Exploring Corporate Environmental Performance Assessment: A Bibliometric Analysis of Global Research Trends

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ABSTRACT

Environmental performance has become a crucial aspect for companies amid the global climate crisis. This study aims to map the global research landscape on methods for assessing corporate environmental performance using bibliometric analysis. By analyzing Scopus-indexed articles from 2015 to 2025, this study identifies key contributors, conceptual structures, and evolutionary trends in this topic. VOSviewer software was used to perform keyword co-occurrence analysis, visualize trend shifts, and map research themes based on keyword clusters. The five research clusters identified include: (1) The Role of Corporate Environmental Management to Corporate Environmental Performance; (2) Environmental Governance; (3) Environmental Performance Measurement and Assessment; (4) Triple Bottom Line and Corporate Attributes; and (5) Green Innovation. To the best of the author's knowledge, this study is the first to examine the global literature on environmental performance assessment and map the research landscape into several thematic clusters. Thus, this study provides novelty and theoretical contributions to the insights and advancements of the literature on environmental performance assessment and practical contributions to relevant stakeholders, particularly companies.

Keywords: Bibliometric Analysis, Environmental Performance Assessment, Corporate Environmental Performance, VOSviewer
JEL Classifications: Q56, M14

1. INTRODUCTION

Amidst the escalating global climate crisis, companies must adopt sustainable and adaptable business models. The global climate crisis is pushing all segments of society, including the business sector, to take action to stop planetary destruction. Companies are not only required to achieve economic performance but also to demonstrate responsibility for the environmental impacts of their activities. Increasing climate risks can lead to higher corporate carbon emissions (Ren et al., 2022). Therefore, companies must take action to improve their environmental performance in response to the global climate crisis (Ren et al., 2023).

Environmental performance has been proven to have a positive impact on a company's financial performance, especially in the long term (Zhang et al., 2021). High environmental performance can also improve a company's financial performance because the implementation of good environmental practices throughout the company can reduce environmental risks and production costs, then ultimately increase profitability (Secinaro et al., 2020). In addition, the company's technological capabilities also mediate the positive impact of environmental performance on financial performance (Wu et al., 2020).

On the other hand, a variety of methods, metrics, and frameworks are used to assess environmental performance across different sectors. Commonly used quantitative measurement methods include Life Cycle Assessment (LCA) (Orfanos et al., 2019; Shinde et al., 2018) and Data Envelopment Analysis (DEA) (Liu et al., 2021; Pandey and Singh, 2021). The most frequently

referenced standard is ISO 14031 (Guidelines for Environmental Performance Evaluation), which is often linked to ISO 14001 (Environmental Management Systems). Researchers use this standard as a basis for applying various methods, such as the multi-criteria fuzzy approach (Grigoroudis, 2017), logistic regression model (Alsulamy et al., 2021), correlation analysis (Mansour and Alsulamy, 2021), and as a cornerstone for hybrid multi-criteria decision-making (MCDM) models (Wu et al., 2019).

Although environmental performance assessment methods are widely diverse, there has been no comprehensive global review mapping the conceptual structure and evolution of research on environmental performance assessment within companies. Previous research using bibliometric techniques has been limited to topics such as green economic literature (Alqudah et al., 2024), environmental regulation and corporate performance (Zhang et al., 2024), environmental economics (Al-Zoubi, 2024; Apriantoro et al., 2024), general determinants of environmental performance (Zhang et al., 2023), specific environmental performance measurement in business-to-business (B2B) relationships (Burki et al., 2021), and specific environmental performance measurement in the hospital sector (Blass et al., 2020).

To the best of the author's knowledge, this study is the first to map the global scientific literature landscape on corporate environmental performance assessment using bibliometric analysis. Thus, this study offers novelty and originality in constructing a scientific intellectual framework and can serve as a reference for relevant stakeholders. By providing a comprehensive visual map, this study contributes to identifying emerging related topics and future research agendas. Specifically, this study will answer the following questions:

RQ1. What are the trends and evolution of research on environmental performance assessment over the past 10 years?

RQ2. What are the top countries, journals, institutions, and publications that are the most relevant to the topic of corporate environmental performance assessment?

RQ3. What are the research themes related to corporate environmental performance assessment?

RQ4. What are the existing methods of corporate environmental performance assessment?

2. RESEARCH METHODS

This study employs a bibliometric analysis approach to map academic literature. Bibliometric analysis is a quantitative method for exploring and analyzing scientific data with large datasets that cannot be reviewed manually (Donthu et al., 2021). Unlike systematic literature reviews, which focus on smaller, more specific bodies of literature and are qualitative in nature, as well as meta-analyses, which present statistical syntheses of empirical evidence from multiple studies, bibliometric techniques provide an overview of a field using quantitative techniques, and their interpretation may involve qualitative assessments, especially when further analyzing keyword groups or themes (Donthu et al., 2021; Passas, 2024).

Data were collected from the Scopus database, a comprehensive and internationally recognized source that has been tested for credibility (Chadegani et al., 2013; Zhu and Liu, 2020). . The stages and inclusion criteria are listed in Table 1. The search was conducted using the keywords "environmental performance assessment" OR "environmental performance evaluation" OR "environmental performance measurement" OR "corporate environmental performance." Then it was filtered using the refine search feature "firm" OR "corporat*" OR "compan*" to narrow down research on specific corporate topics. The inclusion criteria also included final articles published between 2015 and 2025 (as of October 1, 2025) sourced from journals and written in English. From 1,526 identified articles, 630 articles were selected for final analysis. In general, bibliometric analysis techniques are divided into two main types: performance analysis and science mapping (Passas, 2024), which later developed with the addition of network analysis (Donthu et al., 2021). This study applied several analysis and visualization techniques using VOSviewer software version 1.6.17.

3. FINDINGS AND DISCUSSION

3.1. Performance Analysis
An analysis of 630 articles reveals a significant upward trend in research interest in environmental performance assessment. As seen in Figure 1, the number of publications fluctuates relatively slightly. It then increases significantly from 2021 to 2024. However, a decline is likely in 2025, as data collected as of October 2025 suggests that there is still potential for further increases until the end of the year. This trend reflects a growing academic interest in measuring corporate environmental performance effectively.

Figure 1: Annual publication on environmental performance measurement (2015-2025)
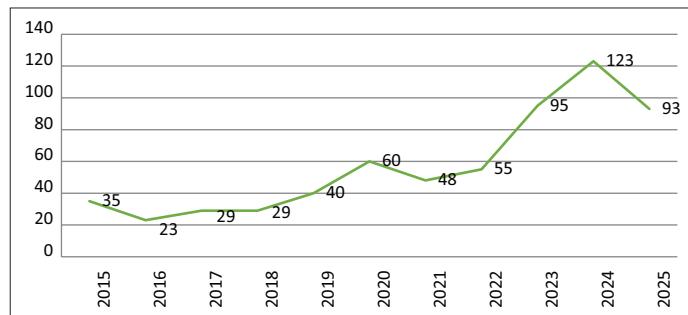
Table 1: Stage and inclusion criteria for selected documents

Stage	Inclusion criteria	Selected documents
1	TITLE-ABS-KEY ("environmental performance assessment" OR "environmental performance evaluation" OR "environmental performance measurement" OR "corporate environmental performance")	1526
2	Refine search AND (firm OR corporat* OR compan*)	1114
3	PUBYEAR >2014 AND PUBYEAR <2026	798
4	AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")	630

Table 2: Leading countries

Rank	Country	Total publication
1	China	285
2	United States	58
3	United Kingdom	50
4	Australia	38
5	Italy	28
6	Germany	27
7	Spain	25
8	Indonesia, Malaysia	22
9	France, India, Turkey	17
10	South Korea	16

Furthermore, Table 2 shows the top 10 countries with the highest number of publications on environmental performance measurement. China dominates with a very high number of publications, with 285, followed by the USA and the UK. This result suggests that environmental performance measurement in China has become a topic of widespread research interest among scholars, highlighting the significance of this research area for China's scientific development.

The previous results in Table 2 are reinforced and proven by Table 3, which shows that nine of the ten most productive institutions in this field are located in China. Only one institution is located outside China, ranked seventh, Technische Universität Dresden, in Germany. The data indicate that environmental performance has become a priority in China's strategic plan to develop an environmentally sustainable economy. Therefore, topics related to environmental performance measurement are crucial for research and policy recommendations for relevant stakeholders.

Furthermore, Table 4 shows the sources that published the most articles related to environmental performance measurement. Nine articles (90%) were published in Q1 journals, which are the highest quartile in the Scopus database (CiteScore or SJR). Only one article was published in a Q2 journal, which is also a high-quality journal category. The dominance of Q1 sources underscores that the database used for this research analysis utilizes credible, quality-tested literature.

3.2. Citation Analysis

Table 5 presents the 10 most influential articles globally on the topic of environmental performance measurement, ranked by the number of citations they have received. The article "Green R&D for Eco-Innovation and Its Impact on Carbon Emissions and Firm Performance" tops the list, garnering 833 citations. With an average of 83.30 citations per year, this work demonstrates its consistent influence and has become a key reference in the field since its publication.

Interestingly, although the article "How Do Green Knowledge Management and Green Technology Innovation Impact Corporate Environmental Performance? Understanding the Role of Green Knowledge Acquisition" only collected 377 citations, ranking seventh, its annual citation count reaches 188.50. This article, published in 2023, has a high annual citation count, demonstrating its strategic position as reference literature and indicating its relevance to current research.

Table 3: Most productive institutions

Rank	Country	Total publication
1	Xiamen University	16
2	Nanjing University	13
3	Central South University	12
4	University of International Business and Economics	11
5	Zhongnan University of Economics and Law	11
6	Jinan University	9
7	Technische Universität Dresden	9
8	Shanghai Jiao Tong University	9
9	Renmin University of China	8
10	University of Science and Technology of China	8

Table 4: Most relevant sources

Rank	Country	Total publication
1	Sustainability Switzerland	61
2	Business Strategy and the Environment	48
3	Journal of Cleaner Production	47
4	Corporate Social Responsibility and Environmental Management	24
5	International Review of Economics and Finance	16
6	Journal of Environmental Management	16
7	Journal of Business Ethics	13
8	Finance Research Letters	11
9	International Journal of Environmental Research and Public Health	10
10	Environmental Science and Pollution Research	9

Two of the 10 most influential works focus on green innovation to improve corporate environmental performance. Overall, 2015 was a highly productive period, producing several influential works in this field.

3.3. Keywords Cluster of the Research Field

To identify core themes in the research landscape, an analysis of author keyword co-occurrence was performed. From a total of 3,255 author keywords identified, a minimum occurrence threshold of 6 times was set, resulting in 173 most frequently occurring keywords. Co-occurrence analysis was performed using VOSviewer software, resulting in a network map that categorizes the literature into five thematic clusters. Each group displays keywords that are interconnected in the field of research (Alqudah et al., 2024). Each cluster represents the primary research focus related to corporate environmental performance measurement, as shown in Figure 2.

The Figure 3. shows that the red cluster contains the highest keyword occurrence, indicating a broad research topic scope and a connection to other research topics. Meanwhile, the purple cluster contains the fewest keywords, but focuses on a specific area, resulting in a more specific theme. Additionally, the 10 most frequent keywords are displayed in Table 6.

3.3.1. Red cluster (The role of corporate environmental management to corporate environmental performance)

The red cluster emphasizes the management of environmental impacts and corporate environmental performance, which is the center and bridges the relationship between clusters in

Figure 2: Network visualization of keyword occurances
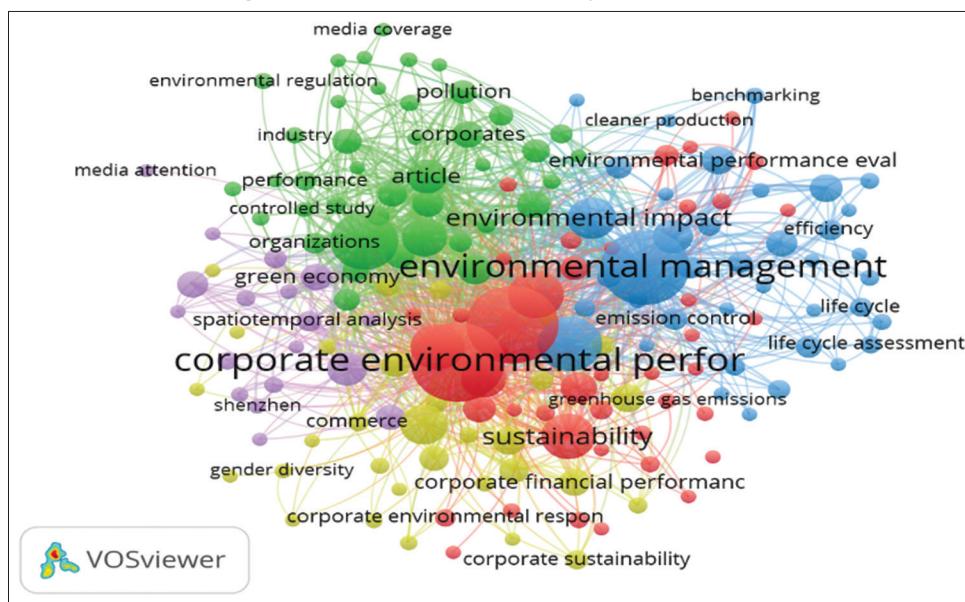

Table 5: Most influential articles

No.	Author	Title	Year	Total citation	Citation per year
1	K.-H. Lee, B. Min	Green R&D for eco-innovation and its impact on carbon emissions and firm performance	2015	833	83.30
2	M.H. Elmagrhi, C.G. Ntim, A.A. Elamer, Q. Zhang	A study of environmental policies and regulations, governance structures, and environmental performance: the role of female directors	2019	458	76.33
3	H. Latan, C.J. Jabbour, A.B. Lopes de Sousa Jabbour, S.F. Fosso Wamba, M. Shahbaz	Effects of environmental strategy, environmental uncertainty and top management's commitment on corporate environmental performance: The role of environmental management accounting	2018	412	58.86
4	X. Du	How the Market Values Greenwashing? Evidence from China	2015	396	39.60
5	C. Trumpp, T. Guenther	Too Little or too much? Exploring U-shaped Relationships between Corporate Environmental Performance and Corporate Financial Performance	2017	393	49.13
6	T. Jain, D. Jamali	Looking Inside the Black Box: The Effect of Corporate Governance on Corporate Social Responsibility	2016	391	43.44
7	S. Sahoo, A. Kumar, A. Upadhyay	How do green knowledge management and green technology innovation impact corporate environmental performance? Understanding the role of green knowledge acquisition	2023	377	188.50
8	X. Cao, X. Li, Y. Zhu, Z. Zhang	A comparative study of environmental performance between prefabricated and traditional residential buildings in China	2015	352	35.20
9	R. Torelli, F. Balluchi, A. Lazzini	Greenwashing and environmental communication: Effects on stakeholders' perceptions	2020	345	69.00
10	C. Post, N. Rahman, C. McQuillen	From Board Composition to Corporate Environmental Performance Through Sustainability-Themed Alliances	2015	270	27.00

Table 6: Top 10 most frequent keywords

Keywords	Occurences	Total link strength	Cluster
1. Corporate environmental performance	217	990	Red
2. Environmental performance	203	1055	Green
3. Environmental management	188	1302	Blue
4. China	112	988	Green
5. Sustainable development	101	725	Blue
6. Performance assessment	74	685	Red
7. Environmental economics	71	574	Red
8. Sustainability	71	426	Red
9. Environmental impact	58	489	Blue
10. Corporate social responsibility	54	304	Yellow

research related to environmental performance assessment. The keywords "environmental performance," "corporate environmental performance," "performance assessment," "environmental economics," and "sustainability" are the five terms that appear most frequently with the highest occurrence and Total Link Strength (TLS). In addition, the keywords "industrial performance," "environmental management systems," "environmental indicator(s)," "corporate environmental management," "environmental management system," and "corporate environmental responsibility" further affirm that this cluster has a primary focus on corporate environmental management to encourage improvements in corporate environmental performance.

Figure 3: Overlay visualization of keyword occurances
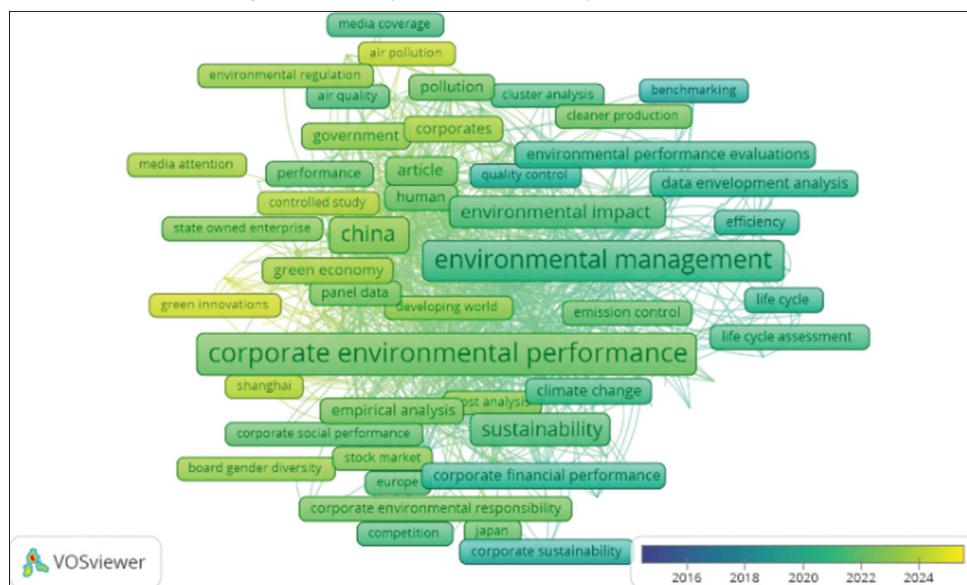
A study by Hörisch et al. (2015) showed that implementing sustainability management tools can reduce a company's environmental impact per unit of revenue. As environmental management capabilities are strengthened, the contribution of environmental performance to economic performance (such as net profit) gradually increases (Liang and Liu, 2017). Furthermore, implementing an environmental management system (EMS) positively moderates or strengthens the relationship between other practices, such as changing market orientation and knowledge creation, and improving environmental performance (Jiang et al., 2020). Environmental management, along with green innovation, is a crucial factor that influences environmental performance and company value ((Yan and Zhang, 2021). On the other hand, a study by Zobel (2016) of manufacturing companies in Sweden found no statistically significant difference in the level of environmental improvement between ISO 14001-certified and non-certified companies, highlighting that certification does not guarantee better performance. The success of EMS is often hindered by factors such as high initial effort, lack of knowledge, and low staff awareness (Seifert, 2018). A study by Solovida and Latan (2021) in Indonesia found that tools such as Environmental Management Accounting (EMA) are crucial for improving the relationship between economic and environmental performance.

3.3.2. Green cluster (Environmental governance)
The keywords in this cluster shape the main theme of Environmental Governance, with a particular emphasis on the role of governments and corporations working together to control industrial pollution through policy and regulation. The keywords "environmental protection," "environmental policy," "environmental regulation(s)," "government," "pollution," "governance approach," and "environmental governance(s)" confirm the research focus on governance through policies and regulations related to controlling environmental impacts, particularly pollution. Interestingly, the keyword "China" appears most frequently with the highest TLS in this cluster, indicating that

the context in China empirically dominates the research themes in the cluster.

Environmental regulations and urban environmental laws directly encourage improvements in corporate environmental performance (Zhang et al., 2023; Zhang et al., 2024). Corporate environmental responsibility encompasses companies' strategic responses, which involve adjusting their environmental behavior in line with government policy directions and pressures (Wang et al., 2020). Besides formal pressure from the government, informal pressure from external stakeholders also plays a very significant role. Media coverage and public pressure, particularly through social media, compel companies to be more accountable and encourage the government to be more responsive to environmental violations (Wang et al., 2023; Zhang et al., 2024).

3.3.3. Blue cluster (Environmental performance measurement and assessment)
This blue cluster is the primary focus of the research to answer RQ4 and obtain information related to environmental performance measurement or assessment that has been proposed conceptually or empirically researched in its application in companies. This cluster is characterized by the emergence of terms such as "environmental management," "sustainable development," "environmental impact," "decision making," and "environmental performance evaluations." In general, this cluster includes similar keywords such as "environmental performance evaluations," "environmental performance assessment," "environmental performance measurement," and "sustainability reporting," which emphasize measurement and assessment for evaluating corporate environmental performance.

Environmental performance measurement and assessment methods are diverse, with focuses, objectives, and contexts tailored to the needs of specific assessment areas. Research in China has broadly utilized quantitative methods, such as Data Envelopment Analysis (DEA) with Slack-based Measurement (SBM) and

Super-efficiency models for the Chinese steel industry (Liu et al., 2021) and the Extreme Gradient Boosting (XGBoost) machine learning algorithm to predict corporate environmental performance (Zheng et al., 2020). Composite indices have also been developed, such as the Environmental Performance Index (EPI) developed by Zuo et al. (2017) for provincial levels in China, as well as unique methods such as the Entropy-Weight-based Catastrophe Progression Method (EWCPM) applied by Gu and Xie (2022) to the pulp and paper industry.

In Europe, approaches used are also diverse, including Life Cycle Assessment (LCA) to evaluate electricity systems in Greece (Orfanos et al., 2019) and DEA to evaluate the environmental performance of livestock farms in Europe (Pandey and Singh, 2021). Furthermore, da Silva Souza and Rebelato (2024) have designed an environmental performance index (IEP) that successfully identified the most problematic wastes, such as vinasse and filter cake, as a focus for improvement. Other countries have also demonstrated the application of methods such as LCA to analyze railway systems in India (Shinde et al., 2018) and the Analytical Hierarchy Process (AHP) for urban regeneration projects in Turkey (Ilicali and Giritli, 2020). Meanwhile, in Indonesia, one of the main reference frameworks is PROPER (Program Penilaian Peringkat Kinerja Perusahaan), which encourages companies to implement environmental management accounting in response to government regulations (Siskawati et al., 2019).

Other quantitative analyses, such as regression analysis, are employed to investigate the impact of implementing green supply chain management (GSCM) practices on a company's environmental performance (Sahoo et al., 2019). Furthermore, a logistic regression model is applied to predict a company's likelihood of achieving ISO 14001 certification based on the extent to which it implements the ISO 14031 environmental performance evaluation guidelines (Alsulamy et al., 2021).

Overall, each tool has unique strengths in addressing different environmental challenges. The choice of method depends mainly on the objectives of the environmental performance evaluation, including understanding total impacts (LCA), comparing efficiency (DEA), making complex decisions (MCDM), predicting the future (AI), adhering to existing standards (Index/Framework), and determining relationships between variables (regression analysis). Ultimately, methods for measuring and assessing environmental performance will continue to evolve as science and technology advance.

3.3.4. Yellow cluster (Tripple bottom line and corporate attributes)

The yellow cluster addresses the triple bottom line concept, which combines the environmental, social, and economic dimensions of a company's activities. In this cluster, company performance is viewed from various perspectives. The keywords "finance," "corporate financial performance," "financial performance," and "stock market" represent the company's financial performance. Environmental issues faced by and caused by companies are represented by the keywords "climate change" and "carbon emission(s)". Furthermore, the keywords "environment"

and "corporate environmental performance (cep)" reflect the company's impact on the environment or its environmental performance. Meanwhile, the company's relationship with society is reflected in the keywords "corporate social responsibility" and "corporate social performance".

Research by Venkatraman and Nayak (2015a, 2015b) highlights the synergistic relationship between the TBL dimensions. However, it is relatively weak, emphasizing the need for strategic and systemic integration to achieve business sustainability and create economic value. Investing in sustainability projects enables the simultaneous achievement of economic, environmental, and social benefits (Solovida and Latan, 2021). Crace and Gehman (2023) underscore the Triple Bottom Line (TBL) concept by expanding it into a more modern ESG analysis, emphasizing that a company's ESG performance is more influenced by internal factors, such as leadership style, organizational structure, and corporate strategy, than by the direct relationship between economic, social, and environmental aspects as in the classic TBL model. On the other hand, digital finance can significantly enhance the ESG performance of companies in China, as it alleviates the financing constraints they face. ESG performance improvements are significant in the Social and Governance aspects because companies tend to use the funds raised to increase social responsibility and improve governance structures, rather than on environmental aspects (Mo et al., 2023).

Furthermore, company characteristics are also part of this cluster, represented by the keywords "corporate governance," "firm size," "gender diversity," "board of directors," and "board gender diversity." The structure of the board of directors influences a company's environmental performance (Biswas et al., 2018; Dixon-Fowler et al., 2017). Furthermore, greater female representation on the board of directors or at the leadership level encourages companies to undertake strategic initiatives to reduce carbon emissions, which positively contributes to the company's environmental performance (Biswas et al., 2018; Burkhardt et al., 2020; Chu, 2024; Elmagrhi et al., 2019).

3.3.5. Purple cluster (Green innovation)

The collection of keywords in the purple cluster forms the main theme of Green Innovation in Industrial Companies. Four of the top five keywords, including "innovation," "green economy," "green development," and "green innovation," emphasize the research focus on this cluster. Meanwhile, the keywords "empirical analysis," "industrial enterprise," "Guangdong," "Shanghai," and "Shenzhen" confirm that empirical research on green innovation is dominated by industries centered in these three Chinese cities. This cluster also includes the keywords "digital transformation" and "artificial intelligence" (AI), indicating that digitization and advanced technology can facilitate and drive green innovation.

Generally, technological innovation has been demonstrated to have a positive impact on both environmental performance and overall company performance (Zhao et al., 2023). Pressure from other companies in the same industry (peers) to undertake digital transformation encourages companies to innovate. In contrast, digital transformation by competitors in the same region (peers)

can facilitate access to funding, both of which can positively contribute to environmental performance (Ren et al., 2023). Furthermore, climate challenges can strengthen a company's internal motivation to undertake digital transformation, which in turn drives the efficiency of green innovation, thereby increasing Green Total Factor Productivity (GTFP) (Ren et al., 2024). This is further supported by other findings in China, where AI technology can strengthen green transformation, ultimately improving a company's environmental performance (Liang et al., 2024; Wang et al., 2023; Wang et al., 2025). The implementation of AI helps reduce operational costs, improve efficiency, and increase employee productivity (Liu et al., 2025).

3.4. Research Evolution and Emerging Topics

The overlay visualization in Figure 3 shows the evolution of research topics over time. Older topics (in dark) include basic concepts such as "environmental management," "environmental performance evaluation," and "life cycle." The concept of life cycle assessment (LCA) is a tool for holistically understanding and measuring environmental impacts, whether on physical products, buildings, or more complex business models (Feng et al., 2020; Kazançoğlu et al., 2020; Kjaer et al., 2018). However, LCA, a traditional environmental performance measure, is challenged by the volume and velocity of big data, as it requires thorough validation before it can be successfully applied at scale to provide a scientific basis for environmental policy (Song et al., 2018).

Meanwhile, newer and trending topics, as indicated by the dark-to-light transition, such as the shift from green to yellow, include "corporate environmental performance," "green economy," and "green innovation." This indicates a shift in research focus from simply evaluating environmental performance to a more integrated perspective, encompassing all aspects that can drive corporate environmental performance, such as green innovation.

4. CONCLUSION

4.1. Summary of Findings

Using bibliometric analysis, this study mapped hundreds of publications from the Scopus database related to the measurement of corporate environmental performance. Although the number of publications in recent years shows an upward trend, truly influential research is still concentrated among a small group of authors and institutions, indicating that academic discourse in this field remains centralized and has not yet spread widely. It was also found that China is the primary contributor in this field in terms of publication volume. This is also supported by data showing that institutions in China dominate the publication of articles related to environmental performance measurement.

The results of this study have mapped the themes and evolution of global research on methods of assessing corporate environmental performance. It was found that research in this field is growing rapidly, with the focus divided into five main themes: (1) The Role of Corporate Environmental Management to Corporate Environmental Performance; (2) Environmental Governance; (3) Environmental Performance Measurement and Assessment; (4) Triple Bottom Line and Corporate Attributes; and (5) Green

Innovation. Furthermore, bibliometric analysis also reveals a shift in trends towards more specific topics on green innovation to address environmental impacts.

4.2. Theoretical and Practical Implications

Theoretically, this study enriches the understanding of corporate environmental performance measurement, which has been empirically studied. The findings emphasize the importance of environmental governance, involving both regulators and companies as key actors, by combining top-down government regulation with adaptive initiatives from the industrial sector in managing environmental impacts.

From a practical perspective, the results of this study provide important insights for policymakers and industry actors, particularly in designing more effective strategies for assessing corporate environmental performance. Furthermore, the resulting research map can help new researchers identify core and emerging trends in the field.

4.3. Study Limitations

This study is limited to data from a single index, Scopus, and therefore may not fully reflect global research dynamics. Furthermore, most of the studies analyzed are conceptual in nature, with minimal direct involvement from practitioners in the field. Furthermore, the bibliometric techniques used only provide a general overview of the research landscape; further analysis is needed to identify best practices for environmental performance measurement.

4.4. Recommendations for Further Research

Future research is recommended to expand its data sources by incorporating other international indexes, such as Web of Science, to obtain a more comprehensive picture. Furthermore, field-based empirical research is needed to evaluate the effectiveness of corporate environmental performance measurement in both local and national contexts.

As a future research agenda, further exploration could be conducted to investigate the identified cluster keywords and themes, such as the development of relevant environmental performance measurement metrics and innovation through the use of digital technologies (AI and Blockchain) in environmental performance assessment processes.

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