

# UNRAVELING THE ESG-FIRM VALUE NEXUS: A SYSTEMATIC ANALYSIS OF CURRENT LITERATURE AND EMERGING THEMES

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## Abstract

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This study conducts a systematic literature review, bibliometric analysis, and content analysis to investigate the relationships between environmental, social, and governance (ESG) performance and firm value. Using Scopus and Web of Science (WoS) databases, 287 relevant articles published between 2015 and 2024 were identified. This research uses VOSviewer and the Bibliometrix-R package for analysis, examining annual trends, influential authors, journals, organizations, collaborations, and future research areas. ESG firm performance studies increased significantly from 2022 onwards. This study corroborates existing evidence indicating that most research finds a positive relationship between ESG performance and firm value. However, some studies report negative or insignificant results, likely due to variations across industries, regions, and time periods (Ghinizzini et al., 2025). This study reveals a lack of standardized ESG ratings, the need to separate E, S, and G components, and the importance of advanced causal methods for endogeneity issues. Bibliographic coupling identifies three research clusters: empirical findings on ESG and firm value relationships, qualitative and meta-analytic studies, and theoretical works. Future research should expand cross-country and industry comparisons, investigate ESG risk-mitigation aspects, and incorporate multiple theoretical frameworks. This analysis provides insights for scholars, policymakers, and professionals, emphasizing the need for consistent ESG regulations and aligning strategies with practices to enhance market values.

**Keywords:** ESG Performance, Financial Performance, Corporate Sustainability, Bibliometric Analysis, ESG Disclosure

**Authors' individual contribution:** Conceptualization — A.P. and S.M.; Methodology — A.P.; Formal Analysis — A.P.; Writing — A.P.; Visualization — A.P. and S.M.; Supervision — S.M.

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## 1. INTRODUCTION

Once a regulatory compliance requirement, environment, social, and governance (ESG) is now a strategic tool for decision-making and value creation. ESG is framed as both a strategic resource (improving legitimacy, stakeholder trust, and operational resilience) and a governance lens that

shapes disclosure, investment, and deal-making (Alkaraan, 2023; Alkaraan et al., 2022; Feyisetan et al., 2025). Studies show firms with robust ESG performance often have lower capital costs, higher credit ratings, and improved investor confidence (Ernst & Woithe, 2024; Lou et al., 2025). Regulators have recognized the importance of ESG and are enforcing disclosure rules and guidelines to improve

transparency and accountability (Stuebs & Sun, 2014). Investors also actively incorporate ESG criteria into their investment decisions, seeking to align their portfolios with their values and manage long-term risks (T.-T. Li et al., 2021). While ESG performance is generally acknowledged as a crucial indicator of a company's sustainability, there is still no standardization for these disclosures (X. Li et al., 2024).

Despite its widespread adoption, ESG faces criticism due to challenges such as greenwashing and the lack of standardized metrics. Critics have argued that ESG metrics are often unverifiable, leading to misleading disclosures and reduced stakeholder trust (Cappucci, 2017; Kotsantonis et al., 2016). Some studies have found limited or no correlation between ESG practices and financial performance, questioning the framework's efficacy (Chatterji et al., 2016; Lee & Giese, 2019). While ESG considerations may provide long-term strategic benefits, their immediate impact on financial metrics is not always clear. The implementation of ESG strategies often involves upfront costs such as investments in sustainable technology, compliance with regulations, and enhanced reporting systems, which can suppress short-term financial gains (Friede et al., 2015). These challenges highlight the need for improved transparency and accountability in ESG reporting to enhance its effectiveness and stakeholder confidence (Kotsantonis et al., 2019; T. M. P. Nguyen & Hoang, 2025).

According to the current body of research, there are three perspectives on how ESG performance relates to a company's value: it can be positive, negative, or have no correlation (Aboud & Diab, 2019; Suresha et al., 2022; Bifulco et al., 2023; Ge et al., 2022). The inconsistency in the literature indicates that ESG has not been sufficiently explored, and there is still no consensus on how ESG performance impacts firm value. These discrepancies may stem from differences in research methods, sample selection, geographic regions, sectoral variations, and the time periods analysed. Consequently, more structured research is required to overcome the shortcomings of current studies to comprehensively grasp the true effect of ESG performance on a company's value.

This paper presents a comprehensive review of the literature on the relationship between ESG performance and firm value, employing a combination of systematic literature review, bibliometric mapping, and content analysis. The study analyzes 287 articles indexed in Scopus and Web of Science (WoS) from 2015 to 2024, using VOSviewer and the Bibliometrix-R package to explore publication trends, key authors, leading journals, institutional collaborations, and emerging themes. The analysis highlights a notable increase in publications after 2022, reflecting growing academic and policy interest in ESG. The findings indicate that while many studies report a positive correlation between ESG performance and firm value, results vary, with some showing neutral or even negative impacts depending on industry, location, and timeframe. Bibliographic coupling identifies three distinct groups: empirical research on the relationship between ESG and value, qualitative and meta-analytical contributions, and theoretical perspectives. Thematic analysis uncovers three primary themes: the overall impact of ESG on company performance, the effects of individual ESG components on firm performance, and the role of moderating and mediating variables. Major

challenges identified include inconsistent ESG rating methodologies, the common practice of aggregating E, S, and G dimensions without distinction, and methodological issues in addressing endogeneity. The findings of this study will aid academic researchers, industry experts, and policymakers in comprehending how a focus on ESG affects company performance.

The rest of the paper is structured as follows. Section 2 introduces the literature review and theoretical background. Section 3 outlines the research methodology. Section 4 presents the research results. Section 5 discusses the main findings. Section 6 concludes the paper.

## 2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

Recent studies show a general tendency for positive ESG-performance relationships, though with significant variations across industries and geographies (Buallay, 2022; Q. Chen, 2022). Environmental initiatives often enhance operational efficiency, social initiatives strengthen brand equity, and governance practices reduce risk—but the combined “ESG score” may obscure these differentiated effects (Liu et al., 2023; Velte, 2023). Bibliometric studies reveal a significant rise in publications examining the relationship between ESG and performance after 2020, aligning with regulatory changes like the European Union (EU) Green Deal and the International Financial Reporting Standards (IFRS) sustainability frameworks (Bosi et al., 2022).

Despite the surge in research, there remain significant gaps in understanding the distinct effects of individual ESG components, the moderating factors influencing ESG-performance connections, and the theoretical foundations of these interactions (Ma et al., 2024; Momina & Ahmad, 2023). Moreover, moderating factors such as firm size, ownership structure, leverage, and institutional quality influence these linkages, suggesting that ESG's impact is not uniform (Q. Chen, 2022; Duque-Grisales, 2021). The literature also points to methodological challenges, including endogeneity and causal inference, which limit the robustness of conclusions (Tsang et al., 2023).

The relationship between ESG performance and firm value is grounded in multiple theoretical perspectives, each highlighting different transmission mechanisms. Stakeholder theory suggests companies prosper by aligning the interests of employees, communities, and investors through responsible governance and sustainable practices (Alkaraan et al., 2022). Legitimacy theory adds that ESG activities help maintain social approval and institutional legitimacy amid regulatory scrutiny. Companies with strong ESG credentials show reliability and transparency, which can reduce monitoring costs and boost valuation (Belas et al., 2021). From a signaling standpoint, ESG disclosure serves as a credible indicator of company quality and long-term focus. High-quality ESG reporting can decrease information asymmetry and enhance analyst coverage, improving market efficiency (Huang et al., 2022). Greenwashing can distort these signals and result in reputational damage (Wang et al., 2025).

According to the resource-based view (RBV), ESG-related assets, such as clean technology advancements or socially responsible human capital practices, are intangible strategic resources that contribute to a competitive edge (Velte, 2023). The theory of dynamic capabilities builds on this by highlighting a company's ability to adjust ESG strategies to evolving regulatory and societal expectations, boosting resilience and long-term profitability (Song et al., 2020). At the same time, institutional theory highlights that the perception and recognition of ESG performance are influenced by regulatory frameworks, the maturity of markets, and cultural standards across different settings (Darsono et al., 2025).

Recent bibliometric reviews (Bosi et al., 2022; Martiny et al., 2024) underscore an evolution from descriptive ESG analyses toward causal, disaggregated, and theory-driven studies. Literature increasingly emphasizes cross-disciplinary integration, combining finance, governance, and sustainability frameworks to explain ESG's heterogeneous impacts. Despite growing consensus that ESG performance contributes to value creation, key uncertainties remain.

### 3. RESEARCH METHODOLOGY

The research utilized a systematic algorithmic method following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for systematic reviews. The research objectives were defined, and a search strategy was developed using keywords like "ESG performance", "ESG disclosure", and "firm value". Articles from 2015 to 2024 were gathered from Scopus and Web of Science databases. The screening process excluded duplicates, non-English publications, and irrelevant papers. A bibliometric analysis using VOSviewer and Bibliometrix-R (Biblioshiny) identified influential publications, citation networks, and thematic clusters. Finally, content analysis of key papers within each cluster uncovered dominant themes, theoretical connections, and research gaps. This approach ensured transparency, replicability, and systematic integration of quantitative (bibliometric) and qualitative (content) insights, following best practices in mapping ESG-related literature.

Depending on the research objectives and the availability of data, alternative strategies can be employed to examine the relationship between ESG and firm value. A meta-analytic method could be used to quantitatively combine effect sizes from existing empirical research, allowing for an assessment of the overall strength and direction of the ESG-performance link across various contexts. Additionally, machine learning and text-mining techniques could be utilized to scrutinize ESG disclosures and sustainability reports, providing deeper insights into narrative trends and the impact of sentiment on firm value. These alternative methods offer complementary analytical depth and can enhance the robustness of findings by triangulating results from diverse methodological perspectives.

### 3.1. Research objectives

This study has the following objectives:

- 1) Examine publication trends, key contributors (authors, journals, institutions, countries), and influential studies shaping research on ESG performance and firm value.
- 2) Analyze collaboration patterns among authors and institutions to understand research networks in the ESG domain.
- 3) Identify and analyze research clusters to assess (a) the relationship between ESG performance and firm value, (b) effects of E, S, and G dimensions, and (c) moderating or mediating variables influencing these relationships.
- 4) Discuss future research areas.

### 3.2. Data compilation

Scopus and WoS were selected as databases due to their status as the most reliable sources for scientific research (Extejt & Smith, 1990). Scopus offers extensive cross-disciplinary content and superior indexing, while WoS is known for rigorous publication selection and focus on high-impact journals (Meho & Yang, 2006). Using these two databases together ensures a thorough exploration of literature on ESG performance and firm value, making the systematic literature review both comprehensive and precise.

This study employed the PRISMA standard protocol, which is widely used in academia. This protocol helps to refine the selection of sample databases and bibliographic data (Laskar & Gopal Maji, 2018). The keywords "ESG score", "ESG Disclosure", "ESG rating", and "ESG Performance" have been taken together as they mean similar things for this study (Pedersen et al., 2021). Keywords for both financial and market performance are considered together. The advanced search option of the wild card search using the asterisk "\*" was used for a comprehensive search. The wild card refines the search, as it includes all related terms for the mentioned word. For example, "effect\*" will search all words, such as effect, effective, and effects. Table 1 lists the inclusion criteria.

The string used to search the title, abstract, and keywords fields for retrieving the publications was as follows: (TITLE-ABS-KEY ("ESG Score" OR "ESG Performance" OR "ESG disclosure\*" OR "ESG rating") AND ("impact\*" OR "effect\*" OR "affect\*" OR "improve\*" OR "decrease\*") AND ("financial performance" OR "firm performance" OR "corporate performance" OR "market value\*" OR equity AND value\*)).

The timeframe from 2015 to 2024 was selected because most of the research on ESG and corporate performance has been carried out over the last decade. Initially, 412 items were identified, comprising articles, books, and conference papers. After eliminating 50 duplicate entries, 354 articles remained. We excluded 8 articles that were not in English and were from predatory journals. The focus was then narrowed to include only the disciplines of Business, Management and Accounting, Economics, Econometrics & Finance, and Social Sciences, resulting in the exclusion of 33 articles. A manual review led to the removal of 26 irrelevant articles, leaving 287 relevant articles.

Figure 1. PRISMA flow diagram

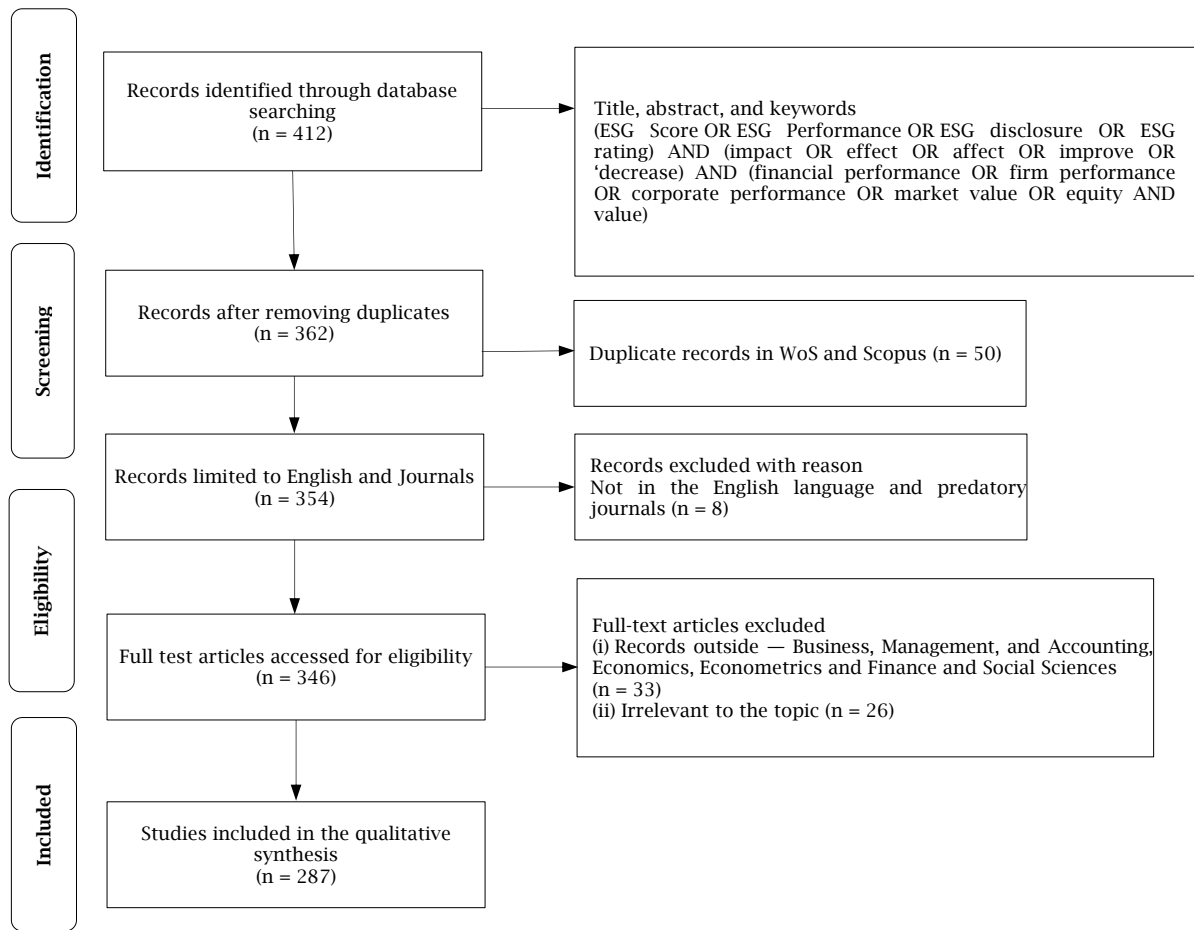


Table 1. Search criterion

| Keywords                                                                                                                 | Years     | Document type                      | Discipline                                                                                  | Language | Source type                       |
|--------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------|---------------------------------------------------------------------------------------------|----------|-----------------------------------|
| ESG score, ESG rating, ESG disclosure, Firm performance, financial performance, Corporate Performance, Firm Market Value | 2015-2024 | All full-text articles in journals | Business, Management and Accounting, Economics, Econometrics & Finance, and Social Sciences | English  | WoS and Scopus published articles |

### 3.3. Software selection

This study employed two bibliometric instruments that serve distinct analytical objectives.

1) Bibliometrix-R through the Biblioshiny Interface: Bibliometrix allows for in-depth analysis of publication metadata, including citation patterns, keyword co-occurrence, and thematic mapping.

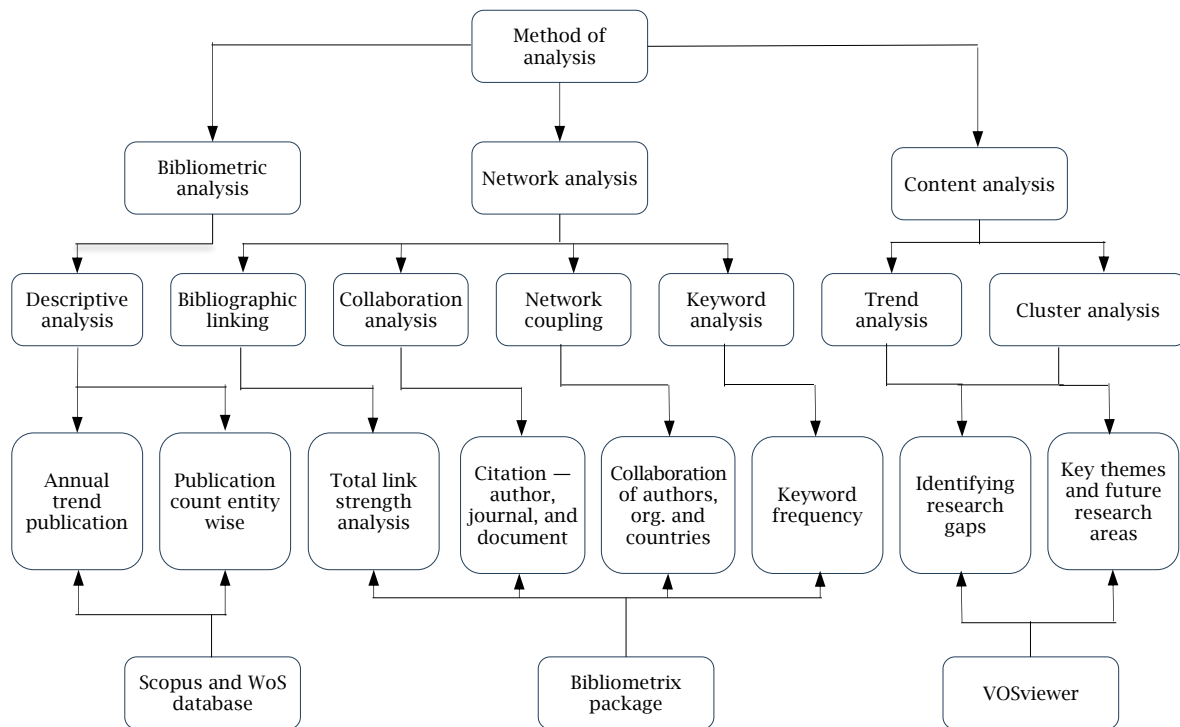
2) VOSviewer: VOSviewer is an effective tool for mapping large databases, as it has the capability to simplify complex networks into more comprehensible representations (van Eck & Waltman, 2010). Bibliometrix has a page rank analysis function, which is unique and not available in VOSviewer.

## 4. RESULTS

This study uses three methods for performing a systematic literature review: bibliographic analysis,

network analysis, and content analysis. Bibliographic analysis examines bibliographic data such as authorship, citations, keywords, and publication venues to understand the structure and evolution of research areas (Kumar Larson et al., 2023). Network analysis focuses on the relationships between different entities such as authors, publications, keywords, or institutions. By visualizing these relationships as networks, researchers can identify key players, influential publications, and emerging research areas (Newman, 2004). Content analysis is used to summarize the key findings of the selected publications, identify research gaps, and guide emerging research themes (Boettger & Palmer, 2010; Stemler, 2001).

Figure 2 provides a comprehensive illustration of the three methods, the analysis conducted through each method, and the software required for each approach (Shome et al., 2023).

**Figure 2. Methodology of analysis**

#### 4.1. Descriptive analysis

This study comprised 287 documents from 745 authors published in 161 journals. The authors are affiliated with 381 organizations from 51 countries. The time span for all publications in this study was from 2015 to 2024.

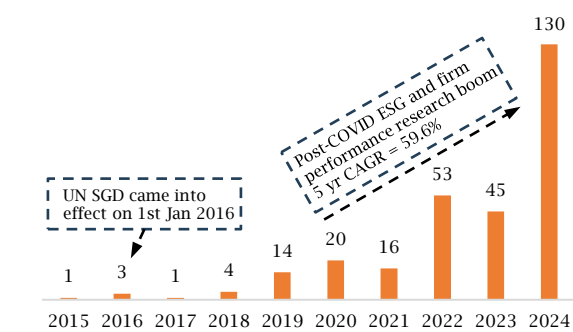
There were 761 unique author keywords in the documents. On average, each article is written by two authors (author per document is 2.6), and there are three co-authors on average for each article (co-authors per document is 2.85). The average number of citations per article was 32, and the average references per article were 53. Table 2 presents descriptive statistics.

**Table 2. Descriptive statistics of the literature**

| Description                     | Result    |
|---------------------------------|-----------|
| Timespan                        | 2015–2024 |
| Journals (Journals)             | 161       |
| Number of documents (docs)      | 287       |
| Authors                         | 745       |
| Organizations                   | 381       |
| Countries                       | 51        |
| Total number of citations       | 9161      |
| Average citations per doc       | 31.92     |
| References                      | 15227     |
| Average references per doc      | 53.06     |
| Author's keywords               | 761       |
| Authors of single-authored docs | 26        |
| Document average age            | 1.44      |

Figure 3 shows the trend analysis of document publications regarding ESG and firm performance. Though many research articles were published around the ESG theme from 2004 onwards, the focus was not on the connection between ESG and firm performance (Whelan et al., 2021). In 2016, three articles concentrating on firm performance and ESG were released following the initiation of the United

Nations Sustainable Development Goals (UN SDGs) on January 1 of that year. Although the impact diminished in the years that followed, it surged significantly from 2022 onwards. Despite the global challenges posed by the COVID-19 pandemic, companies with a focus on ESG remained resilient and even expanded their market presence. This resilience spurred further research into how a company's ESG efforts relate to its financial success.

**Figure 3. ESG and firm performance publications (2015–2024)**

Note:  $n = 287$ .

The primary contributors (including authors, journals, organizations, and nations) to the research area under investigation are presented in Tables 3 and 4. Amina Buallay from Brunel University, London, published 12 articles, the most by any author, followed by Hamzeh Al Amosh and Jasim Al-Ajmi with three each. The journal *Business Strategy and the Environment* published nine articles related to our study, followed by *Corporate Social Responsibility and Environmental Management* and *Sustainability Accounting, Management and Policy Journal*, with

eight and seven articles, respectively. China, India, Italy, and the United Kingdom are the top four countries that contribute to research on ESG and firm performance. Notable geographic observations are: 1) the United States is not in the top five in this research domain, 2) European, Middle Eastern, and Asian countries lead research publications, with Middle Eastern countries slightly ahead, and 3) both developed and emerging countries have contributed, signaling widespread interest in the topic.

**Table 3.** The top five productive authors

| Authors             | Affiliation                                       | No. of articles |
|---------------------|---------------------------------------------------|-----------------|
| Buallay, Amina      | Brunel University, London                         | 12              |
| Al Amosh, Hamzeh    | Ministry of Education and Higher Education, Qatar | 3               |
| Al-Ajmi, Jasim      | Ahlia University, Bahrain                         | 3               |
| Bodhanwala, Ruzbeh  | Flame University, India                           | 3               |
| Bodhanwala, Shernaz | Flame University, India                           | 3               |

**Table 4.** The top five most productive journals, organizations, and countries

| Journals                                                            | No. of articles | Affiliation                                  | No. of articles | Country        | No. of articles |
|---------------------------------------------------------------------|-----------------|----------------------------------------------|-----------------|----------------|-----------------|
| <i>Business Strategy and the Environment</i>                        | 9               | Ahlia University                             | 15              | China          | 39              |
| <i>Corporate Social Responsibility and Environmental Management</i> | 8               | Shandong University of Finance and Economics | 11              | India          | 30              |
| <i>Sustainability Accounting, Management and Policy Journal</i>     | 7               | Federal University of Paraná                 | 9               | Italy          | 22              |
| <i>Journal of Global Responsibility</i>                             | 5               | Bocconi University                           | 6               | United Kingdom | 16              |
| <i>Journal of Risk and Financial Management</i>                     | 5               | Flame University                             | 6               | Malaysia       | 15              |

#### 4.2. Bibliographic linking between authors, documents, journals, and organizations

Bibliographic linking establishes connections between various items, such as authors, documents, journals, organizations, and countries, based on the references. Common references are an indication of common intellectual capital and similarity (Shin & Perdue, 2019). Overlap in cited references suggests stronger intellectual connections between publications. Total link strength (TLS) quantifies the connection between entities, with higher TLS indicating stronger links (van Eck & Waltman, 2010). Table 5 displays the leading five TLS for authors, documents, journals, organizations, and countries through bibliographic linking. To extract meaningful data, a threshold of 100 was established as the boundary condition.

Amina Buallay is the most prolific author, with a total link strength of 2780. Among the top five articles, Buallay authored four. The top three publications are by Buallay, with the top one being "Sustainability engagement's impact on tourism sector performance: Linear and nonlinear models",

which has a TLS of 358. Buallay's research publications cover the relationship between ESG and performance across various industries, including tourism, banking, and agriculture. *Business Strategy and the Environment* is the most influential journal with a TLS of 1565, followed by *Journal of Global Responsibility* and *Corporate Social Responsibility and Environmental Management* with a TLS of 1489 and 1432, respectively. In the organization column, Ahlia University, Bahrain, had the highest TLS of 3786.

#### 4.3. Citation results

Citations are commonly regarded as indicators of an author's, document's, or journal's influence and level of recognition within academic discourse (Niñerola et al., 2019). As mentioned in Table 6, the top three citation journals are *Business Strategy and the Environment*, *Management of Environmental Quality: An International Journal*, and *Management of Environmental Quality: An International Journal*, with 1337, 596, and 521 citations, respectively.

**Table 5.** The top five contributors' basis total link strength

| Author                | TLS  | Document name                                                                                                                                 | TLS | Journals                                                            | TLS  | Organization                               | TLS  |
|-----------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------|------|--------------------------------------------|------|
| Buallay, Amina        | 2780 | Sustainability engagement's impact on tourism sector performance: Linear and nonlinear models (Buallay et al., 2022)                          | 358 | <i>Business Strategy and the Environment</i>                        | 1565 | Ahlia University, Bahrain                  | 3786 |
| Fadel, Sayed M.       | 1148 | Sustainability reporting and agriculture industries' performance: Worldwide evidence (Buallay, 2022)                                          | 330 | <i>Journal of Global Responsibility</i>                             | 1489 | Brunel University, United Kingdom          | 2586 |
| Saudagaran, Shahrokh  | 1148 | Sustainability reporting and bank performance after financial crisis: Evidence from developed and developing countries (Buallay et al., 2021) | 321 | <i>Corporate Social Responsibility and Environmental Management</i> | 1432 | Department of Banking and Finance, Bahrain | 1666 |
| Abdi, Yaghoub         | 792  | ESG impact on performance of US S&P 500-listed firms (Alareeni & Hamdan, 2020)                                                                | 288 | <i>Corporate Governance (Bingley)</i>                               | 1126 | College of Business and Finance, Bahrain   | 1468 |
| Càmara-Turull, Xavier | 792  | Sustainability reporting and performance of MENA banks: Is there a trade-off? (Buallay et al., 2020)                                          | 281 | <i>Journal of Risk and Financial Management</i>                     | 1011 | Brunel University, United Kingdom          | 921  |

**Table 6.** The top five cited journals

| Journals                                                             | No. of citations |
|----------------------------------------------------------------------|------------------|
| <i>Business Strategy and the Environment</i>                         | 1337             |
| <i>Management of Environmental Quality: An International Journal</i> | 596              |
| <i>Journal of Global Responsibility</i>                              | 521              |
| <i>Sustainability Accounting, Management and Policy Journal</i>      | 487              |
| <i>Journal of Business Ethics</i>                                    | 432              |

**Table 7.** The top five cited documents

| Article                                                                                                        | Journal                                      | No. of total citations |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------|
| Do environmental, social, and governance activities improve corporate financial performance?                   | <i>Business Strategy and the Environment</i> | 538                    |
| Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector       | <i>Management of Environmental Quality</i>   | 414                    |
| Does ESG performance have an impact on financial performance? Evidence from Germany                            | <i>Journal of Global Responsibility</i>      | 401                    |
| Corporate economic, environmental, and social sustainability performance transformation through ESG disclosure | <i>Sustainability</i>                        | 322                    |
| ESG impact on performance of US S&P 500-listed firms                                                           | <i>Corporate Governance</i>                  | 315                    |

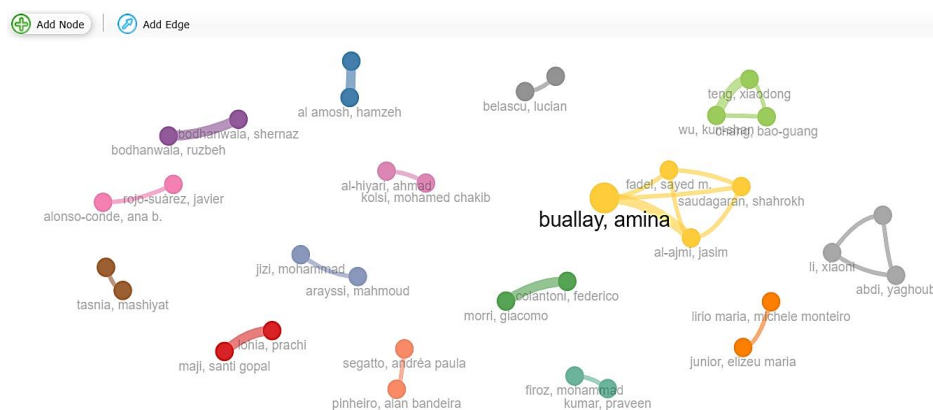
#### 4.4. Co-authorship and collaboration analysis

The collaborative relationships between individuals, organizations, and countries can be represented as a network, wherein the nodes denote the respective units, and the links signify the relationships. To examine co-authorship and collaboration, researchers utilized the social structure feature available in the Biblioshiny user interface, which is part of the Bibliometrix R-package. Figures 4, 5, and 6 illustrate the collaborative networks of authors, institutions, and countries, respectively. All the isolated nodes were omitted from the network diagram. In the network, each color indicates entities that have collaborative relationships with one another, the size of the circle represents the volume of work conducted by that particular entity, and the link mesh demonstrates the extent of collaboration.

Figure 4 shows that there is limited collaboration at the author level. Amina Buallay was the main contributor, working with Sayed M. Fadel, Jasim Al-Ajmi, and Sharokh Saudagaran on several articles.

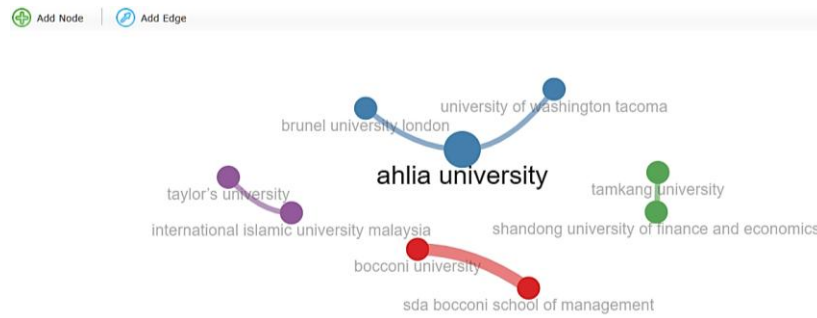
According to Figure 5, Ahlia University (Buallay), University of Washington (Sharokh), and Brunel University London worked together at the organizational level. There is a significant link between Bocconi University and SDA Bocconi School of Management.

Figure 6 illustrates that China leads in the number of research publications at the national level, with India and the UK following. Developed countries such as Germany, the UK, and New Zealand engage in collaborations with emerging economies like China, India, and Malaysia. Noteworthy collaboration is also observed among Middle Eastern nations, especially the UAE, Tunisia, and Saudi Arabia. The US has not made a significant contribution to this field of study.

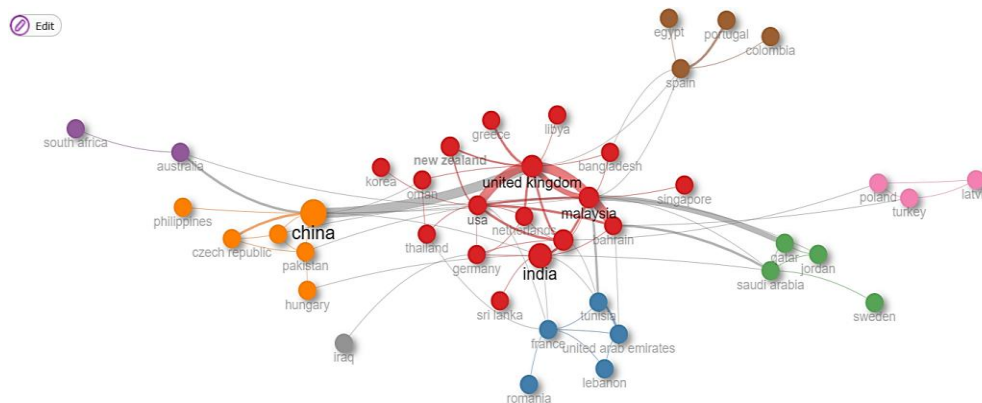
**Figure 4.** Author collaboration network

Source: Authors' own search.



**Figure 5. Organization collaboration network**

Source: Authors' own search.

**Figure 6. Country collaboration network**

Source: Authors' own search.

#### 4.5. Keyword analysis

For clustering of publications, relatedness is commonly determined based on either word relations or citation relations (van Eck & Waltman, 2017). Author keywords consist of a set of terms that best represent their work and highlight its main themes. In contrast, Keywords Plus are additional terms or phrases generated by Scopus and WoS that appear in the references of documents but may not necessarily be present in the document's title or its designated keywords (Grant, 2010; Islamaj Dogan & Lu, 2010). Keywords Plus captures the content of a document deeply as they stress more on research methods, tools, and techniques, whereas the author keywords emphasize document identification on a given idea or topic (Garfield & Sher, 1993; Zhang et al., 2015). This study uses author keywords and Keywords Plus for analysis.

The bibliometric data showed that there were 1229 author keywords from 287 documents. We standardized the keywords using the simplicity principle (Valderrama-Zurian et al., 2017). Singular and plurals ("investment" and "investments"), full forms and acronyms ("ESG" and "Environmental, Social and Governance"), similar words ("ESG rating" and "ESG scores") were standardized manually for the top 50 author keywords and Keywords Plus.

Table 8 shows the frequency distribution of the top five author keywords and Keywords Plus. The table suggests that author keywords concentrate more on a firm's financial performance, ESG rating, and ESG disclosure. By contrast, Keywords Plus adopts a wider perspective, incorporating the governance approach and "investment" focus in its analysis. It is interesting to note that Keyword Plus "Empirical Analysis" indicates the relation between ESG and performance is based on robust statistical analysis.

**Table 8. The top five frequently occurring author keywords and Keywords Plus**

| <i>Author keywords</i> | <i>No. of occurrences</i> | <i>Keywords Plus</i>    | <i>No. of occurrences</i> |
|------------------------|---------------------------|-------------------------|---------------------------|
| Financial Performance  | 119                       | Financial Performance   | 45                        |
| ESG rating/ESG score   | 96                        | Investments             | 27                        |
| Sustainability         | 48                        | Sustainable Development | 24                        |
| ESG Performance        | 47                        | Empirical Analysis      | 22                        |
| Environmental          | 35                        | Governance Approach     | 21                        |

Temporal occurrence for the commonly used Keywords Plus is shown in Table 9. Although terms such as "sustainable development" began to appear in 2016, their usage significantly increased following the COVID-19 pandemic. Starting in 2021, there was a significant focus on "Governance". The use of Corporate Social Responsibility began to decline, while ESG performance started gaining momentum.

By 2023, the term ESG performance assessment became widely used, reflecting an increasing interest in evaluating the potential benefits of ESG practices. In research exploring the link between ESG and corporate performance, statistical methods, especially regression analysis, are commonly applied, highlighting a growing trend in the field.



**Table 9.** Year-wise occurrence of the commonly used Keywords Plus

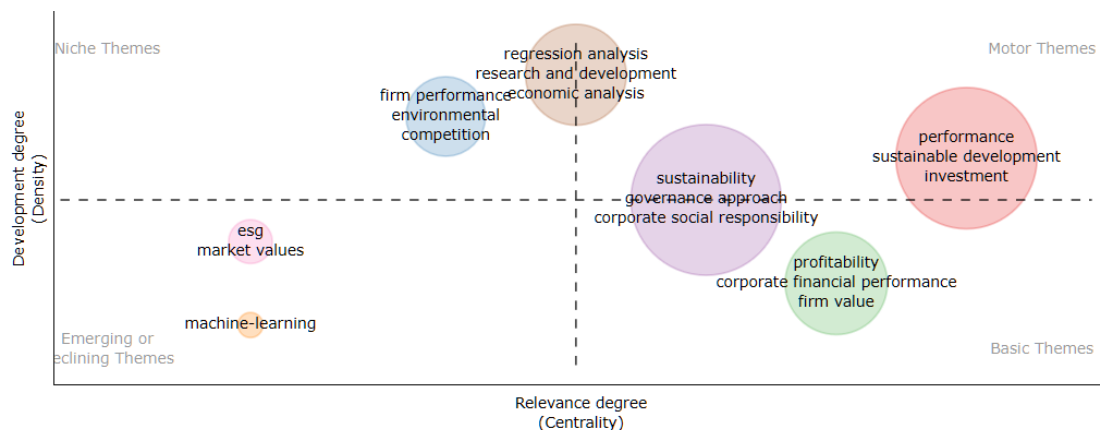
| Year | ESG performance assessment | Governance | Sustainable development | Regression analysis | Corporate Social Responsibility |
|------|----------------------------|------------|-------------------------|---------------------|---------------------------------|
| 2016 | 0                          | 1          | 1                       | 0                   | 9                               |
| 2017 | 1                          | 1          | 1                       | 0                   | 8                               |
| 2018 | 2                          | 2          | 1                       | 0                   | 8                               |
| 2019 | 5                          | 5          | 4                       | 0                   | 7                               |
| 2020 | 6                          | 6          | 5                       | 0                   | 5                               |
| 2021 | 8                          | 9          | 5                       | 1                   | 5                               |
| 2022 | 12                         | 10         | 6                       | 4                   | 4                               |
| 2023 | 18                         | 12         | 9                       | 5                   | 4                               |
| 2024 | 27                         | 19         | 10                      | 10                  | 3                               |

#### 4.6. Trends analysis using Keywords Plus

By applying clustering algorithms to Keywords Plus, various trends are identified. A thematic map visually represents trends in a two-dimensional space, with the X-axis representing centrality and the Y-axis representing density (Noyons, 2001). Centrality assesses the interconnectedness between topics, while density evaluates cohesiveness. A trend's centrality indicates its importance, and its density reflects its growth potential. Thematic maps categorize trends into four types based on quadrant positioning. The top-right section contains essential trends, while the top-left has specialized or niche topics. The lower right quadrant includes basic or underlying trends, and the lower left corner

represents emerging trends (Agbo et al., 2021; Caust & Vecco, 2017).

Figure 7 illustrates that sustainable development, investment, and performance have become key trends, highlighting their importance and significant research progress, which indicates they are well-established drivers in the field. In contrast, profitability, corporate financial performance, and firm value continue to be fundamental trends, implying they are broadly relevant but less advanced, necessitating more academic focus to develop into leading areas. Lastly, regression analysis and machine learning are identified as emerging trends, suggesting their potential for significant impact.

**Figure 7.** Thematic map

Source: Authors' own search.

#### 4.7. Clusters and themes

Biblioshiny in R was used for the bibliographic coupling of documents, resulting in various clusters. To ensure that only impactful publications were in the network, more than 10 co-cited articles and the top 45 nodes were included. Three clusters were formed in the co-citation network. Tables 10, 11, and 12 present the leading publications within each of the three clusters. Each table features identical columns, including Independent variables, dependent variables, research approach employed by the paper, the connection between the ESG metric (ESG) and firm value (FV), the link between the environment metric (E) and firm value (FV), the association between the social metric (S) and firm value (FV), and the relationship between the governance metric (G) and firm value (FV).

Cluster 1, summarized in Table 11, primarily consists of articles that present empirical findings on the relationship between ESG and firm value, as well as the individual E, S, and G scores and their

impact on firm value. The majority of these studies employ quantitative methods such as ordinary least squares (OLS), fixed or random effects panel regression, and multiple regression. A few papers also utilize advanced techniques like staggered difference-in-differences (DID) and the two-stage least squares (2SLS) method to address non-linearity and complex interactions between ESG and firm value. Various moderating and mediating variables are incorporated in this cluster according to the suitability of each article.

As outlined in Table 11, Cluster 2 articles are predominantly composed of qualitative research, event studies, and meta-analyses. This group utilizes methodologies such as surveys, event-based techniques, vote counting, and propensity analysis. Most of these studies reveal mixed results concerning the link between ESG metrics and firm value. Variables that are essential for analysis but challenging to quantify, like brand value, reputational effects, and press freedom, are employed as moderating factors.

Cluster 3 articles, as detailed in Table 12, are theoretical works that seek to clarify the relationship between ESG metrics and company performance. Theories such as agency theory, signalling theory, stakeholder theory, and legitimacy theory are among those that investigate

the connection between ESG and company performance. Furthermore, other theoretical models are explored to comprehend how social image, capital structure, and ownership concentration affect the link between ESG and firm value.

**Table 10.** Cluster 1: Article summary

| <i>Author</i>                               | <i>Independent variable</i>                            | <i>Dependent variable</i>                                 | <i>Approach</i>                                        | <i>ESG-FV</i> | <i>E-FV</i>             | <i>S-FV</i>             | <i>G-FV</i>                       | <i>Moderating/mediating variable</i>                                |
|---------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|---------------|-------------------------|-------------------------|-----------------------------------|---------------------------------------------------------------------|
| Buallay (2019b)                             | ESG disclosure Scores (Bloomberg)                      | ROA (return on assets), ROE (return on equity), Tobin's Q | Panel data regression (random effects)                 | Positive      | Positive                | Negative                | Negative                          | Financial leverage, total assets                                    |
| Velte (2017)                                | ESG score, E score, S score, G score (Thomson Reuters) | ROA, Tobin's Q                                            | Panel regression, correlation analysis (with lags)     | Positive      | Not significant         | Not significant         | Positive (most influential)       | Firm size, firm risk, R&D intensity, industry controls              |
| Duque-Grisales and Aguilera-Caracuel (2021) | ESG score, E score, S score, G score (Thomson Reuters) | ROA                                                       | Panel regression (random effects)                      | Negative      | Negative                | Negative                | Negative                          | Financial slack, geographic international diversification           |
| Q. Chen (2022)                              | ESG score, and sub-scores (E, S, G) from Refinitiv     | ROA, ROE, and Tobin's Q                                   | Fixed effects panel                                    | Positive      | Positive                | Positive                | Positive                          | Firm size, country, industry                                        |
| Albuquerque et al. (2019)                   | ESG score from MSCI                                    | Firm beta Tobin's Q                                       | Panel regression and instrumental variables (2SLS)     | Positive      | Not separately analysed | Not separately analysed | Not separately analysed           | Advertising expenditures                                            |
| Z. Chen and Xie (2022)                      | ESG disclosure scores                                  | Tobin's Q, ROA, ROE, and leverage                         | Staggered DID, two-way fixed effects (TWFE) regression | Positive      | Positive                | Positive                | Positive                          | Shareholding ratio, market value                                    |
| Lins et al. (2017)                          | ESG Social capital via MSCI                            | Stock returns, growth, sales per employee, debt raised    | Regression analysis during a financial crisis          | Positive      | Not separately analysed | Positive                | Not separately analysed           | Trust and social capital                                            |
| Qiu et al. (2016)                           | ESG score, E score, S score, G score (Bloomberg)       | Net profit and share price, Tobin's Q                     | Panel regressions                                      | Mixed         | Not significant         | Positive                | Not separately analysed           | Profitability (slack resources), expected growth rate of cash flows |
| Y. Li et al. (2018)                         | ESG disclosure score (Bloomberg)                       | Tobin's Q, ROA                                            | OLS regression, 2SLS                                   | Positive      | Positive                | Positive                | Not significant (not main driver) | CEO power                                                           |

Table 11. Cluster 2: Article summary

| Author                   | Independent variable                                                                  | Dependent variable                                 | Approach                                 | ESG-FV                         | E-FV                    | S-FV                    | G-FV                    | Moderating/mediating variable                                    |
|--------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------|--------------------------------|-------------------------|-------------------------|-------------------------|------------------------------------------------------------------|
| Tsang et al. (2023)      | ESG disclosure score                                                                  | Tobin's Q, weighted average cost of capital (WACC) | Survey and case study research           | Mixed                          | Mixed                   | Mixed                   | Mixed                   | CSR performance, stakeholder orientation                         |
| Krüger (2015)            | ESG events (based on Kinder, Lydenberg, Domini Research & Analytics, Inc. (KLD) data) | Shareholder value                                  | Event study methodology                  | Not significant                | Negative                | Not significant         | Not separately analysed | Agency problems; stakeholder controversies                       |
| Friede et al. (2015)     | ESG score                                                                             | ROA, ROE, Tobin's Q, stock returns                 | Meta-analysis and vote-count studies     | Positive                       | Positive                | Positive                | Positive                | Region, asset class (equities, bonds, real estate), time horizon |
| Orlitzky et al. (2003)   | ESG responsibility measures, reputation indices, social audits                        | ROA, ROE, EPS, Tobin's Q, market returns           | Meta-analysis of 52 studies              | Positive                       | Positive                | Positive                | Not separately analysed | Internal learning/competencies and external reputation effects   |
| Aouadi and Marsat (2018) | ESG controversies (dummy = 1 if controversy, 0 otherwise)                             | Tobin's Q, market-to-book, ROE,                    | Panel regression-fixed effects           | Not significant                | Not separately analysed | Not separately analysed | Not separately analysed | Size, ROA, press freedom, analyst coverage                       |
| Eccles et al. (2012)     | High vs. low sustainability companies                                                 | ROA, ROE, Tobin's Q, stock returns                 | Propensity score matching and regression | Positive                       | Positive                | Positive                | Positive                | Industry type (B2C, brand/reputation intensity, resource use)    |
| Barnea and Rubin (2010)  | CSR rating (MSCI)                                                                     | Ownership structure, leverage                      | Logit/Probit regression                  | Non-linear (inverted U-shaped) | Mixed                   | Mixed                   | Mixed                   | Insider ownership and leverage                                   |

Table 12. Cluster 3: Article summary

| Author                     | Independent variable                              | Dependent variable                                       | Approach             | ESG-FV         | E-FV           | S-FV           | G-FV           | Moderating/mediating variable                                |
|----------------------------|---------------------------------------------------|----------------------------------------------------------|----------------------|----------------|----------------|----------------|----------------|--------------------------------------------------------------|
| Freeman and McVea (2001)   | Stakeholder management (theoretical framework)    | Strategic management/long-term firm success (conceptual) | Theoretical analysis | Not applicable | Not applicable | Not applicable | Not applicable | Stakeholder relationships (conceptual)                       |
| Jensen and Meckling (1976) | Ownership structure, agency costs, debt vs equity | Firm value, managerial behaviour, firm efficiency        | Theoretical model    | Not applicable | Not applicable | Not applicable | Not applicable | Ownership concentration, capital structure, monitoring costs |
| Benabou and Tirole (2010)  | Theoretical paper                                 | Firm value, profitability, stakeholder welfare           | Theoretical analysis | Not applicable | Not applicable | Not applicable | Not applicable | Social image concerns, intrinsic altruism                    |

After examining the research papers within the three clusters, we identified three main themes: 1) the influence of ESG performance on a company's value, 2) the outcomes of how each of the three dimensions — ESG performance — affects firm value, and 3) the role of variables that either moderate these effects.

#### 4.7.1. The effect of ESG performance on firm value

Studies on the influence of overall ESG performance on company value show varied outcomes, with a majority (62%) indicating a positive impact. Meanwhile, 25% of the findings reveal non-significant or mixed effects, and the remaining 13% suggest a negative correlation. This trend highlights

the growing emphasis that markets and investors are placing on a company's ESG performance, acknowledging its crucial role in ensuring long-term success and sustainability (Z. Chen & Xie, 2022; Y. Li et al., 2018). According to stakeholder theory and signalling theory, ESG performance reduces information asymmetry and shows a company's dedication to responsible practices, fostering trust among essential groups. Buallay (2022) proved that firms with strong ESG performance gain improved capital access and lower capital costs. The author combined cost of capital theory and investor perception theory to explain investors' acceptance of lower returns from firms with sustainable activities, anticipating lower risk and stable future cash flows. The social impact hypothesis suggests ESG inputs

improve firm performance through two benefits: increased social impact attracting clients, and improved staff identity leading to better performance (Z. Chen & Xie, 2022). ESG practices contribute to firm goodwill, positively impacting operational and financial performance. Studies show positive relationships between ESG and performance indicators like ROA and ROE. While ESG investments have short-term costs, they improve performance long-term through efficiency, innovation, and better resource management (Verheyden et al., 2016).

Research findings indicate that ESG performance can have negative or non-significant effects on firm value. ESG initiatives may divert resources from maximizing shareholder wealth. The costs of establishing socially responsible structures are not necessarily offset by financial gains and may be an inefficient use of capital (Aouadi & Marsat, 2018). While some ESG investments can be beneficial, excessive spending may yield diminishing returns or negatively impact financial performance. Harvey et al. (2016) suggest that excessive ESG spending can reduce financial performance. N. M. Nguyen et al. (2025), Orlitzky et al. (2003), and Tsang et al. (2023) suggest that the relationship between ESG and financial performance is often indirect, mediated by factors like firm reputation, brand celebrity, or consumer awareness. This implies ESG efforts may not directly translate to improved financial outcomes without these mediating channels. While positive ESG performance might not yield direct financial benefits, negative ESG events can significantly harm firm value. The stock market reacts negatively to firms' socially irresponsible behaviour.

#### *4.7.2. Individual effect of ESG parameter performance on firm value*

Buallay (2019a) states that environmental score positively correlates with ROE and Tobin's Q. This relationship, supported by stakeholder theory, shows that transparent environmental information contributes to firm financial and market profitability. In the European banking sector, environmental disclosure increased ROE and enhanced physical asset market value. Firms with high social capital, measured through the social pillar (S score), show higher stock returns during financial crises. This indicates CSR activities serve as a risk management tool when trust in institutions declines (Albuquerque et al., 2019). Among ESG components, governance performance has the strongest positive impact on financial performance compared to environmental and social factors (Velte, 2017). Consistent with corporate governance theory, robust governance structures ensure accountability and transparency within firms. These elements influence investor confidence, reduce agency costs, and enable efficient resource allocation for achieving economic goals and stakeholder interests.

Buallay (2022) found a negative relationship between corporate social responsibility (CSR) disclosure and performance indicators (ROE, ROA, Tobin's Q) in European banking. This aligns with agency theory as executives pursuing social policies for their benefit leads to costs borne by stakeholders, lowering market value. Duque-Grisales and Aguilera-Caracuel (2021) showed that the relationship between social performance and

firm value may not be linear, as impact varies at different levels or changes after certain thresholds. Liu et al. (2023) found a negative relationship between governance performance and firm value, indicating governance improvements may increase costs and limit flexibility, harming firm value.

The positive impact of individual ESG dimensions on firm value aligns with overall ESG performance, collectively driving value increases. From a performance point of view, governance is considered the most important among the three, with environmental performance also showing positive implications in certain contexts, while social performance can have mixed or even negative effects depending on the specific industry and implementation.

#### *4.7.3. The effect of moderating variables on the relationship between ESG and firm value*

The relationship between ESG and firm value is not always direct and is often influenced by various firm-level, industry, and country-level factors. ESG benefits are more pronounced for firms with higher stakeholder visibility. Customer awareness, measured by advertising expenditures, strengthens the ESG-firm value link (Aouadi & Marsat, 2018). Investors with ESG preferences amplify the positive effects of ESG on financial performance. Z. Chen and Xie (2022) found that higher ESG investor shareholding strengthens this positive impact, creating a virtuous cycle of attracting more ESG-focused investors. Liu et al. (2023) proved that higher chief executive officer (CEO) power enhances the positive association between ESG and firm value, as CEOs can ensure effective implementation of ESG initiatives. Larger firms attract greater public attention due to their prominence. Their visibility means ESG efforts and controversies receive more notice, amplifying the positive moderating effect of strong ESG on firm value (Aouadi & Marsat, 2018; Bressan & Du, 2025).

Moderating and mediating variables explain complex relationships between variables, showing effects of conditions (moderating) or pathways between variables (mediating). Ignoring these variables limits insights for policymakers and practitioners. Future research should incorporate moderating and mediating variables to better understand ESG performance-firm value relationships and provide insights for theory and practice.

## **5. DISCUSSION**

This study aims to synthesize the current state of knowledge on this topic, influential authors, and emerging key trends and future research directions.

Authors, organizations, journals, and countries: Amina Buallay of Brunel University, London, is the most prolific author with 12 articles and the highest citation count of 890. Ahlia University of Bahrain has the most research papers (15), followed by Shandong University, China, with 11 papers. *Journal of Business Strategy and the Environment* had the highest citations at 1337, followed by *Management of Environmental Quality: An International Journal* at 596. China and India lead with 39 and 30 articles, respectively. Developing countries are producing more research in this area than developed countries.

**Research articles:** The research article “Do environmental, social, and governance activities improve corporate financial performance?” by Xie et al. (2019) has the highest citation count of 538, followed by “Sustainability engagement’s impact on tourism sector performance: Linear and nonlinear models” by Buallay et al. (2022) with a citation count of 414.

**Collaboration pattern:** Author collaboration patterns remain limited, typically involving 2–3 individuals. Although China and India produced the highest number of papers, they have not co-authored any articles. This lack of extensive collaboration indicates the absence of consistency in ESG parameters across regions and industries.

**Future research areas:** Our examination of sample literature indicates that while current studies have highlighted the extensive influence of ESG performance on a company’s value, there remain gaps in research and opportunities for enhancement. Future investigations should delve deeply into areas such as methodological and measurement refinements, national and regional variations, a more thorough analysis of ESG’s impact on risk outcomes, and wider theoretical integration.

Research faces challenges due to the lack of unified ESG rating standards across agencies. Future studies should develop standardized ESG rating methodologies to ensure consistency and reliability in findings, reducing potential biases (Z. Chen & Xie, 2022). Many studies aggregate ESG into a single score. However, ESG and corporate governance components may have distinct and contrasting impacts on corporate performance. Future research should disaggregate ESG to analyze the specific effects of each component, providing a granular understanding of their influence. While overall ESG might positively impact performance, components like corporate governance disclosure could negatively affect financial and operational performance (ROA and ROE) while positively affecting market performance (Tobin’s Q) (Bodhanwala & Bodhanwala, 2025; Ersoy et al., 2022; Ionescu et al., 2019). Future research should explore integrating multiple theoretical frameworks to analyze ESG performance complexity. The relationship between ESG and financial performance can be complex, with potential reverse causality (e.g., better-performing companies might be more willing to disclose ESG information). Future research needs to employ rigorous methodologies, such as the Granger causality test, vector autoregression (VAR) models, instrumental variables (IV), etc., to address endogeneity issues and establish causal links (Agarwal & Rastogi, 2025).

In terms of national and regional variations, literature shows that studies are conducted within specific countries, examining how national factors like governance, labor regulations, and economic conditions affect ESG and company performance. Future research should expand cross-country analyses, particularly in regions with different economic, legal, and cultural settings, like South America and Africa. Future studies could compare ESG performance in emerging versus developed markets to assess its relevance across market conditions and cultures. For industry-specific characteristics, research should explore less-studied sectors, such as renewable energy, special chemicals, and labour-intensive sectors. Since existing research mainly focuses on publicly traded companies, future investigations should examine small and medium-

sized enterprises (SMEs) for comprehensive insights (X. Li et al., 2024).

Existing research focuses on the connection between ESG performance and company financial and market outcomes. Investigating how ESG can help mitigate risks in different market scenarios is crucial. Few studies have thoroughly examined this relationship, with often contradictory results. Future research should focus on providing valuable insights into how ESG integration can potentially mitigate financial risks for businesses, especially for environmentally conscious ones. This would help to fill the current void in understanding the direct link between strong ESG practices and a firm’s ability to reduce its exposure to financial uncertainties and losses.

Creating new theoretical frameworks and integrating ESG considerations with economic and financial elements is essential to comprehend long-term value creation. Several theoretical perspectives are emerging, such as legitimacy theory, signaling theory, resource-based theory, trade-off theory, value-enhancing theory, information asymmetry theory, and slack resources theory. Research is needed to understand how traditional theoretical models, like the shareholder-primacy model, are changing. By incorporating these emerging theories, future research can explain the multifaceted impact of ESG performance on firm value (X. Li et al., 2024).

## 6. CONCLUSION

Amidst the increasing focus on ESG performance literature, this paper offers a thorough evaluation of how ESG performance and its three components impact firm value. An extensive search in the Scopus and WoS databases using keywords related to ESG performance and firm value initially identified 412 articles, which were refined to 287 after screening for language, topic, and literature type. The research employed bibliometric and network analysis techniques for data analysis using VOSviewer and the Bibliometrix-R package (Biblioshiny). This paper delivers a detailed analysis of the literature, covering annual trends, authors, journals, organizations, collaborations, and previous research outcomes. Furthermore, we suggest directions for future research in this field.

From 2022 onwards, following the COVID-19 pandemic, there has been a notable surge in research examining how ESG performance affects firm value. While most research indicates a positive correlation between strong ESG performance and company value, some studies reveal negative or negligible results, pointing to factors such as industry specifics, geographical variations, and differences in time periods (Ghinizzini et al., 2025). The paper highlights the absence of standardized ESG ratings, the necessity to separate the E, S, and G components rather than using a single score, and the importance of utilizing advanced causal methods to tackle endogeneity issues. Future research should broaden cross-country and industry comparisons, investigate the risk-mitigation aspects of ESG, and incorporate multiple theoretical frameworks to fully understand the complexity of ESG-performance connections.

This study stands out by encompassing a global perspective across countries and sectors while using bibliometric, network, and content analyses. The use of thematic mapping and bibliographic coupling reveals deeper connections

beyond citation counts. The study outlines future research paths based on findings, encouraging subsequent academic inquiries. This research provides insights for scholars, policymakers, and industry experts. Regulatory bodies can contribute by establishing ESG regulations and standards to ensure worldwide consistency. Industry professionals can use this bibliometric analysis to align ESG strategies with leading practices, enhancing market standing and value creation.

This study has some limitations too. Focusing exclusively on quantitative research might overlook insights and case analyses that qualitative or mixed-method approaches provide. Although standard methods were used for high-quality, there were limitations in the literature collection. Given

the broad research field and continuous academic contributions, some relevant literature may have been omitted.

Finally, regarding practical limitations, the study is constrained by its geographical focus on the Fès-Meknès region and its sectoral orientation toward industrial companies. However, results may vary across sectors and regions, highlighting the need to extend the research to other areas and sectors such as agriculture, tourism, and handicrafts. Such an extension would allow for a better understanding and comparison of internationalization and learning dynamics, enrich managerial recommendations, and guide future academic research.

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