

<b>Words</b>	<b>Occurrences</b>
ESG	486
Corporate Social Responsibility	217
Sustainability	164
Environmental	132
Corporate Governance	112
ESG Performance	82
Financial Performance	82

CSR	76
Sustainable Development	73
Social	71
Governance	65
COVID-19	63
ESG Disclosure	59
Sustainability Reporting	51
ESG Investing	48
Sustainable Finance	45
Corporate Social Responsibility (CSR)	43
Performance	43
Firm Value	38
Stakeholder Theory	38

Source: Extracted from SCOPUS

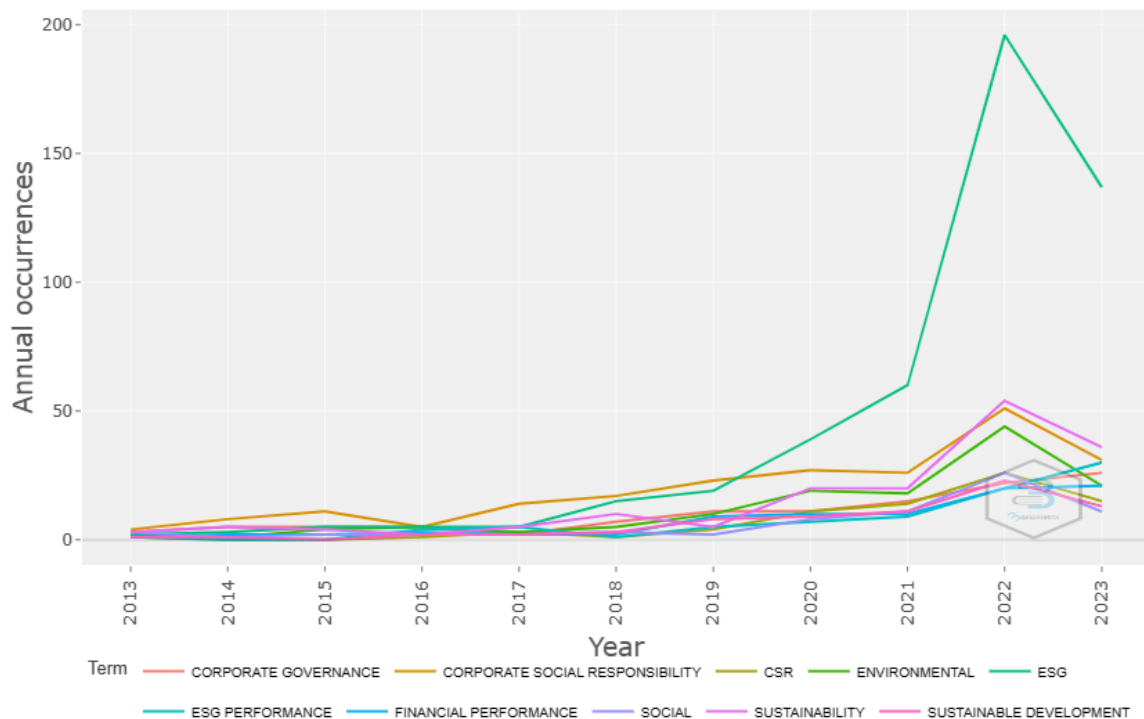
The word cloud generated from Authors' keywords is shown in Figure 6. Words that often appear in the literature have a larger font size. In the literature on ESG, the terms: ESG, sustainability, sustainable development, and ESG performance appear most frequently. As a result, these are the most important terms used. Then there are environmental, ESG disclosure, corporate social performance, ESG investing, corporate social responsibility (CSR) and sustainability reporting.



Figure 6: Word cloud

Figure 7 depicts the dynamics of specific words within the ESG literature over the years from 2013 to 2023. Each word represents a concept or theme that is frequently discussed in relation to ESG topics. The numbers in the table indicate the frequency of occurrences of these words in the literature for each respective year. Analysing the word dynamics, we can observe certain patterns and trends. Firstly, the usage of ESG, representing the overall framework encompassing environmental, social, and governance factors, has consistently increased over time, demonstrating its growing importance and recognition in the literature.

Similarly, the terms “Corporate Social Responsibility” (CSR) and “Sustainability” show a general upward trend, indicating sustained attention to these concepts throughout the years. The term “Environmental” also demonstrates a relatively steady presence, reflecting the ongoing focus on environmental issues in the ESG discourse. “Corporate Governance” exhibits some fluctuations but maintains a consistent level of attention, highlighting its significance in discussions of responsible business practices. The terms “ESG Performance” and “Financial Performance” show an upward trajectory, indicating an increasing interest in assessing and evaluating the impact of ESG and financial performance. Other terms, such as “Sustainable Development,” “Social,” and “CSR,” demonstrate varying patterns, with some years exhibiting higher frequencies of occurrence compared to others. Overall, the word dynamics in the table provide insights into the evolving focus and emphasis within the ESG literature, highlighting the central concepts and themes that have received attention over the years.



**Figure 7:** Word growth over time

### Trends topics

Table 6 presents the result for trend topics based on the frequency of occurrence of specific words in the ESG literature. It also includes the years in which the words were most prominent (year\_q1), the median years of prominence (year\_med), and the years with the highest occurrence (year\_q3).

The analysis of trend topics in the ESG literature reveals several key findings. First and foremost, the term “ESG” stands out as the most frequently mentioned concept, indicating a growing emphasis on the integration of environmental, social, and governance factors in business practices. Its occurrence has significantly increased in recent years, demonstrating a heightened focus on holistic sustainability approaches. Corporate social responsibility (CSR) and sustainability also garner substantial attention, with consistent upward trends and highest occurrences in the years 2020 to 2022. This highlights the sustained interest in responsible business conduct and the integration of sustainability principles into corporate strategies. Similarly, the term “Environmental” demonstrates a rising trend, signifying the continued focus on environmental issues within the ESG discourse.

The concept of corporate governance maintains a relatively stable prominence, with heightened occurrences in recent years (2019 to 2022), emphasizing its crucial role in responsible business practices. The analysis also reveals a growing interest in assessing the impact of ESG factors on financial performance, as evidenced by the increased occurrences of terms like “ESG Performance” and “Financial Performance” in the years 2020 to 2023.

Additional noteworthy topics include CSR, sustainable development, ESG disclosure, and ESG investing, which consistently feature in the literature. Moreover, the emergence of “Green Innovation” as a prominent concept in the most recent years (2022 to 2023) reflects the heightened focus on environmentally friendly practices and sustainable innovation. Overall, this analysis provides valuable insights into the trends and prominent topics within the ESG literature. It showcases the increasing recognition of ESG factors and their impact on corporate practices, sustainability efforts, and financial performance. These findings contribute to the ongoing discussions surrounding responsible business conduct and the integration of sustainability principles into various aspects of organizations.

**Table 6:** Trend topics

<b>Words</b>	<b>freq</b>	<b>year_q1</b>	<b>year_med</b>	<b>year_q3</b>
ESG	486	2021	2022	2023
Corporate Social Responsibility	217	2018	2020	2022
Sustainability	164	2020	2022	2022
Environmental	132	2020	2021	2022
Corporate Governance	112	2019	2021	2022
ESG Performance	82	2020	2022	2023
Financial Performance	82	2019	2022	2023
CSR	76	2020	2022	2022
Sustainable Development	73	2020	2021	2022
ESG Disclosure	59	2020	2021	2022
ESG Investing	48	2020	2021	2022
Disclosure	33	2018	2020	2022
Corporate Social Performance	30	2016	2018	2021
Integrated Reporting	30	2017	2020	2022
Socially Responsible Investment	28	2015	2018	2022
Institutional Investors	22	2018	2019	2022
Sustainability Performance	17	2019	2020	2023
ESG Reporting	14	2017	2020	2023
Green Innovation	13	2022	2023	2023
Accountability	10	2017	2018	2022

**Source:** Extracted from SCOPUS

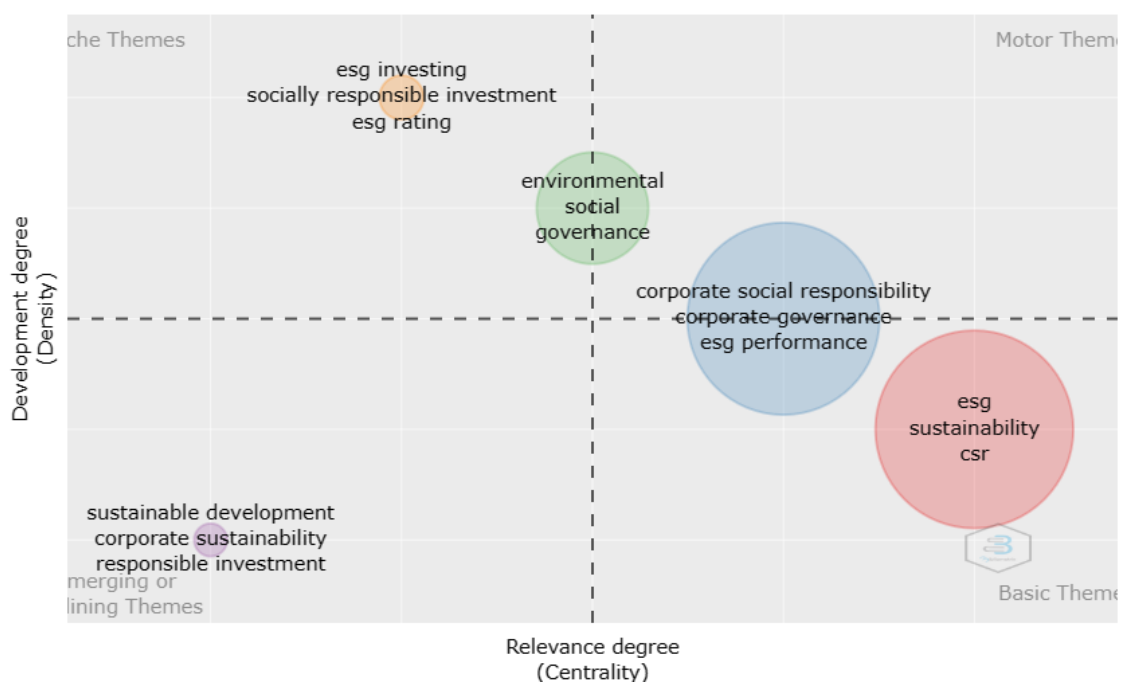
## CONCEPTUAL FRAMEWORK

### Thematic map

To better understand the findings, this study has identified some study themes. To evaluate the significance and creation of the research theme, we can group the established themes into a strategic diagram. The thematic map based on density (y-axis) and centrality (x-axis) is shown in Figure 8. The value of the chosen theme is measured by centrality. In contrast, the growth of the chosen theme is measured by its density. Also, the centrality can be reads as the importance of the subject in the entire research field and the density can be read as a measure of the subject’s

development. The author’s keywords are those provided by the original authors at the time of publication of the document. By applying clustering algorithm on the keyword network, it is possible to highlight the different themes of a given domain. Each cluster/theme can be represented on a particular plot known as a strategic or thematic map. The thematic map categorizes ESG (Environmental, Social, and Governance) themes into four distinct categories: niche themes, emerging/declining themes, basic/transversal themes, and motor themes. Niche themes represent specialized areas within the ESG domain that focus on specific aspects such as ESG investing, socially responsible investment, and ESG rating. These themes pertain to targeted practices or strategies that revolve around specific sustainability criteria or financial considerations. Emerging/declining themes indicate topics that are either gaining or losing prominence over time within the ESG landscape. Examples of emerging/declining themes include sustainable development, corporate sustainability, and responsible investment. These themes reflect evolving priorities and trends within the ESG field, demonstrating areas of increasing interest or decreasing attention. Basic/transversal themes encompass fundamental concepts that are central to ESG discussions. They include ESG itself, sustainability, and CSR (Corporate Social Responsibility). These themes serve as the core principles that underpin responsible business practices and sustainable development. They encompass a wide range of factors and considerations relevant to ESG frameworks. Motor themes lie between the basic/transversal themes and the niche themes, serving as driving forces that connect various elements within the ESG landscape. Environmental, social, and governance themes occupy a position between niche themes and motor themes, indicating their crucial role in influencing and shaping other ESG topics. Similarly, themes such as corporate social responsibility, corporate governance, and ESG performance bridge the gap between motor themes and basic/transversal themes, playing significant roles in driving responsible business practices and contributing to the overall discourse on ESG.

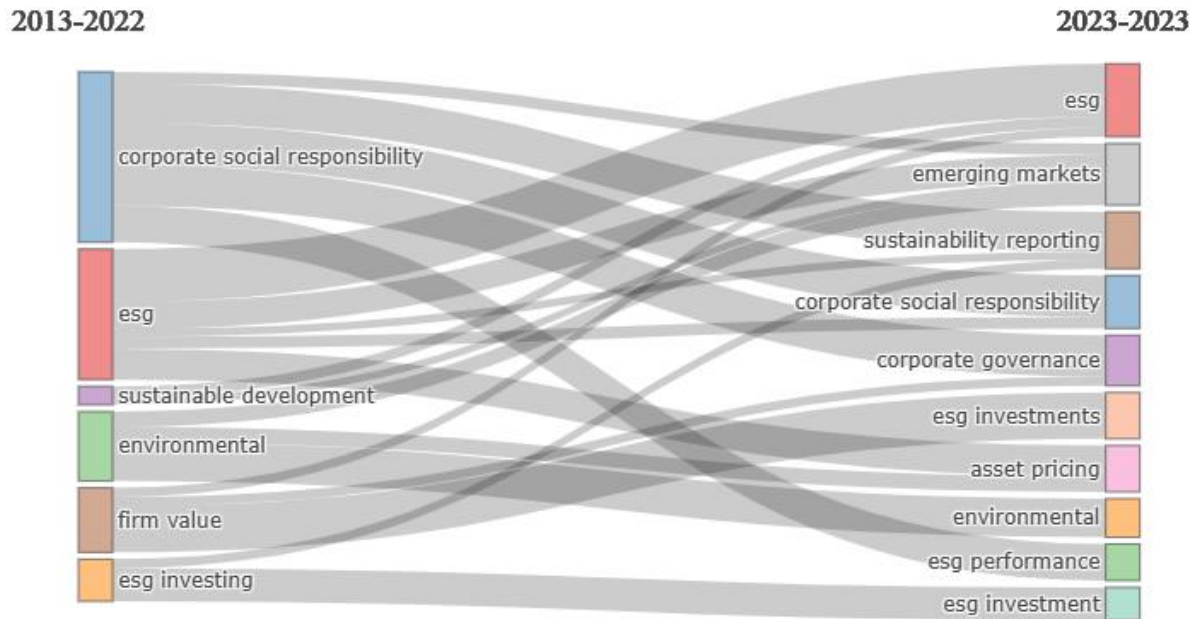
The thematic map offers a visual representation of the relationships and hierarchies among different ESG themes. It helps identify specialized areas of focus, emerging trends, fundamental concepts, and influential factors within the broader ESG framework. This classification provides insights into the diversity and interconnectedness of ESG themes, facilitating a better understanding of the landscape and enabling targeted analysis and decision-making in the field.



**Figure 8:** Thematic map

## Thematic evolution

In addition to the thematic diagram, there is also thematic evolution (Figure 9), which depicts the evolution of literature over time. The history of themes and their evolution is depicted using keywords and thematic evolution. Thematic progression is achieved by the use of ‘biblioshiny’ and dividing thematic evolution into two segments. The thematic evolution results provide insights into the transitions and connections between different themes over time. Each row represents a specific transition from a starting theme to an ending theme, with associated words indicating the concepts and ideas related to each transition.



**Figure 9:** Thematic evolution

One notable transition is from Corporate Social Responsibility (CSR) to Corporate Governance. This shift is supported by associated words such as ESG disclosure, environmental performance, panel data, agency theory, board diversity, board of directors, and the banking sector. It suggests a movement towards emphasizing the importance of corporate governance practices and related concepts, potentially indicating a shift in focus from CSR-specific initiatives to broader governance considerations. Additionally, the transition from CSR to itself indicates the persistence and continued relevance of CSR-related discussions and themes. The associated words include stakeholder theory, corporate social performance, corporate financial performance, ESG scores, institutional theory, and environmental disclosure. This continuity suggests that CSR remains a prominent and ongoing area of interest and study.

Another interesting transition is from CSR to Emerging Markets, with the associated word being the cost of equity. This connection implies a relationship between CSR and emerging markets, specifically in terms of evaluating the cost of equity in these markets. It suggests that CSR considerations are increasingly influencing financial decision-making and risk assessment in emerging market contexts. Furthermore, the transition from CSR to the Environmental theme highlights the link between CSR and environmental aspects, particularly within the banking sector. The associated word “banks” suggests that CSR efforts are being directed towards environmental sustainability within the banking industry, indicating a growing recognition of the environmental impact and responsibility of financial institutions.

Lastly, the transition from CSR to ESG demonstrates the integration of ESG (Environmental, Social, and Governance) factors into CSR discussions. The associated words include integrated reporting, ESG factors, and innovation. This shift signifies the recognition of the importance of ESG considerations in CSR frameworks and the adoption of more holistic





within the clusters highlights the need for organizations to address and disclose potential risks associated with their ESG practices.

Moreover, the emphasis on ESG reporting and disclosure underscores the growing demand for transparent and accountable reporting of environmental and social impact data. The regional focus on emerging markets and China indicates a growing interest in understanding ESG practices and challenges specific to these regions. Overall, the analysis reveals a global trend towards integrating ESG considerations into business strategies and decision-making, emphasizing the importance of sustainability and responsible corporate practices in today's corporate landscape.

## **DISCUSSION AND FUTURE RESEARCH DIRECTION**

Based on the findings of this study, several important conclusions can be drawn regarding the growth, influential publications and authors, and the intersection of ESG with other emerging fields. Firstly, the analysis of publication patterns revealed a significant increase in ESG research over time, indicating the growing interest and importance of this field. This growth suggests that ESG is increasingly recognized as a critical area of study for businesses, policymakers, and academics. Moreover, the identification of influential publications and authors provides valuable insights into the scholarly discourse on ESG. The papers such as "Corporate social responsibility and access to finance" by Cheng et al. (2014). and "ESG and financial performance: aggregated evidence from more than 2000 empirical studies" by Friede et al. (2015) have received substantial citations and have shaped the research landscape in ESG. Understanding these influential works and authors can guide future research efforts and highlight key areas of focus within the field. Additionally, the analysis of the intersection between ESG and other emerging fields reveals the interconnectedness and relevance of ESG in broader contexts. The overlap between ESG and topics such as sustainable development, corporate governance, and sustainable finance emphasizes the multidisciplinary nature of ESG research. This intersection presents opportunities for collaboration and knowledge exchange between different fields, promoting a holistic understanding of sustainability and responsible business practices.

Based on these conclusions, future research in the field of ESG should focus on several directions. Firstly, there is a need for longitudinal studies to assess the long-term impact and effectiveness of ESG practices on various stakeholders and organizational outcomes. Additionally, exploring the application of emerging technologies and data analytics in ESG research and reporting can enhance the accuracy and reliability of ESG assessment. Furthermore, investigating regional and cultural variations in ESG adoption and implementation can provide insights into the contextual factors influencing sustainability practices globally. Lastly, addressing emerging trends and challenges in ESG, such as climate change adaptation, human rights, and diversity and inclusion, will contribute to the ongoing development of the field.

In conclusion, this study has shed light on the growth and characteristics of ESG research, identified influential publications and authors, and highlighted the intersection of ESG with other emerging fields. The insights gained from this research provide a foundation for future studies to further advance our understanding of ESG and its implications for sustainable and responsible business practices.

## **CONCLUSION**

In conclusion, the comprehensive analysis conducted on ESG research has successfully achieved the objectives of assessing the growth and publication patterns, identifying influential publications and authors, and exploring the intersection of ESG with other emerging fields or trends. The findings demonstrate a significant increase in research activity and publication output, indicating the growing recognition and importance of ESG considerations in academic discourse and real-world practices. By analysing citation patterns, the study has identified key publications and authors

that have significantly shaped the scholarly discourse on ESG. For instance, the study by Cheng et al. (2014) on the relationship between corporate social responsibility (CSR) and access to finance stands out as an influential publication, highlighting the impact of responsible business practices on financial resource acquisition. These influential publications have not only advanced the theoretical understanding of ESG but have also influenced the practical implementation of sustainable and responsible practices across industries. The analysis of frequently used terms has revealed the central concepts within the ESG literature, including ESG, sustainability, corporate governance, and ESG performance. These terms serve as the foundational pillars of ESG research, providing a common language and framework for addressing the social, environmental, and governance dimensions of businesses. This shared understanding facilitates knowledge sharing among researchers and enables businesses and policymakers to align their strategies with sustainable development goals. Furthermore, the thematic evolution analysis has unveiled the intersection of ESG with other emerging fields and trends, such as sustainable development goals, ESG investing, and corporate governance. This highlights the multidisciplinary nature of ESG and emphasizes the need for cross-cutting collaborations. Integrating ESG considerations into various domains becomes essential for achieving holistic and sustainable outcomes. Overall, this analysis provides valuable insights into the growth, influence, and interdisciplinary connections within the field of ESG. It serves as a foundation for future research and decision-making, guiding the development of sustainable and responsible business practices. As the global momentum around ESG continues to rise, it is crucial for researchers, practitioners, and policymakers to build upon these findings and collaborate toward a more sustainable and inclusive future.

## ACKNOWLEDGEMENT

This research is funded by YTI Professorial Chair Programme (YTIPC) grant with title: Application of Maqasid Al-Shariah and Siyasa Shar'iyah in Responsible Investment and Practices Towards Environmental, Social, and Governance Concern: Evidence from Permodalan Nasional Berhad Investment. Research code: (USIM/YTI/FEM/LUAR-S/41821).

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