

A Bibliometric Analysis of Global Trends and Emerging Themes in ESG Research

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Abstract

The article employs a bibliometric analysis on the ESG research from 2005 to 2024 to provide a comprehensive assessment of global trends and emerging topics. Analysis of results shows a clear trend toward the increase in Annual Scientific Production starting in 2015 and especially pronounced from 2020. This may suggest institutionalization of the field. China, Italy and Spain were classified as the highest contributors. There was, however, a significant citation impact imbalance at the international level with Poland in front having been cited 11 times emphasising a discrepancy between numbers of publications and an international research impact. India was identified as a significant research gap with the 19th highest output but low international citation impact although policies have newly emphasized sustainability.

Analysis of keyword co-occurrence suggests that most of the studies are concentrated on sustainability, environmental policy, corporate governance and financial performance. This shows a thematic bias in which the social pillar is muted. The analysis also serves as a valuable guide for academics, practitioners, and policymakers by providing well-established lines of research as well as underlining the urgency for future research to focus on developing economies, balance among three ESG pillars, and further strengthen worldwide collaboration networks.

Keywords: ESG, Bibliometric Analysis, Corporate Sustainability, Sustainable Investing, Corporate Governance, Financial Performance

Introduction

Environmental, Social and Governance (ESG) factors have become an important part of global business planning, investment and policy over the past two decades. As demand for ethical business behaviour increases and knowledge of environmental issues rises, ESG has gained prominence in current economic and social discourse. The system is exhaustive; it assesses the companies' actions not only from the financial viewpoint but also from the environmental, social, and governance impact ones. The environmental aspect of ESG takes into consideration the waste produced by the companies, their resource consumption, impact on climate, and commitment to fighting climate change. The social aspect that revolves around human relationships includes employees, customers and society and it values social wellness, the presence of different races and cultures in the workplace and working conditions. On the other hand, governance highlights the importance of strict adherence to rules, responsible behaviour towards shareholders, diverse boards, leaders with integrity, and openness. Together, these elements ensure that through ethical and responsible business practices, sustainability lasts forever. The world problems such as social inequality, global warming, and corporate misconduct have revealed the weaknesses of profit-only approaches and this is the reason why the ESG is gaining more importance. To find a middle ground between sustainability and profit, investors have already started to consider ESG, turning down any growth that would harm the community or the nature. ESG not only increases trust among various stakeholders but also creates market value, and it is the resilience factor that the stakeholder capitalism has overtaken the shareholder primacy; the strong ones in this aspect simply can ride out the volatility better, faster, and they also possess the big reputation. Because of that, rating agencies and banks now regard ESG funds, sustainability reporting, and disclosures as part and parcel of the business health check-ups. Governments and regulators are the power behind the green finance, required sustainability reporting, and governance regulations that are the main driving force of the movement. This movement gets its support from worldwide initiatives like the UN SDGs, GRI, and TCFD. Researchers are looking at the various facets through which ESG is influencing the performance of companies, the behaviour of investors, the matter of governance, and sustainable development at large. ESG connects finance to management, economics to environmental studies, and policy to all the above. The controversy over measures, area differences, and standardization does not die down even amid the plethora of studies available. In the end, ESG has given a new definition of success which is that of a morally and socially responsible business which takes into account the needs of both society and nature. Three main stakeholders; businesses, investors, and academics who are documenting this paradigm shift must first understand its development.

Bibliometric Analysis

The research literature has made it very clear that the ESG issues are gaining importance and therefore, it is crucial to rewind and examine the very first trends that came up, and the ones that are the most important today. In this regard, the authors of the current paper conducted a bibliometric analysis—a quantitative method for measuring scientific literature and mapping the knowledge structures. This technique enables researchers to access a field's cognitive landscape via publication trends, author collaborations, citation networks, and thematic connections. So this gives a) an evidence-based snapshot of the academic interest in ESG through bibliometric analysis, b) the most influential authors, institutions, countries, journals, and emergent research topics being identified. Additionally, it also equips the area with insights that are indispensable in showing the development path of this area and even predicting future trends in such a sector. The application of bibliometric analysis in the ESG research domain is of paramount importance as it is interdisciplinary by nature—as it includes not only the areas of management and finance but also that of sustainability, governance, and public policy. To perform this analysis bibliographic details of ESG were extracted. Relevant publications were identified using search terms such as “Environmental, Social, and Governance,” “ESG performance,” “corporate sustainability”, and “sustainable investing” within a predetermined time frame. The resulting data was then analysed using the Bibliometrix tool specifically designed to perform bibliometric and scientometric research. It is actually far more robust for importing, cleaning, analysing and visualising bibliographic data and has functions for performance analysis, science mapping and networks visualization, which can be useful to have a deeper understanding of collaboration network and thematic evolution in ESG research. In the ESG literature, researchers used Biblioshiny to navigate the analysis in a more intuitive and user-friendly way. Biblioshiny facilitated the application of descriptive analysis to map the yearly growth of publications, identify the most frequently cited papers, most productive authors and top journals. The researchers could also delve into the influential studies and connections in the ESG literature, through the application of citation and co-citation analysis. Furthermore, applying bibliometrics, especially the use of the Bibliometrix package, enhances objectivity, replicability, and methodological rigor. This technique gives a systematic way of examining the trends and patterns in publication, and consequently, it increases the understanding of the subject. The research done by the study on these matters gives crucial information to academic researchers and practitioners who want to understand the ever-changing ESG research area and discover the still unclear areas in the ESG research domain.

Interpretation and Analysis

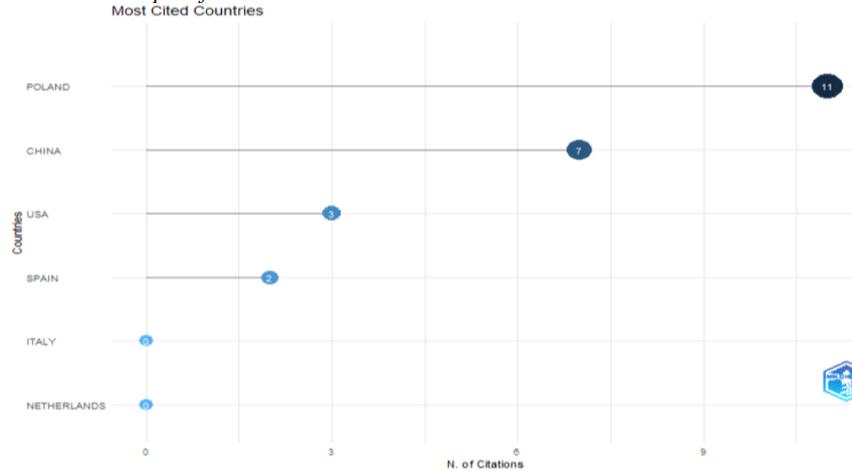
1. Most Cited Countries

The graph illustrates that globally, ESG studies are major factors and that countries have various methods to acknowledge the scientific community's such research. Poland is at the forefront followed by China, the US and Spain. Italy and the Netherlands, while included in the dataset, have no citations, which implies that little or no global recognition is given to their ESG research outputs. The high rankings for Poland and China might imply either that there are a few important studies which are strong enough to influence the situation or that there are active research groups in these countries creating the ESG debate. On the other hand, the US and Western Europe, which have very strict ESG regulations and policies, are cited fewer times in this dataset which is quite surprising considering that they are regarded as the leaders in ESG. India is not counted among the most cited countries, which means that research on the country is not very accessible or visible. Nevertheless, this may imply that Indian scholars and institutions are rarely mentioned in the global ESG literature even although the country is directing more resources to CSR, green finance, and governance reforms. The absence of India on the international ESG scene may be due to various

factors such as lower publication rates in prominent global journals, limited research collaboration between countries, or that standards in India are not as highly articulated as in developed countries.

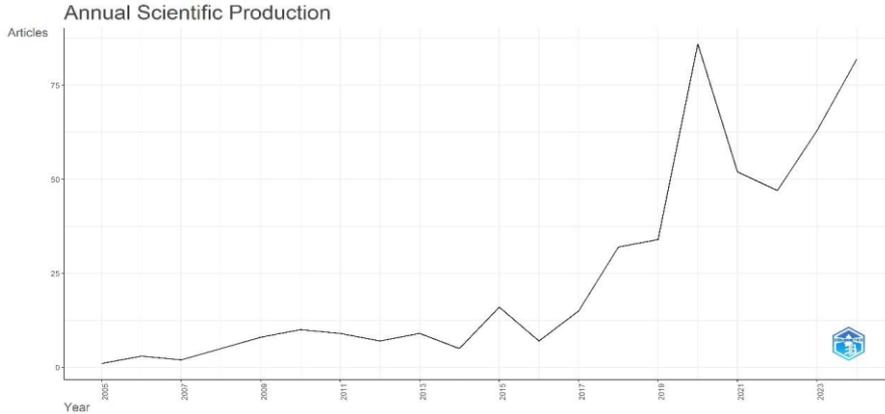
Therefore, the bibliometric data point towards a huge opportunity for Indian scholars to step forward and contribute more towards ESG reports, especially by publishing comparative studies and ESG performance in the local context.

Figure 1: Most Cited Countries on the Topic of ESG



The graph indicates a significant change in the scientific output concerning ESG issues. In the first phase, from 2005 to 2014, publications were minimal, ranging from one to ten articles appearing each year. This has indicated that ESG was an emerging subject during that period and therefore did not attract academic attention or research effort. This increase is simultaneously happening when more people around the world learn about sustainability. Responsible investing and corporate governance reform. 2020 is huge at 86, maybe because people around the world learn more about sustainability reporting and corporate responsibility during the COVID-19 crisis and the need for businesses that are strong and moral. Even with the decline it shows in 2021 and 2022, the amount pushes up again a lot in 2023 to 63 articles. and 2024 to 82 articles. This shows that more people who study this and think about it for their careers keep interest and that ESG is now a real key field of business study for those in charge of managing money and firms. In all, the rise of articles shows how people moved from writing only sometimes to following certain types of research and their work. Still, this fast growth might mean people who study this could stop and research new things or show how people should do more research on new ideas that are just getting started or not grown as much, for example, how to measure ESG how to include it in economies that are still developing or how a country's rules for this can change things.

Figure 2: Year Wise Publications

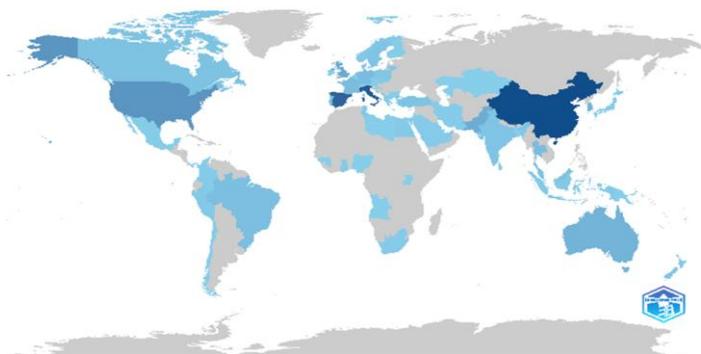


2. Country Scientific Production

China, Italy and Spain are top three country to publish highest number of publications in ESG field. China 175 publication Italy 156 publication and Spain 142 publication approximately. India is at nineteenth position with twelve publications.

Figure 3: Country-Wise Publications

Country Scientific Production



3. Word Cloud

A word cloud is a group of words that are shown in different sizes. The bigger and darker the word is, the more it is said in papers about a certain subject. The word cloud shows that words like Sustainability, ESG, Environmental Policy, Corporate Governance, Financial Performance, etc are used a lot in the papers about ESG.

Figure 4: Word Cloud on the Key Words used in ESG Research



Result and Discussion

The analysis reveals its progress in the three aspects—impact, productivity and theme variety. It points to major differences between countries, a recent upsurge in growth, and a rather large concentration of research output pertaining to only a few core ESG themes. The findings are indicative of the evolving character of the discipline and carry significant weight in our comprehension of the present and the future of ESG research.

Citation Influence and Global Research Visibility

An analysis of countries with the highest number of citations shows the global reach of ESG research from different views. Poland leads with eleven citations, followed by China, United States, and Spain. These numbers show how much ESG research is noticed and used in various regions. The dataset lists Italy and the Netherlands as having no citations. This suggests that their publications may be limited to local research areas, even though they exist.

Such a pattern indicates that the global concern with ESG research is not only determined by the volume of production but also by the quality of the works, the international collaborations that are more effective, and the journals that hold a high impact.

Poland and China leading the citation counts might be a result of either the presence of papers that are widely cited or the networks of researchers that are very active in those parts of the world. One more thing worth noting is that India is a country whose profile is substantially lower than average concerning citations. It has been a while since India became a place of interest due to its sustainability reporting and the imposition of ESG-related disclosures that are mandatory, nevertheless, its output has not yet gained the corresponding international recognition. This leads to the conclusion of a very important research gap, and, at the same time, it strengthens the argument for Indian researchers to be more involved internationally, to publish studies that compare different economies or are tailored to emerging economies, and to engage in the larger conversation about ESG practices.

Annual Scientific Production and Growth Trends

The annual scientific production data clearly indicates that the ESG area of study has undergone a significant change over the last two decades. It shows a low level of publication during the period from 2005 to 2014, which in turn implies a minimal academic interest in the area during this time. From the year 2015 onward, the field started gaining momentum as the public awareness of sustainability, the use of responsible investment practices and the integration of environmental and social considerations into the corporate strategy became more pronounced.

The year 2020 is seen as a major turning point in ESG research with the highest number of publications reaching 86. This increase matches the start of the COVID-19 pandemic. The pandemic sparked many talks about business resilience, ethical leadership, and why long-term sustainability matters. There was a small drop in the number of publications in 2021 and 2022. However, the numbers rose again in 2023 and 2024. This shows there is still strong interest in the topic and that ESG research is slowly being accepted in academic circles.

In conclusion, the increasing scientific output is a reflection that ESG is not just a marginal area anymore but a well-established research domain that keeps on attracting the attention of not only academics but also corporate leaders and policy makers.

Country-Level Research Productivity

If one considers the scientific output of the country, then the further confirmation of this trend is already visible. China leads the way followed by Italy and Spain. Probably, states' sustainability policies, more investments in climate and governance research, and active scholarly networks have helped and strengthened academic engagement in these countries. India is in the nineteenth position with twelve publications and has notably lower research productivity than the top-ranked countries.

Conclusion

The bibliometric analysis not only traces the progression of the ESG research area but also reflects this progression as a gradual transformation through the years from 2005-2014 when it was considered a niche interest to a highly developed and rapidly growing academic field for the years after 2015. The speed and quantity of ESG research have been closely corresponding to the global awareness and regulatory focus on sustainability and corporate accountability. There is a significant geographic disparity as China, Italy, and Spain are the top countries in terms of research output, while Poland and China are the most cited worldwide. The main areas of research are Environmental and Governance issues and their connection with financial performance, which shows that the social aspect of ESG is less focused on. To sum up, the ESG research area is dynamic but uneven at the same time in terms of the contributions from different regions and the focus on different themes.

Recommendations and Policy Implications

1. The 'S' Dimension: A Call for Greater Research Attention

Academic Recommendation: Investigating working conditions, workplace diversity, and how communities contribute to society's social welfare should be top priorities for scholars. Also, studying human resource management practices and their impact on company performance can provide better understanding of the social aspect within the ESG framework. The tool development which helps in measuring the social contribution will be similar to environment or governance impacts.

Policy Recommendation: Regulators, such as SEBI in India and the SEC, should expand the rules on mandatory social reporting from just labour stats. Policies will have to promote standardized disclosures regarding supply chain labour practices and diversity targets to create action among corporations and inspire further academic exploration.

2. Improving Research Visibility in Growing Economies (India in Focus)

Academic Recommendation: Researchers in India need to join more international research networks and focus on publishing in renowned global journals like Scopus or Web of Science Q1 and Q2. Their research should tackle problems linked to growing markets such as exploring the impact of Green Finance, understanding local takes on mandatory ESG reporting like BRSR, and examining unique challenges related to social inequality, to share insights that matter.

Policy Recommendation: Governments and funding organizations should offer grants to support joint ESG research between Indian and top global universities. Colleges and universities must reward faculty for publishing work.

3. Encouraging Stronger Global Research Collaboration

Academic Recommendation: Researchers need to focus on studying and comparing countries to reveal how ESG adoption differs between advanced nations and those still developing. This transition has the potential to lead the discipline in a more positive direction and at the same time, lower the dependence on studies conducted in specific regions as the only source of information.

Policy Recommendation: An international organization like the UN or World Bank, as well as regional organizations, should back the establishment of worldwide research partnerships from a policy perspective. These partnerships should concentrate on the formulation of uniform ESG data gathering techniques and the exchange of such techniques and information as the main vehicle for reinforcement of global research collaboration.

4. Standardizing Measurement and Reporting

Academic Recommendation: Even though there is an abundance of research on ESG, the experts are still not agreeing on its meaning. Meta-analysis is a way of reviewing and combining existing frameworks that would help resolve the inconsistencies in ESG measurement and the subjectivity of ESG ratings.

Policy Recommendation: ESG Regulators should continue to work on the development of a compulsory reporting standard that would be in the tune of the global initiatives like the ISSB. This will promote consistency in ESG disclosures across jurisdictions.

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