

Environmental, Social and Governance (ESG) and Financial Performance: A Bibliometric Analysis using Biblioshiny

Prashant Debnath^{1,*} and P. Chellasamy¹

¹ School of Commerce, Bharathiar University, Coimbatore, 641046 Tamil Nadu, India;
chellasamy@buc.edu.in (P.C.)

* Correspondence: prashantdev79@gmail.com (P.D.)

Citations: Debnath, P. & Chellasamy, P. (2024). Environmental, Social and Governance (ESG) and Financial Performance: A Bibliometric Analysis using Biblioshiny. *International Journal of Finance, Economics and Business*, 3(1), 36-52.

Received: 2 January 2024

Revised: 8 March 2024

Accepted: 20 March 2024

Published: 31 March 2024

Abstract: This study conducts a bibliometric analysis of the relationship between ESG (Environmental, Social, and Governance) factors and financial performance. The purpose is to gather bibliometric data on citations, scientific publications, authors, sources, affiliations, contributions from different nations, keywords, trending aspects, and potential future research fields. The study collects data from the Scopus research database covering the period from 2013 to 20th May 2023. Biblioshiny in R Studio is used for data evaluation. The analysis includes annual publication output, average citations, influential authors and institutions, commonly used keywords, and country-wise research output. The analysis reveals a consistent and growing interest in ESG and financial performance research, with a significant increase in scientific articles over time. Earlier publications have higher average citations, indicating their impact, while recent ones show lower citation rates. Key focal points include "financial performance" and "ESG." Noteworthy institutions such as the University of Zaragoza, Nord University, New York University, and the Journal of Sustainable Finance and Investment demonstrate high overall impact. The study emphasizes the ongoing research interest in the relationship between financial performance and ESG and the growing importance of sustainability and corporate social responsibility in corporate practices. The findings indicate a recent emphasis on ESG, financial performance, CSR, sustainability, and corporate governance within environmental studies.

Keywords: Environmental, Social, and Governance; Financial performance; Sustainability, Corporate social responsibility



Copyright: © 2022-2024 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

ESG (Environmental, Social, and Governance) describes how business practices incorporate environmental, social, and governance factors. United Nations Principles of Responsible Investment (UNPRI), which first Coined the term, gave it widespread recognition (Sharma et al., 2020). Due to its potential to produce favorable results for numerous stakeholders, it has recently attracted a lot of attention. ESG factors assist businesses in identifying and managing risks, improving operational effectiveness, and

generating long-term value (Albareda, Lozano, & Ysa, 2018). ESG practices also promote favorable social effects, such as worker well-being, community involvement, and ethical supply chain management (Du et al., 2020). Due to their significant effects on business performance and sustainability, environmental, social, and governance (ESG) concerns have attracted more and more attention from academics, policymakers, and practitioners in recent years (Orlitzky et al., 2003; Eccles et al., 2011; Grewatsch et al., 2016). Especially after the surge of the COVID-19 pandemic, investors from across the globe have paid much attention to ESG and sustainable investment. At the same time, various stakeholder groups have shown great interest in ESG issues.

ESG considerations cover a wide range of topics, including but not limited to executive remuneration, diversity, employee welfare, and human rights (Khan et al., 2016; Albareda et al., 2018; Bhanji et al., 2020). While from the perspective of resources, a company's reputation or other important resources may increase with enhanced ESG performance (Boone & Uysal, 2020). Along with increasing shareholder wealth and organizational financial performance, it also aids those businesses in achieving sustainability goals (Amel-Zadeh & Serafeim, 2018). There has been an increase in academic publications across a variety of disciplines as a result of the rising body of research examining the relationship between ESG and financial performance (Hawn and Ioannou, 2016; Clark and Viehs, 2019; Khan and Serafeim, 2020). ESG and financial performance research are increasingly using bibliometric analysis, a well-established methodology for carefully reviewing and measuring academic literature, to investigate trends, patterns, and knowledge gaps (Martins et al., 2016; Du et al., 2020; Kihoro et al., 2021). Such a study identifies the leading authors, institutions, and journals on the subject and the dominant themes, theoretical frameworks, and approaches used (Heidari et al., 2020; Hu et al., 2021; Zhu et al., 2022).

This study has focused on bibliometric analysis of "Environmental, Social, Governance, and Financial Performance". Through this, the researcher can analyze the recent trend topics, the most prominent authors, sources, and affiliations, the highest and average citations, and country-wise contributions. The bibliometric data was collected from the most searched database, Scopus. Overall, the study provides an overview of the ESG literature and its development over time.

2. Literature Review

Sustainability refers to the idea of striking a balance between these three aspects. It is based on the concepts of integrity (environment), equity (society), and prosperity (economy) (Bansal, 2005). Elkington (2011) expanded on this concept and named it the "Triple Bottom Line" (TBL) concept. ESG (Environmental, Social, and Governance) variables have acquired popularity in investment markets as essential components for assessing a firm's performance on non-financial attributes (Atan et al., 2018). Stakeholders are very interested in knowing how businesses are doing in these areas. These aspects have become important in the modern world, where ESG elements undergo dynamic changes (ESG Data, 2019). ESG indicators go beyond what is shown in financial reports to offer insightful information about a company's non-financial performance (Kengkathran, 2018). ESG uses a triple-bottom-line strategy combining financial success with social and environmental standards adherence. In order to successfully communicate with stakeholders about their environmental, social, and corporate governance practises, businesses are under increasing pressure (KPMG, 2020).

Although the idea of ESG has existed since the 1950s, businesses did not start addressing these concerns until the early 2010s. Due to its potential impact on firm performance (FP), ESG has recently become a well-investigated subject (Fatemi et al., 2017; Baldini et al., 2016; El Ghoul et al., 2017). As a result, it is now acknowledged as a crucial part of a firm's strategy. Numerous empirical studies have examined the relationship between financial performance and environmental, social, and governance (ESG) performance (Allouche and Laroche, 2005; Ambec and Lanoie, 2008). Most of this research (Verheyden et al., 2016; Giese et al. (2019) shows a favourable correlation between ESG and firms' financial performance. However, some research shows a negative connection (Brammer et al., 2006; Crisóstomo et al., 2011), while others find no correlation (Nelling & Webb, 2009). ESG is a key indication of non-financial performance. According to investors who support the idea of socially responsible investing, ESG indicators offer useful insights into a company's long-term success. Scholars have also developed a keen interest in ESG after learning about its effects on corporate reputation and performance (Buallay et al., 2021). Using Citespace, VOSviewer, and the content analysis technique, (Ellili, 2022) performed a bibliometric analysis.

Four significant clusters—CSR, Environmental Economics, Financial Performance, and Corporate Strategy—were discovered when 161 ESG disclosure-related documents from the Scopus database were evaluated for his studies. The analysis also reveals a rise in the number of publications and citations on ESG disclosure. (Gao et al., 2021) performed bibliometric analyses on the data using 690 documents from the

Scopus database, such as co-occurrence analysis and bibliography coupling, and then integrated them with various topics to provide an overview. Even though several studies on ESG and financial performance are available on a global scale, this field is still in its infancy. Therefore, more research is still needed in some areas to develop the field.

In order to overcome this problem, the researcher has outlined important research areas in the field of ESG and financial performance that require additional investigation by the following researchers. According to the researcher, no study has been found examining the relationship between ESG and financial performance using bibliometrics; therefore, this study may be the first to add to the body of knowledge. Future scholars might find this study useful in understanding current trends and potential research trajectories.

3. Materials and Methods

3.1. Database and keywords

The Scopus database, which includes a wide range of papers in business, management, economics, and finance, has been regarded as more convenient and comprehensive based on the recommendations of various researchers. For their bibliometric analysis, the researcher has chosen the Scopus database. In order to find relevant articles, the analysis used certain keywords, such as "Environmental, Social, and Governance*" or "ESG*" AND "Financial Performance*," which were applied to the title, abstract, keywords, and text search bar. 514 research publications were obtained as a result. However, these selections still need to be improved by adding more inclusion standards.

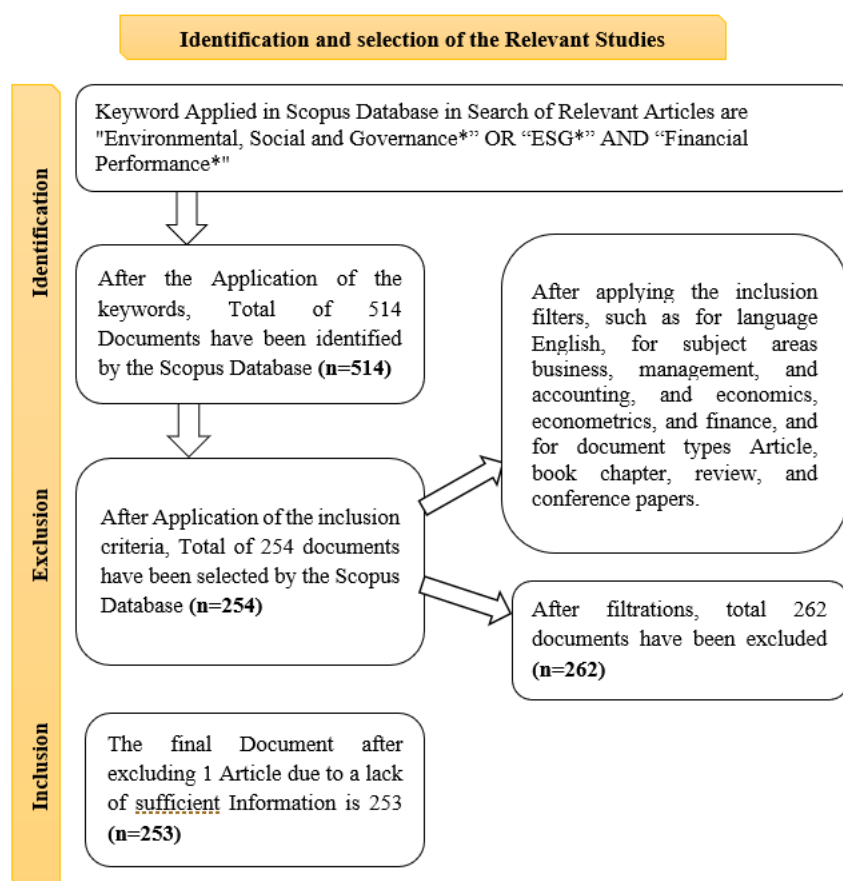


Figure 1. Prisma Framework

3.2. Filtration of Data

Data were extracted from the database covering the period from 2013 to 20th May 2023 using the search string "PUBYEAR > 2012 AND PUBYEAR < 2024." After applying this year-based selection, further inclusion filters were applied, including language, subject areas, document types, allied keywords,

publication stage, and source type. This refining process resulted in a total of 254 articles presented in the database. However, one paper was found to have insufficient information and was subsequently excluded, leaving a final selection of 253 articles.

3.3. Software and technique

After the final selection of the documents from the Scopus database, the extracted documents in a CSV file are exported to Biblioshiny in R Studio software. Biblioshiny is a visualisation application of R Studio that helps in analysing the bibliometric data extracted from the databases for the bibliometric analysis of the concerned subject or field.

4. Results

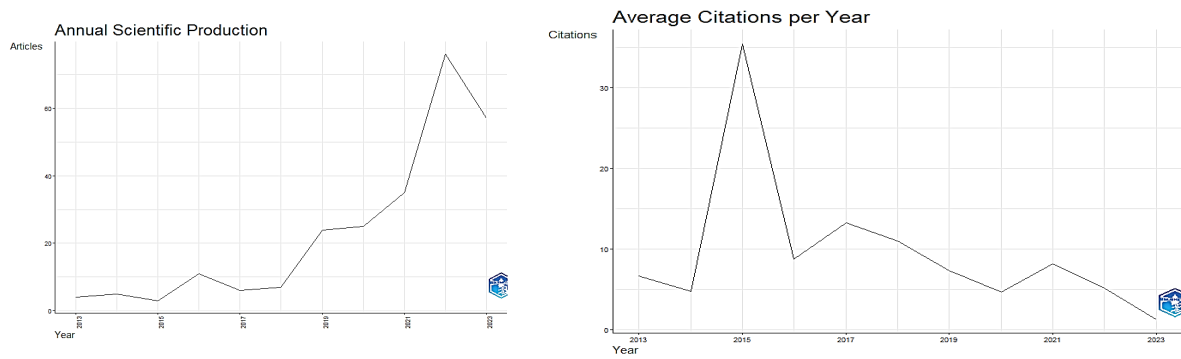
Table 1 presents a summary of the data collected from the Scopus database using the defined keywords "Environmental, Social and Governance" OR "ESG" AND "Financial Performance." It provides information about authors, their collaborations, documents, and their contents.

Table 1. Summary of Main Information about Data

Main Information About Data	
Timespan	2013:2023
Sources (Journals, Books, etc)	149
Documents	253
Annual Growth Rate %	30.43
Document Average Age	2.27
Average citations per doc	24.92
References	15586
Document Contents	
Keywords Plus (ID)	380
Author's Keywords (DE)	675
Authors	
Authors	641
Authors of single-authored docs	29
Authors Collaboration	
Single-authored docs	33
Co-Authors per Doc	2.81
International co-authorships %	27.67
Document Types	
article	221
book chapter	11
conference paper	8
review	13

4.1. Annual Scientific Production and Average Citations Per Year

The information given in Figure 2 reflects the annual output of scientific articles over a period of time. With 76 articles, 2022 is the most fruitful year, suggesting a sizable amount of research production. 2023, the year after, shows a little decline, with 57 publications produced, indicating that scientific activity has continued at a somewhat slower pace. There were 35 publications published in 2021, representing a moderate scientific output. 25 and 24 publications were published in 2020 and 2019, showing a steady level of research output over that time. Only 11 publications, however, were published in 2016, indicating a somewhat lower level of research productivity for that year.



(a) Annual Scientific Production

(b) Average Citations Per Year

Figure 2. Summary of Annual Scientific Production and Average Citations Per Year

Data on the average number of citations received by each publication annually is shown in Figure 2. 2015 saw the most amazing average number of citations per publication, totalling 318.67. This signifies that a publication has attracted much interest and respect from other scientists. The year 2017 comes in second place, with 92.67 citations per article on average, indicating that the published work had a significant impact and influence. However, with average citations per article values of 10.18 and 1.25, respectively, 2022 and 2023 show considerably lower average citation rates. This suggests that, based on the number of citations, the works published during this period have gotten less attention or recognition. The year 2022 saw the most publications published regarding research output, with 76, followed by 2023, with 57. This suggests that there was a sizable amount of scientific production during these years. The chart also offers information on the duration of the impact of citations. The citable years for some publications are longer; examples are those from 2013 and 2014, with 11 and 10 years, respectively. This shows that these articles have remained relevant and impacted for a considerable time. The data indicates that citation impact and research productivity have changed over time. While some years show higher average citations per item, indicating greater visibility and influence, others show lower citation rates.

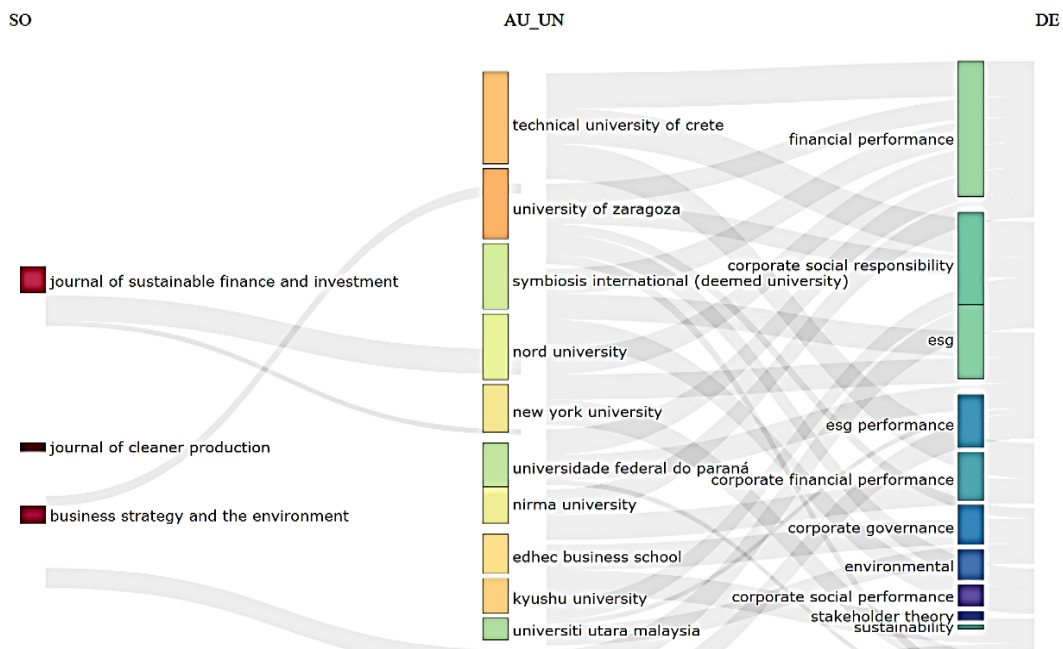


Figure 3. Three Field Plot

Three field plots are shown in Figure 3, emphasizing how article sources, author affiliations, and keywords interact. These components are situated on the figure's left, middle, and right halves. The data sheds light on the top 10 universities' contributions in terms of journals and keywords. The University of

Zaragoza has the greatest incoming and outgoing flows among the universities indicated. It contributes to one journal, represented by the incoming flow, called the Journal of Cleaner Production. Additionally, five terms related to the university are indicated by outgoing flows, including financial performance, CSR, corporate financial performance, corporate governance, and stakeholder theory. With one incoming flow and three outgoing flows each, Nord University and New York University exhibit a similar pattern. Their inflows represent contributions to the Journal of Sustainable Finance and Investment, and terms like financial performance and ESG represent their outflows. The greatest outbound flow is also from the Journal of Sustainable Finance and Investment, linked to Nord University and New York University. The fact that the keywords "financial performance" and "ESG" attract the maximum number of incoming flows—six and five, respectively—indicates the importance of these terms in the academic community.

4.2. Most Relevant Authors, Affiliations, Sources, and Countries.

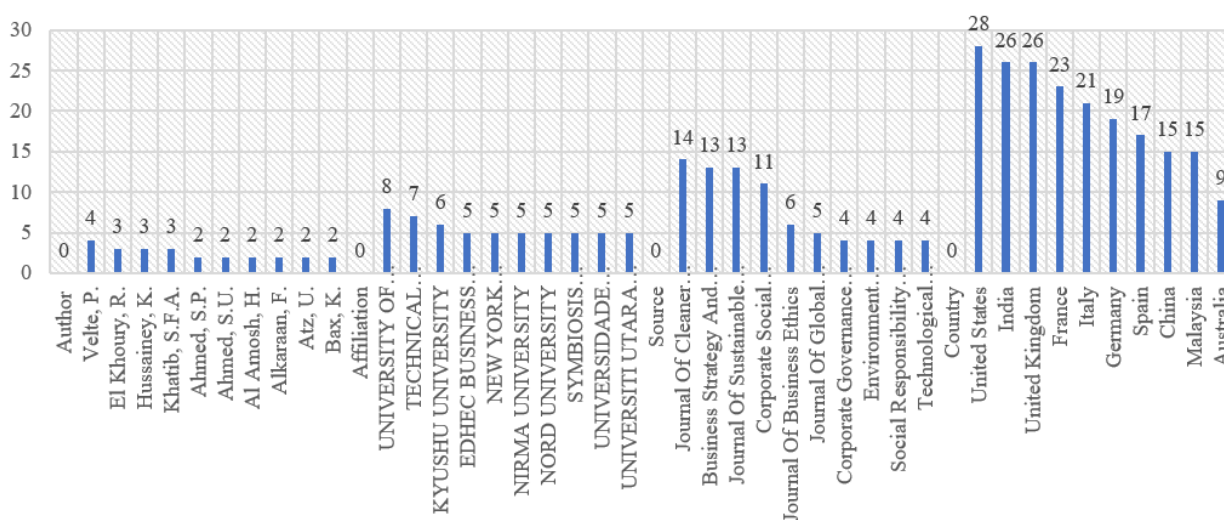


Figure 4. Most relevant authors, affiliations, sources, and countries

4.2.1. Most Relevant Authors

The listed authors have published the most pertinent "ESG and Financial Performance" research work. Velte, P. stands out among the listed writers with the most articles (four), demonstrating their major contribution to the field. El Khoury, R., and Hussainey, K., who have each published three publications detailing their outstanding work in research, are next in line. Each author has two articles, proving their significant contribution to the topic, including Khatib, S.F.A., Ahmed, S.P., Ahmed, S.U., Al Amosh, H., Alkaraan, F., Atz, and Bax. These authors have made significant contributions to ESG and financial performance research by publishing their papers.

4.2.2. Most Relevant Affiliation

The furnished data lists the affiliations that are the most pertinent. With eight articles at the top of the list, the University of Zaragoza has substantially contributed to the research field. The Technical University of Crete is next with 7 articles, displaying its noteworthy research initiatives. Kyushu University is third with six articles, demonstrating its significant contribution to the subject. Five articles with affiliations to Edhec Business School, New York University, Nirma University, Nord University, Symbiosis International (Deemed University), Universidade Federal do Paraná, and Universiti Utara Malaysia are all attributed to those institutions, demonstrating their active participation in the field of ESG and Financial Performance research. Through their published research, these affiliations have significantly improved the field.

4.2.3. Most Relevant Sources

Regarding "ESG and Financial Performance", the Journal of Cleaner Production, Business Strategy and the Environment, and the Journal of Sustainable Finance and Investment stand out with the most 14,

13, and 13 articles, respectively. These resources have played a key role in the publication of important research on the relationship between "ESG criteria and financial performance". Additionally, with 11 and 6 papers, the journals of Corporate Social Responsibility and Environmental Management and Journal of Business Ethics have made significant contributions. These sources are invaluable resources for academics and professionals who want to learn more about the topic.

4.2.4. Most Relevant Countries

The information identifies the nations where "ESG and Financial Performance" research is most pertinent. With 28, 26, and 26 papers, respectively, the United States, India, and the United Kingdom are at the top of the list, highlighting their enormous contributions to the field of study. Italy and Germany each produced 21 and 19 articles, while France is not far behind with 23. Malaysia, China, and Spain contributed significantly, with 17, 15, and 15 articles, respectively. With nine papers, Australia comes in last on the list. These nations have become major contributors to the development of knowledge about the relationship between ESG or ESG-related variables and financial success.

4.3. Most Local Cited Sources

In ESG (Environmental, Social, and Governance) and financial performance, the most often referenced sources are shown in Figure 6, depending on the number of local citations they have received. The "Journal of Business Ethics" stands at the top of the list, garnering 914 citations, indicating its outstanding stature and recognition in this field. The "Strategic Management Journal" comes in second place with 433 citations, while the "Business Strategy and the Environment" and the "Journal of Cleaner Production" have 337 and 329 citations, respectively, highlighting their importance in the subject. These extensively mentioned publications strongly emphasise the value of moral corporate conduct, strategic management, and environmental factors in relation to financial performance.

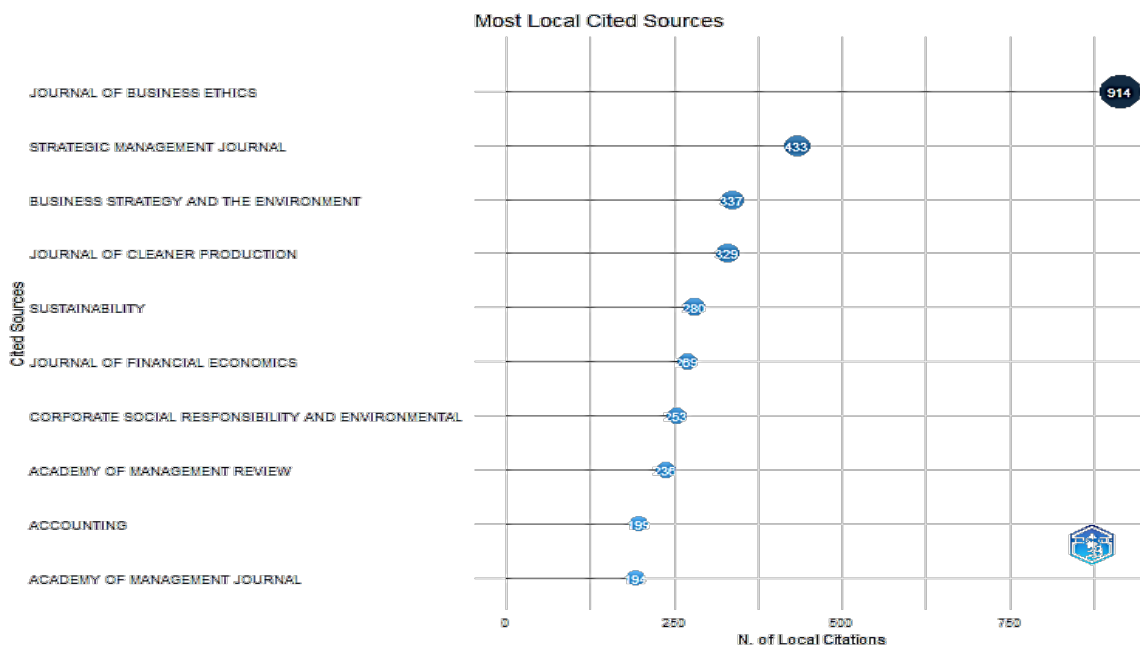


Figure 5. Most often referenced sources

They offer insightful analysis and empirical investigations for academics looking to better understand how ESG issues affect financial results. Other noteworthy sources on the list include "Sustainability" (280 citations), "Journal of Financial Economics" (269 citations), and "Corporate Social Responsibility and Environmental Management" (253 citations). These journals reflect the interdisciplinary character of ESG and financial performance research, which spans fields including accounting, management, and finance. The substantial number of citations for these sources reflects the growing awareness of the value of incorporating ESG factors into corporate practices and decision-making processes and the growing desire

to do so. Researchers frequently cite these works as essential resources for learning about and improving the understanding of ESG and its effect on financial performance.

4.4. List of Most Productive Journals on “ESG and Financial Performance” including its most cited article

Table 2. Most Productive Journal on “ESG and Financial Performance” including its most cited article

Journal	TP (%)	TC	Cite Score 2023	The most cited article (reference)	Times Cited	Publisher
Journal of Cleaner Production	2273	286,246	16.7	Green technological innovation, green finance, and financial development and their role in green total factor productivity: Empirical insights from China	50	Elsevier
Business Strategy and the Environment	271	15,393	17.9	Digitalization and sustainable development: How could digital economy development improve green innovation in China?	35	Wiley-Blackwell
Journal of Sustainable Finance and Investment	49	1,161	7.8	ESG and financial performance of banks in the MENAT region: concavity–convexity patterns	28	Taylor & Francis
Corporate Social Responsibility and Environmental Management	193	8,378	13.7	CSR and organizational performance: The role of pro-environmental behavior and personal values	13	Wiley-Blackwell
Journal of Business Ethics	318	10,742	9.6	CEO Foreign Experience and Green Innovation: Evidence from China	34	Springer Nature
Journal of Global Responsibility	27	325	4.1	Gender sensitive responses to climate change in Nigeria: the role of multinationals’	5	Emerald Publishing

Corporate Governance (Bingley)	76	2,390	8.9	corporate social responsibility in oil host communities Environmental, social and governance impact on financial performance: evidence from the Levant countries Do financial development, economic growth, energy consumption, and trade openness contribute to increase carbon emission in Pakistan? An insight based on ARDL bound testing approach Women board members' impact on ESG disclosure with environment and social dimensions: evidence from the European banking sector Do climate technologies and recycling asymmetrically mitigate consumption-based carbon emissions in the United States? New insights from Quantile ARDL	8	Emerald Publishing
Environment, Development and Sustainability	841	16,697	8.4		39	Springer Nature
Social Responsibility Journal	82	1,635	5.7		10	Emerald Publishing
Technological Forecasting and Social Change	475	36,635	15.5		20	Elsevier

Table 2 emphasizes several extremely fruitful journals concerned with ESG (Environmental, Social, and Governance) and financial performance. These periodicals have disseminated major works that have been cited extensively. With a total citation count (TC) of 286,246 and a Cite Score of 16.7, the "Journal of Cleaner Production" stands out among them. Its most popular article, "Green Technological Innovation, Green Finance, and Financial Development and Their Role in Green Total Factor Productivity: Empirical Insights from China," has accumulated 50 citations. Elsevier is the publisher of the journal. "Business Strategy and the Environment" is another noteworthy journal, with a TC of 15,393 and a Cite Score of 17.9. The most popular study, "Digitalization and Sustainable Development: How Could Digital Economy Development Improve Green Innovation in China?" has received 35 citations. Wiley-Blackwell is the journal's publisher. The information also highlights additional important publications, along with their noteworthy papers, like "Journal of Sustainable Finance and Investment," "Corporate Social Responsibility

and Environmental Management," and "Environment, Development and Sustainability." Researchers and practitioners interested in examining the relationship between ESG and financial performance might benefit greatly from these publications, which have contributions from publishers including Taylor & Francis, Springer Nature, and Emerald Publishing.

4.5. List of Most Prolific Authors in the “ESG and Financial Performance” Research Area

Table 3. Summary of the Most Prolific Authors in ESG and Financial Performance

No.	Author	Scopus Author ID	First Publication (year)	TP	H-index	TC	Current affiliation	Country
1	Velte, Patrick	15047313900	2006*	82	22	1541	Leuphana Universität Lüneburg, Lüneburg, Germany	Germany
2	El-Khoury, Rim M.	56624305300	2013**	39	7	191	Adnan Kassab School of Business, Beirut, Lebanon	Lebanon
3	Hussainey, Khaled	16444230900	2003*	173	38	4,234	Faculty of Business and Law, Portsmouth, United Kingdom	United, kingdom
4	Khatib, Saleh F.A.	57217992648	2020***	40	11	478	Azman Hashim International Business School, Kuala Lumpur, Malaysia	Malaysia
5	Ahmed, Samiul Parvez	57190567969	2015*	8	3	23	Info Universal College Bangladesh, Bangladesh	Bangladesh
6	Ahmed, Sarwar Uddin	55274541400	2005*	14	4	50	Independent University, Bangladesh, Dhaka, Bangladesh	Bangladesh
7	Al Amosh, Hamzeh	57219696165	2021*	19	7	105	Ministry of Education and Higher Education Qatar, Doha, Qatar	Qatar
8	Alkaraan, Fadi	14012023600	2006*	18	9	295	Lincoln International Business School, Lincoln, United Kingdom	United Kingdom
9	Atz, Ulrich	55181721100	2013*	8	4	50	Leonard N. Stern School of Business, New York, United States	New York, United States

10	Bax, Karoline	57224641552	2022*	7	2	8	York, United States TUM School of Management, Heilbronn, Heilbronn, Germany	Germany
----	------------------	-------------	-------	---	---	---	---	---------

In ESG (Environmental, Social, and Governance) and financial performance studies, the data provided in a table 3, presents a list of extremely productive authors. These researchers have produced many papers on the topic and have significantly advanced the literature. Patrick Velte, a German author from the Leuphana Universität Lüneburg with 82 total publications (TP) and an h-index of 22, stands out as the most significant among them. Lebanese business school graduate Rim M. El-Khoury comes in second with a TP of 39. The person with the greatest h-index (173) and TP (38) is Khaled Hussainey from the Faculty of Business and Law in Portsmouth, United Kingdom. Other significant authors include Samiul Parvez Ahmed from Info Universal College Bangladesh, Sarwar Uddin Ahmed from Independent University Bangladesh, and Saleh F.A. Khatib from Azman Hashim International Business School in Malaysia. Ulrich Atz from the Leonard N. Stern School of Business in the United States, Hamzeh Al Amosh from the Ministry of Education and Higher Education in Qatar, Fadi Alkaraan from Lincoln International Business School in the UK, Karoline Bax from TUM School of Management in Germany, and others are also acknowledged for their contributions. These authors have significantly advanced the body of knowledge in ESG and financial performance, and the scholarly community has benefited much from their work.

4.6. Countries Scientific Production

On the basis of the frequency of publications, Figure 6 offers data on the scientific output of various nations. The data shows how many articles were produced in each nation in the field of research. The United States comes in second with 52 articles, and India produces the most scientific papers with a frequency of 67. With 50 and 47 publications, Italy and China also show a sizable amount of scientific output. With 42 and 41 items, respectively, the United Kingdom and Spain are closely behind. With 39 and 33 publications, respectively, France and Malaysia have considerable production in the scientific field. Germany, Greece, Romania, Australia, Tunisia, South Korea, and Turkey have scientific production between 32 and 14 articles, which is notable while being relatively lower.

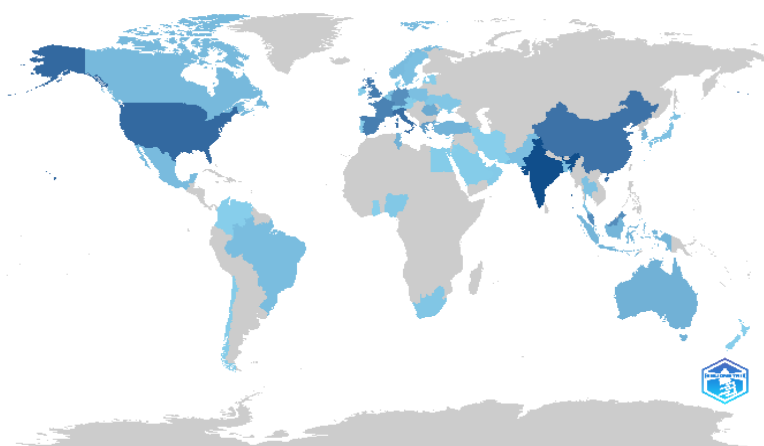


Figure 6. Countries Scientific Production

The findings imply that the two countries that contribute the most to scientific research in the particular field are India and the United States. This can indicate their robust research infrastructure, academic institutions, and financial support. Additionally, many European nations, such as China and Italy, have participated substantially in scientific creation. The list's inclusion of a wide variety of nations emphasizes the worldwide interest in and efforts made to study the topic.

4.7. Most Cited Countries

Figure 7 presents the most cited countries, with a total of 1343 citations. Germany emerges as the most referenced country. With 608 citations, the USA comes in second place, while the UK is in third place. Australia and France exhibit substantial citation impact, with 406 and 358 citations, respectively. The moderate citation counts in Japan, Spain, China, Italy, and Colombia range from 270 to 176. Due to their large citation counts, these findings imply that Germany, the United States, and the United Kingdom have significantly contributed to the field.

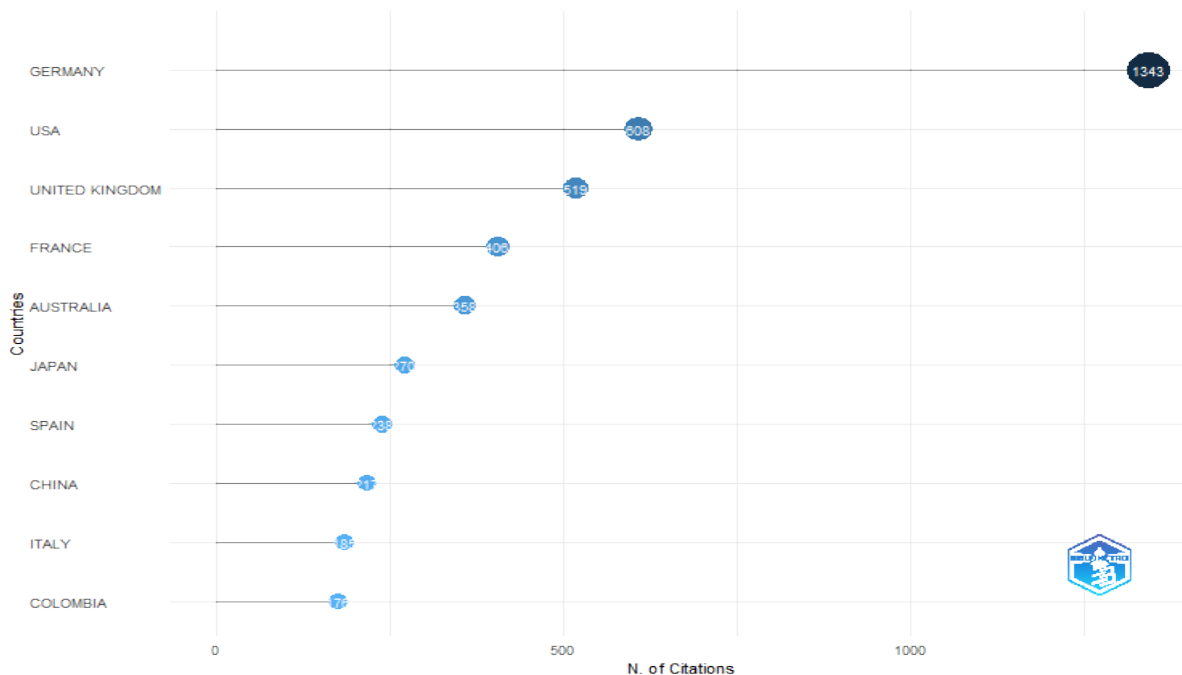


Figure 7. Most Cited Countries

These nations probably have a significant research focus on environmental, social, and governance issues (ESG) and financial performance, and their academics frequently publish important work that is recognized and cited by their peers. It's clear from the list that France, Australia, and other nations have made significant contributions to the subject.

4.8. Corresponding's Author Countries

The countries of the related authors are shown in Figure 9, which is divided into SCP (Single Country Publication) and MCP (Multiple Country Publication) terms. The data analysis yields many intriguing results. India tops the list of nations contributing the most articles with 19 publications, 17 of which are SCPs and two of which are MCPs. With 14 items, including 5 SCPs and 9 MCPs, the United Kingdom comes in second. With each country having 13 articles and a mixture of SCPs and MCPs, China, Germany, and the USA exhibit similar patterns. With 12 and 10 publications, respectively, Spain and Italy display the same number of articles. Additionally, they balance domestic and foreign cooperation by maintaining a steady distribution of SCPs and MCPs. Malaysia distinguishes itself with 9 papers, of which 6 are MCPs, demonstrating its strong involvement in cooperative research projects. Other nations with smaller contributions to the discipline include France, Australia, Korea, Tunisia, Greece, Thailand, Turkey, Brazil, Netherlands, Norway, and Pakistan.

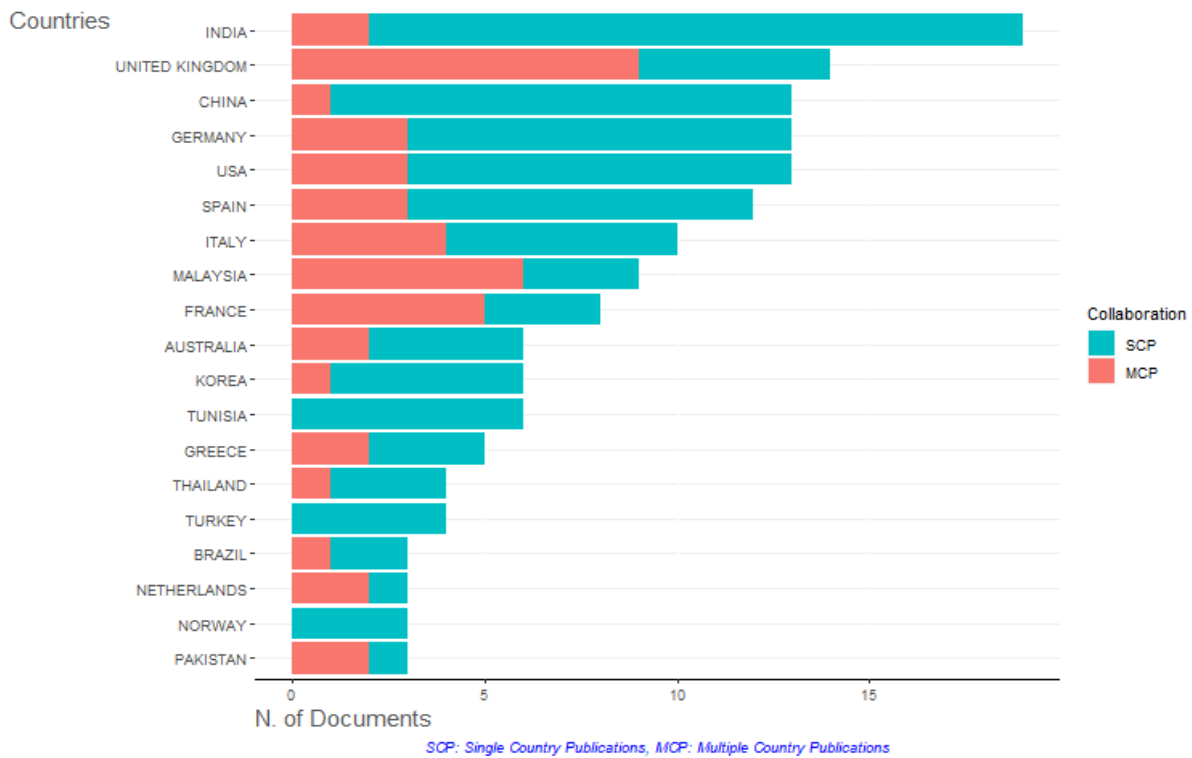


Figure 8. Corresponding's Authors Countries

These nations exhibit diverse SCPs and MCPs, highlighting their participation in solitary and group research.

4.9. Most Globally and Locally Cited Documents

A list of articles that have gotten numerous local and international citations is presented in Figure 10 using the available data. The paper "Friede G, 2015, Journal of Sustainable Finance & Investment" has received 72 local and 795 global citations, making it the most locally cited among them. Researchers from all over the world have given it a lot of attention since its publication in 2015. With 36 local and 248 global citations, "Nollet J, 2016, Econ Model" is another paper that has received a lot of citations.

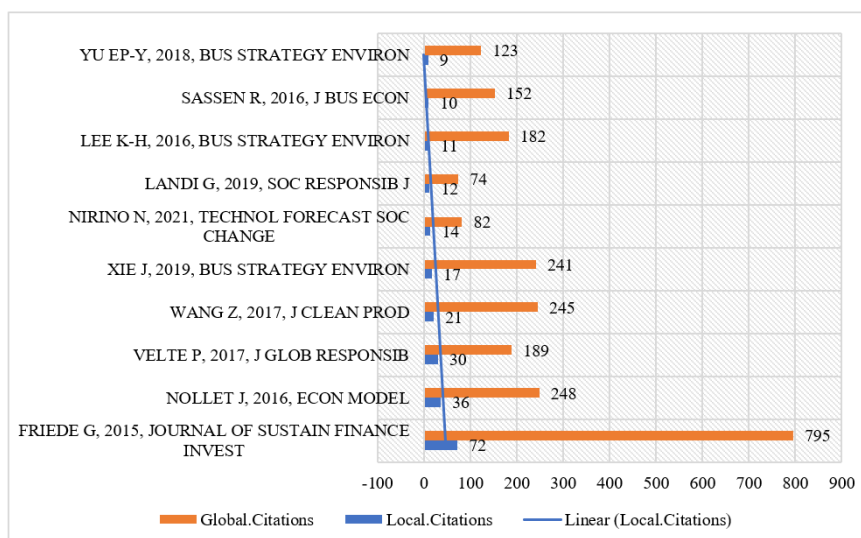


Figure 9. Most Globally and Locally Cited Documents

With 30 local citations and 189 global citations, Velte P's publication "J Glob Responsib, 2017" follows closely. These essays serve as evidence of their influence and impact on the academic world. Other publications such as "Wang Z, 2017, J Clean Prod" received 21 local citations and 245 global citations, "Xie J, 2019, Bus Strategy Environ" received 17 local citations and 241 global citations, and "Nirino N, 2021, Technol Forecast Soc Change" received 14 local citations and 82 global citations. These articles have earned acknowledgement from local and international researchers, demonstrating their importance and contribution to the research field. They have contributed significant insights into various elements of ESG and financial performance, and their findings have affected subsequent studies and conversations in the subject.

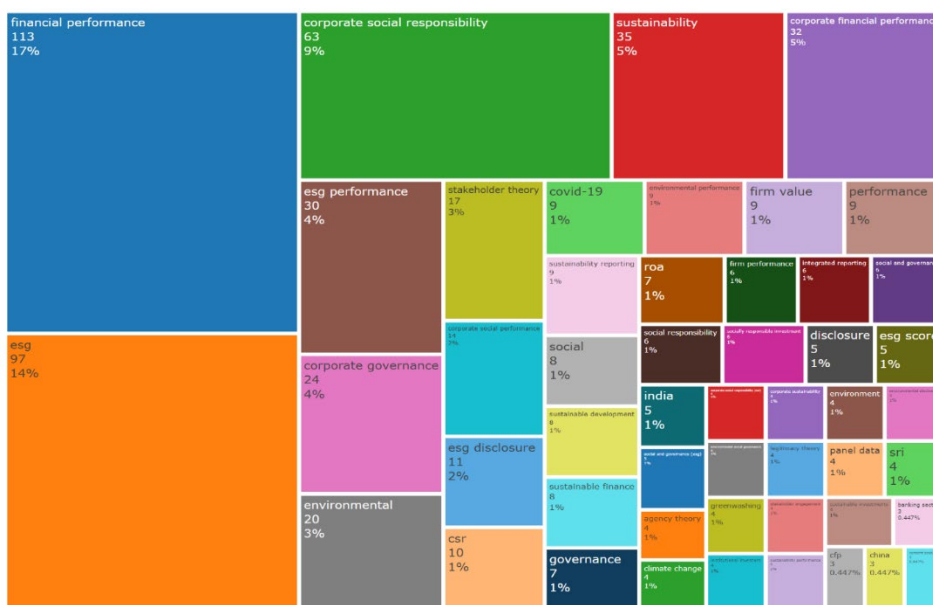


Figure 10. Tree map- Author Keywords

In the bibliometric analysis of ESG and financial performance, the terms and their corresponding frequencies are presented in Figure 11. With 113 occurrences overall, the term "financial performance" stands out as significantly influencing the research field. The similarly related term "ESG" comes in at number two with 97 occurrences, demonstrating the increased weight given to environmental, social, and governance considerations in financial decision-making. With 63 occurrences, "corporate social responsibility" is another well-known one emphasising incorporating ethical and social considerations into business practices. Other noteworthy phrases include "sustainability" (35), "corporate governance" (24), and "environmental" (20), illustrating the interconnection of ESG principles and their influence on organizational success. Stakeholder theory, ESG disclosure, sustainable development, and sustainable finance are other concepts heavily discussed in the literature. In general, the frequency analysis emphasizes how much study has been done on the connection between ESG characteristics and financial performance. It shows that sustainable business practices, social responsibility, and governance frameworks are increasingly important in determining corporate outcomes. The data serves as a starting point for additional investigation and analysis in the ESG and financial performance research sector by offering insightful information about the major themes and areas of interest ESG.

Figure 11 shows the trend topics and keywords in the current study, as well as their related frequencies and years of appearance. The data analysis sheds light on certain study areas' popularity and temporal patterns. First of all, "financial performance" stands out as the most common and reliable keyword, appearing 113 times throughout the research period. Investigating the link between financial performance and ESG variables is important and has generated ongoing attention. The phrase "esg" comes in second with 97 occurrences, highlighting the growing importance of environmental, social, and governance factors in research. This implies an increasing understanding of the influence of ESG issues on organizational performance and decision-making procedures. Other noteworthy terms include "corporate social responsibility" (63) and "sustainability" (35), highlighting the importance placed on social and environmental issues in the context of corporate practices. Interesting trends can be seen when comparing the distribution of terms throughout time. Many keywords, like "corporate governance," "stakeholder

theory," and "financial performance," display a largely consistent presence during the time span under study, indicating their ongoing relevance.

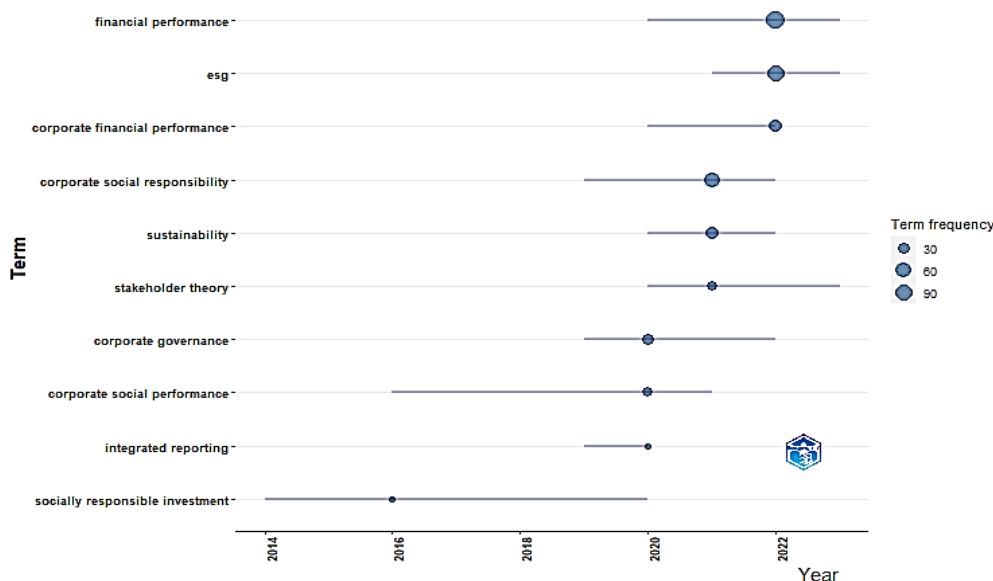


Figure 11. Trend Topics- Author Keywords

On the other hand, phrases like "ESG" and "corporate financial performance" show a more recent increase in attention, notably in the previous two years. The statistics show an increase in research interest in the relationship between ESG and financial performance, focusing on issues like sustainability, corporate social responsibility, and stakeholder theory. The continued importance of terms with ties to financial performance highlights the continuous investigation into how it relates to ESG aspects. The changing patterns of keyword frequency over time reflect the dynamic character of research in this domain and draw attention to areas of growing significance and shifting focus.

4. Discussion

The study's key findings indicate a recent emphasis on ESG, financial performance, corporate social responsibility (CSR), sustainability, and corporate governance within environmental studies. Notably, ESG performance and disclosure practices are gaining prominence in this field. Numerous studies have investigated the relationship between ESG performance and company financial performance, with varying results—some demonstrating a positive correlation (Arena et al., 2018; Cui et al., 2018), while others revealing a negative (Buchanan et al., 2018) or neutral association (Su et al., 2020). Corporate governance practices, CSR, and financial and non-financial performance have all been significantly correlated in prior studies. Future scholars will be able to delve deeper into these topics by further investigating the links between ESG, CSR, corporate governance, and corporate financial and non-financial performance. This study offers a thorough overview of the body of knowledge, providing newcomers and those looking to deepen their grasp of ESG with insightful information. However, the study recognizes several limitations, such as relying primarily on the Scopus database for data collection, and recommends using alternative databases, including Web of Science, JSTOR, and Dimensions. Furthermore, even modifications in search terms may duplicate bibliometric data, thereby affecting the outcomes. Future researchers are invited to use a wider variety of related search terms and to analyse the co-citation, co-occurrence, and coupling of bibliographies within the same or distinct sub-themes. Therefore, researchers can draw more strong conclusions and discover more associations between pertinent issues.

5. Conclusions

The bibliometric analysis of the field, which concentrated on ESG and financial performance, was highlighted in the study. The most popular research database, Scopus, was used to collect the data between 2013 and 20th May 2023, and biblioshiny in R Studio was used to analyse it. The primary goal of this study is to gather bibliometric information on average citations, yearly scientific publications, the most significant

authors, sources, and affiliations, contributions from various countries, frequently used keywords, trending topics, and prospective future research fields in this area. An examination of annual publishing output suggests a continuous and expanding demand for scientific articles on ESG and financial performance studies. The average number of citations for earlier articles is larger, demonstrating their influence, whereas the average number of citations for more recent works is lower. The University of Zaragoza, Nord University, and New York University have all had a significant overall impact, with the Journal of Sustainable Finance and Investment being the most significant. "Financial performance" and "ESG" are important study focuses, with writers like Patrick Velte making significant contributions. Leading countries in research output include the United States, India, and the United Kingdom, while Germany emerges as the most referenced country. The paper "Friede G, 2015, Journal of Sustainable Finance & Investment" and others like "Nollet J, 2016, Econ Model" and "Velte P, 2017, J Glob Responsib" have garnered significant citations, highlighting their influence. Overall, the analysis emphasizes the ongoing research interest in the relationship between "financial performance" and "ESG," along with the growing importance of "sustainability" and "corporate social responsibility" in corporate practices. From the study, it can be inferred that future research trends are shifting towards ESG, CSR, sustainability, and corporate financial performance.

Author Contributions: Conceptualization, P.D. and P.C.; methodology, P.D.; software, P.D.; validation, P.C.; formal analysis, P.D.; investigation, P.D. and P.C.; resources, P.D.; data curation, P.C.; writing—original draft preparation, P.D. and P.C.; writing—review and editing, P.D. and P.C.; visualization, P.D.; supervision, P.C.; project administration, P.C.; funding acquisition, P.D. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to thank Bharathiar University, India, for supporting this research and publication. We would also like to thank the reviewers for their constructive comments and suggestions.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Allouche, J., & Laroche, P. (2005). A meta-analytical investigation of the relationship between corporate social and financial performance. *Revue de Gestion des Ressources Humaines*, 57, 18-41.
- Amel-Zadeh, A., & Serafeim, G. (2018). Why and how investors use ESG information: Evidence from a global survey. *Financial Analysts Journal*, 74(3). <https://doi.org/10.2469/faj.v74.n3>
- Arena, C., Liong, R., & Vourvachis, P. (2018). Carrot or stick: CSR disclosures by Southeast Asian companies. *Sustainability Accounting, Management and Policy Journal*, 9(4), 422–454.
- Boone, A., & Uysal, V. B. (2020). Reputational concerns in the market for corporate control. *Journal of Corporate Finance*, 61. <https://doi.org/10.1016/j.jcorpfin.2018.08.010>
- Brammer, S., Brooks, C., & Pavelin, S. (2006). Corporate social performance and stock returns: UK evidence from disaggregate measures. *Financial Management*, 35(3), 97-116. <https://doi.org/10.1111/j.1755-053X.2006.tb00149.x>
- Buallay, A., Al-Ajmi, J., & Barone, E. (2021). Sustainability engagement's impact on tourism sector performance: Linear and nonlinear models. *Journal of Organizational Change Management*. [CrossRef]
- Buchanan, B., Cao, C. X., & Chen, C. (2018). Corporate social responsibility, firm value, and influential institutional ownership. *Journal of Corporate Finance*, 52, 73–95.
- Cui, J., Jo, H., & Na, H. (2018). Does corporate social responsibility affect information asymmetry? *Journal of Business Ethics*, 148(3), 549–572.
- Crisóstomo, V., de Souza Freire, F., & Cortes de Vasconcellos, F. (2011). Corporate social responsibility, firm value and financial performance in Brazil. *Social Responsibility Journal*, 7(2), 295-309. <https://doi.org/10.1108/174711111111141549>

- El Ghoul, S., Guedhami, O., & Kim, Y. (2017). Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies*, 48(3), 360-385.
- Ellili, N. O. D. (2022). Bibliometric analysis and systematic review of environmental, social, and governance disclosure papers: Current topics and recommendations for future research. *Environmental Research Communications*, 4(9). <https://doi.org/10.1088/2515-7620/ac8b67>
- Elkington, J. (2011). Enter the triple bottom line. Retrieved from <http://www.johnelkington.com/TBL-elkington-chapter.pdf>
- ESG Data. (2019, September 30). Retrieved from <https://www.bloomberg.com/impact/products/esg-data/>
- Fatemi, A., Glaum, M., & Kaiser, S. (2017). ESG performance and firm value: The moderating role of disclosure. *Global Finance Journal*, 38, 45-64.
- Gao, S., Meng, F., Gu, Z., Liu, Z., & Farrukh, M. (2021). Mapping and clustering analysis on environmental, social and governance field: A bibliometric analysis using Scopus. *Sustainability*, 13(13). <https://doi.org/10.3390/su13137304>
- Giese, G., Lee, L.-E., Melas, D., Nagy, Z., & Nishikawa, L. (2019). Foundations of ESG investing: How ESG affects equity valuation, risk, and performance. *The Journal of Portfolio Management*, 45(5), 69-83. <https://doi.org/10.3905/jpm.2019.45.5.069>
- Kengkathran, S. (2018). A literature review on the impact of environmental, social and governance (ESG) disclosure on financial performance of energy companies in ASEAN. *Global Business & Management Research*, 10(3),1071.
- KPMG. (2020). Climate change & sustainability services. Retrieved from <https://home.kpmg/xx/en/home/services/advisory/riskconsulting/internal-audit-risk/sustainability-services.html>
- Nelling, E., & Webb, E. (2009). Corporate social responsibility and financial performance: The "virtuous circle" revisited. *Review of Quantitative Finance and Accounting*, 32, 197-209. <https://doi.org/10.1007/s11156-008-0090-y>
- Sharma, P., Panday, P., & Dangwal, R. (2020). Determinants of environmental, social and corporate governance (ESG) disclosure: A study of Indian companies. *International Journal of Disclosure and Governance*, 17, 208-217. <https://doi.org/10.1057/s41310-020-00085-y>
- Su, R., Liu, C., & Teng, W. (2020). The heterogeneous effects of CSR dimensions on financial performance—a new approach for CSR measurement. *Journal of Business Economics and Management*, 21(4), 987–1009.
- Verheyden, T., Eccles, R. G., & Feiner, A. (2016). ESG for all? The impact of ESG screening on return, risk, and diversification. *Journal of Applied Corporate Finance*, 28(2), 47-55.
- Whelan, T., Atz, T. U., Van, H., & Clark, C. (2021). *ESG and financial performance: Uncovering the relationship by aggregating evidence from 1,000 plus studies published between 2015-2020*. NYU | STERN Report.