SN Bus Econ (2024) 4:118
https://doi.org/10.1007/s43546-024-00714-6

REVIEW

Beyond compliance: evaluating the role of environmental, social and governance disclosures in enhancing firm value and performance

Phemelo Tamasiga[1] · Helen Onyeaka[2] · Malebogo Bakwena[3] · El houssin Ouassou[4]

Received: 3 April 2024 / Accepted: 26 August 2024 / Published online: 23 September 2024
© The Author(s) 2024

Abstract

The growing emphasis on sustainability has underscored the importance of environmental, social, and governance (ESG) factors in evaluating corporate performance. While research explores the connection between ESG scores and financial outcomes, the role of ESG disclosures in mediating this relationship remains unclear. This study bridges this gap by systematically reviewing the impact of ESG disclosures on firm value and profitability across various industries. We employed a rigorous selection process based on the PRISMA framework, searching Scopus and Web of Science databases for relevant studies. Ultimately, 52 studies were analyzed to determine the relationship between ESG disclosures and financial performance. The results reveal a nuanced dynamic. Industries like food and retail showed positive correlations between strong ESG disclosures and improved financial performance. The utility sector displayed high accounting performance linked to social metrics, with less focus on environmental disclosures. Interestingly, the connection between ESG and financial performance in developing economies was either negative or insignificant. The agriculture sector presented a unique case where governance disclosures specifically enhanced market performance. This multi-industry exploration underscores the need to move beyond a one-size-fits-all approach when analyzing ESG performance. We recommend policy measures that consider specific industry characteristics and contextual factors to enhance the quality and transparency of ESG disclosures.

Keywords Environmental social and governance (ESG) · ESG rating · ESG Disclosure · Sustainability · Sustainable development goals (SDG) · Corporate social responsibility (CSR)

Extended author information available on the last page of the article

Introduction

In line with the UN Agenda 2030 and the emphasis on the Sustainable Development Goals (SDGs), governments, institutions, and organizations face growing pressure to integrate environmental, social, and governance (ESG) measures into their disclosure systems and sustainable management practices (Taliento et al. 2019). There has been an increase in studies investigating the relationship between ESG scores and various financial outcomes, such as firm value and profitability (Abdi et al. 2022; Aboud and Diab 2018; Aydoğmuş et al. 2022; Parikh et al. 2023). Investors, regulators, and other stakeholders are increasingly recognizing the significance of non-financial metrics, which can be used to evaluate a company's influence on the environment, its social initiatives, and the efficiency of its corporate governance practice (Li et al. 2021).

Research at the intersection of ESG scores and firm value underscores the importance of prioritizing sustainability when allocating resources, emphasizing the enduring value of ESG considerations in corporate decision-making. Similarly, (Ademi and Klungseth 2022) revealed that companies with high ESG performance exhibit superior financial performance and higher market valuation than industry peers. ESG rating scores significantly influence both return-on-capital-employed and Tobin's Q, reflecting financial and market performance. A notable result of their study is that superior ESG performance led to positive impacts amidst the COVID-19 pandemic. This result suggests that ESG performance is not only a determinant of financial and market success but also a critical factor enabling firms to navigate and thrive amidst global crises.

A substantial body of literature emphasizes the significance of market value and profitability metrics in gauging firm performance (Novy-Marx 2013). Market value, captured through measures like Tobin's *Q* and market-to-book ratio, is widely regarded as a reflection of the market's assessment of a company's overall worth and future growth prospects (Tambunan 2023). Profitability indicators, such as return-on-capital-employed (ROCE) and net profit margins, provide insights into a firm's operational efficiency and ability to generate profits from its capital and business activities (Hnyp and Kolomiiets 2023; Varma 2023). These conventional financial metrics have been the primary focus of research investigating the determinants and consequences of corporate performance.

However, there has been a growing recognition of the importance of Environmental, Social, and Governance (ESG) factors in evaluating corporate performance in recent years. This shift has been driven by increasing stakeholder awareness of the potential risks and opportunities associated with sustainability issues, as well as mounting evidence that ESG considerations can impact a company's long-term financial performance (Alsayegh et al. 2020a, b; Kim and Li 2021). As such, a growing body of research has explored the relationship between ESG performance, measured by ESG ratings or scores, and various financial outcomes, including market value and profitability (Aouadi and Marsat 2018; Zhou et al. 2022).

While numerous studies indicate a favourable link between ESG (environmental, social, and governance) performance and financial results, the specific ways

ESG impacts these results are not thoroughly understood. A mainly overlooked area is the influence of disclosures in bridging the gap between ESG ratings and a company's financial indicators. These disclosures are the primary avenue for companies to convey their ESG activities, potential risks, and achievements to outside parties. Delving into the role of disclosures can offer a crucial understanding of how openness and communication tactics shape the perceived worth and financial benefits of ESG endeavours (Evans and Peiris 2010) found that ESG disclosures had a significant positive effect on companies' financial and market performance. Additionally, (Chauhan and Kumar 2019) showed a preference for companies that provided ESG (Environmental, Social, and Governance) information in their disclosures. This underscores the significance of transparency and accountability in ESG reporting. Furthermore, Bhattacharya and Sharma, (2019) observed a correlation between ESG scores and credit ratings, implying that businesses with higher ESG scores are perceived as more creditworthy. These studies suggest that ESG disclosures mediate the relationship between ESG scores, firm value, and profitability. The findings from these studies highlight the importance of having high ESG scores and effectively communicating and disclosing sustainability practices to stakeholders.

Furthermore, disclosures are pivotal in enhancing corporate transparency, serving as a conduit through which companies disseminate pertinent information regarding their ESG practices, risks, and performance metrics. Transparent disclosures facilitate informed decision-making among stakeholders, enabling them to gauge a firm's sustainability commitments, operational resilience, and long-term viability (Helfaya et al. 2023; Tsang et al. 2023). By providing clarity on ESG initiatives and performance, disclosures foster a culture of accountability and trust, strengthening the bond between companies and their stakeholders. Beyond transparency, disclosures act as dynamic mechanisms for stakeholder engagement. Companies utilize ESG disclosures to communicate with diverse stakeholders, including investors, employees, customers, and communities (Lokuwaduge and Heenetigala 2017; Manita et al. 2018; Sciarelli et al. 2021). This communication fosters a sense of inclusion, allowing stakeholders to understand how their interests align with the company's sustainability agenda. Effective engagement through disclosures enhances relationships and enables companies to address concerns and incorporate valuable feedback (Utz 2019).

Despite the prevailing narrative of a positive relationship between ESG scores and firm value, some studies have presented contradictory findings. For example, a study by Yoon et al. (2018) suggested that corporate governance practice negatively influences the firm value of environmentally sensitive firms. Similarly, Behl et al. (2022) observed that in certain sectors, such as the energy industry in India, ESG disclosures and the firm value negatively correlated in the last lag. These conflicting findings underscore the complexity of the ESG-firm value relationship and highlight the need for further research to elucidate the underlying mechanisms and contextual factors influencing this relationship. By disclosing their ESG practices, companies can demonstrate their commitment to sustainability and corporate responsibility, leading to increased stakeholder trust and support. (Alsayegh et al. 2020a, b; Chouaibi and Affes 2021). Evidence supports the

notion that higher ESG scores are associated with better economic results (Sila and Cek 2017; Taliento et al. 2019). These findings emphasize the importance of ESG disclosures in driving the positive impact of ESG scores on firm value and profitability. Therefore, the mediating role of ESG disclosures is crucial in translating high ESG scores into improved company value and profitability.

Despite mixed findings on the relationship between ESG scores and firm value, a systematic review is warranted to understand how ESG disclosures impact firm performance (market value and profitability). Therefore, this research is guided by the following questions:

1. When considering the mediating effect of disclosures, is there a quantifiable relationship between ESG scores and firm profitability?
2. How do ESG disclosure quality and transparency variations impact stakeholder perceptions and trust in a company's sustainability efforts?
3. To what extent do regulatory frameworks affect the quality and impact of ESG disclosures, and how do these regulations shape the relationship between ESG scores and firm value/profitability?

A systematic review is suitable for examining the relationship between ESG scores, disclosures, and firm value/profitability due to the topic's complexity and existing research. With an expanding body of literature on ESG's impact on financial outcomes, a systematic review can collate, synthesize, and reconcile diverse findings in a structured manner. This approach is crucial given the contradictory results in some studies, highlighting the need for clarity and understanding of contextual influences. A systematic review offers insights into how transparency shapes stakeholder perceptions and financial results by emphasizing the pivotal role of disclosures. Analysing multiple studies provides a holistic understanding of ESG's interplay with firm performance, aiding policymakers, regulators, and companies in enhancing ESG reporting practices.

The decision to conduct a systematic review is thoughtful, given the complexities and nuances surrounding the relationship between ESG disclosures and corporate performance. A systematic review offers a rigorous and comprehensive approach to synthesizing the existing body of knowledge, enabling a holistic understanding of the current state of research on this multifaceted topic. Unlike traditional narrative reviews, which may be prone to bias and subjectivity, a systematic review follows a predefined protocol, ensuring a methodical and replicable process for identifying, evaluating, and synthesizing relevant studies (Smith 2011; Tranfield et al. 2003).

The systematic nature of this review is particularly advantageous in navigating the diverse and interdisciplinary landscape of ESG disclosures, which span multiple domains, including finance, accounting, management, and sustainability. This review captures a comprehensive set of studies by systematically searching various databases and employing structured search strategies, minimizing the risk of overlooking crucial evidence. Furthermore, the rigorous screening and quality assessment procedures inherent in systematic reviews enhance the validity and

reliability of the findings, ensuring that the conclusions drawn are based on the most relevant and methodologically sound studies (Pollock and Berge 2018a, b). A systematic review allows for identifying patterns, consistencies, and contradictions across the existing literature, providing a solid foundation for reconciling conflicting findings and elucidating potential moderating or mediating factors. This synthesis is particularly valuable in ESG disclosures, where the heterogeneity of reporting practices, industry contexts, and regulatory environments may contribute to varying outcomes.

Methodology

This systematic literature review examines the mediating role of disclosures in the correlation between ESG scores and firm value and profitability. A systematic literature review is appropriate for this study as it selects and evaluates all relevant empirical information on a specific subject (Bearman et al. 2012; Krnic Martinic et al. 2019; Pollock and Berge 2018a, b).

The systematic literature review (SLR) adhered to the PRISMA protocol, establishing criteria for identifying, screening, and incorporating pertinent records. PRISMA, an evidence-based framework, ensures the completeness, transparency, and scientific integrity of systematic reviews and meta-analyses (Moher et al. 2015). The PRISMA flow diagram guided the search procedure, and the subsequent sections detail the steps organized under data collection and analysis (refer to Fig. 1).

Software applications used in the systematic review.

Biblioshiny (Aria and Cuccurullo 2017), an online user interface for R software, merged datasets retrieved from Scopus and WoS. Descriptive statistics were then generated from the merged data.

Literature search strategy

We conducted systematic literature using Scopus and Web of Science databases. The data was retrieved on 15.12.2023. The search utilized a combination of keywords and phrases, such as "ESG scores", "Environmental, Social, and Governance scores", "firm value", "financial performance", "profitability", "stock performance", "corporate valuation", "disclosures", "reporting", "transparency" The search was further refined by applying inclusion and exclusion criteria to ensure the relevance and quality of the selected studies (see Table 1).

For this systematic review, we used a two-phase screening approach. In the initial phase, titles, keywords, and abstracts were evaluated to determine compatibility with the eligibility criteria. In the second phase, full-text articles deemed potentially relevant were carefully examined, and irrelevant articles were excluded from the search results.

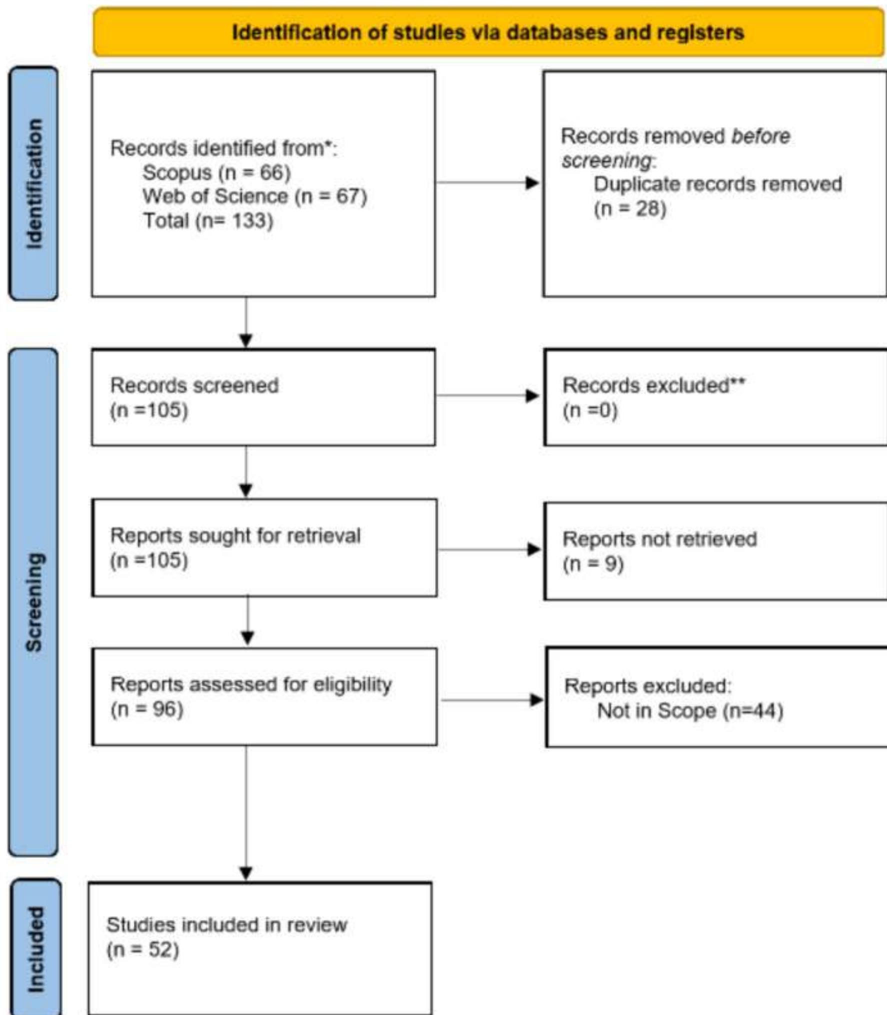

Fig. 1 PRÍSMA flow chart of the systematic review

Inclusion and exclusion criteria

This systematic review adheres to the most recent update of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, PRISMA 2020 (Page et al. 2021), to ensure transparency and methodological rigor throughout the selection process. This emphasis on transparency aligns with the approach taken in a recent paper by Shahid et al. (2024). Building upon existing knowledge, we employ a systematic review methodology to explore the impact of ESG disclosures on firm value and profitability across various

Table 1 Inclusion and Exclusion Criteria

	Criteria
Logical Statement Scopus	TITLE-ABS-KEY ((“ESG scores” OR “Environmental, Social, and Governance scores” OR “sustainability metrics” OR “sustainable finance” OR “social responsibility metrics” OR “ethical investment”) AND (“firm value” OR “financial performance” OR “profitability” OR “stock performance” OR “corporate valuation”) AND (“disclosures” OR “reporting” OR “transparency” OR “corporate governance” OR “sustainability reporting”)) AND (LIMIT-TO (LANGUAGE, “English”)) AND (LIMIT-TO (PUBSTAGE, “final”)) AND (LIMIT-TO (DOCTYPE, “ar”))
Logical Statement WoS	TS = ((“ESG scores” OR “Environmental, Social, and Governance scores” OR “sustainability metrics” OR “sustainable finance” OR “social responsibility metrics” OR “ethical investment”) AND (“firm value” OR “financial performance" OR "profitability" OR "stock performance” OR “corporate valuation”) AND (“disclosures” OR “reporting” OR “transparency” OR “corporate governance” OR “sustainability reporting”))
Inclusion	1. Published in English language (LIMIT-TO (LANGUAGE, “English”)) 2. Document Type: Articles (LIMIT-TO (DOCTYPE, “ar”)) 3. Publication Status: Final publications (LIMIT-TO (PUBSTAGE, “final”))
Exclusion	1. Documents not written in English 2. Not relevant to the research topic, based on the absence of the following keywords: [ESG scores, Environmental, Social, and Governance scores, sustainability metrics, sustainable finance, social responsibility metrics, ethical investment, firm value, financial performance, profitability, stock performance, corporate valuation, disclosures, reporting, transparency, corporate governance, sustainability reporting]

industries. This approach allows for a comprehensive assessment by considering quantitative and qualitative research designs.

We implemented a rigorous search strategy based on PRISMA guidelines to identify relevant studies. We included peer-reviewed articles and conference papers published in English that investigate the relationship between ESG disclosures and firm financial performance. We excluded grey literature (e.g., reports, dissertations, book chapters not part of edited volumes) and documents not published in English to maintain a focus on published, scholarly research directly relevant to our research question. Table 1 further details the specific eligibility criteria used for study selection.

Data extraction

Data extraction involved an examination of the selected studies to extract relevant information. Key data points included sector, methodology, geographical context (location) and key findings. The merged dataset initially comprised 133 documents, surpassing Scopus (66) and WoS (67), indicating a more comprehensive collection of publications in the combined data. After eliminating duplicates, 105 records remained, of which nine were inaccessible, resulting in 96 records for further

screening. Subsequently, 44 records were deemed out of scope and removed, leaving 52 records for subsequent analysis.

Results and analysis

In this section, the study findings are organized into three subtopics. First, a summary of the relevant studies is presented, showing the sectors, locations, methodology, and results (see Table 2). This is followed by examining publication trends, leading journals, the distribution of industries, and implications for ESG.

Summary of relevant studies

This systematic review analyzed and synthesized 52 studies across various sectors: banking and finance, airlines, energy, construction, manufacturing, agriculture, telecommunications, and retail. The studies spanned countries from all continents, encompassing developed, emerging, and developing economies, to provide a comprehensive and representative analysis (see Table 2).

Publication Trends

As shown in Fig. 2, the publication trends within the context of ESG research highlight the dynamic nature of sustainable finance. The notable increase in publications from 2018 to 2022 reflects heightened interest and awareness surrounding ESG-related issues.

The decline in publications and total citations in 2023 is likely due to a temporary lag or adjustment period in scholarly output, rather than a waning interest in ESG topics. This is because there is mounting pressure from regulators and governments for firms to transition to environmentally, socially, and economically sustainable practices on the back fall of UN Agenda 2030. The significant total citations of 219 in 2022 underscore the impact and relevance of ESG research, solidifying its importance in both academic and policy settings.

Distribution of industries in ESG based on included studies

Figure 3 shows the distribution of industries included in the study. The largest percentage (52%) of studies come from the category "Mixed (Listed Firms)". This could indicate a focus on companies listed on stock exchanges across various sectors. Banking and Finance (13%), Energy (11%), and Retail (4%) are the other sectors with a relatively high representation in the study. The banking and finance sector plays an important role in financing various businesses and has significant exposure to environmental and social risks. Sustainable finance practices and responsible investment considerations are also gaining traction, making ESG disclosures particularly relevant to this sector. On the other hand, the energy sector is undergoing a significant transformation due to concerns about climate change and the need for

Table 2 Summary of studies

Industry	Studies	Country	Methodology	Key Findings	No
Manufacturing	(Thimm and Rasmussen 2023)	China, Europe, Japan, and the United States	Descriptive statistical analyses and correlation analyses	Despite regional variations, all regions exhibit low levels of disclosure. Few Chinese companies have provided recent reports compared to their counterparts in Europe, Japan, and the US. Integrated reporting is less common in the US than in Europe and Japan. Correlation analyses suggest a weak to moderate link between disclosure scores and ESG Scores, with company age and financial performance showing no significant influence on disclosure level	1
Banking and Finance	(Daszyńska-żygadło et al. 2021)	Global	Regression analysis	Results confirm that environmental and social performance negatively affects corporate financial performance (CFP) in banks, while governance performance has a positive impact	2
	(Gunawan et al. 2022)	Indonesia	Machine learning	Financial statement metrics strongly predict ESG scores. Random Forest algorithm excels over regression, capturing nonlinear patterns. Disclosures vary yearly; economic disclosures prevail, while environmental disclosures lag	3

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(El Khoury et al. 2021)	Mena Region	Panel regression	Banks' ESG scores are negatively influenced by performance and positively by size. Economic development negatively affects environmental, social development positively affects ESG and governance	4
	(D'Amato et al. 2021)	17 countries in the European Union (	Machine Learning	Investors favour sustainable investments, relying on ESG ratings influencing stock returns. Financial statement metrics strongly predict ESG scores	5
	(Aras and Hacioglu Kazak 2022)	OECD countries	The study employs a multi-stage methodology	ESG materiality positively affects firm value via (price-to-book value ratio) PBV and Tobin's Q. Refinitiv data suggests materiality-adjusted ESG has more influence on firm value than extended ESG	6
	(Buallay et al. 2020)	MENA	Linear regression	ESG positively affects performance and shareholder benefits. Individual ESG disclosures vary; social performance inversely affects bank profitability and value	7

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Kolsi et al. 2023)	USA	Linear regression	Disaggregating ESG into environmental, social, and governance components, governance effectively mitigates earnings management (EM). The social pillar acts as a constraint through abnormal loan loss provisions. No evidence supports the environmental pillar's mitigation role	8
	(Brogi and Lagasio 2019)	USA	Multiple regression	Results reveal a positive correlation between ESG scores, precisely the environmental aspect, and profitability (ROA) within banking institutions	9
	(Cohen 2023)	USA	Multiple regression	The study reveals that S&P 500 firms' ESG scores dropped (2019–2021), indicating a growing risk focus. Interestingly, environmental risks didn't impact valuations, but social risks negatively affected returns. Traditional financial models like CAPM, while incorporating environmental and governance risks, miss social factors, highlighting the need for adaptation and a deeper understanding of ESG's role in firm valuations	10

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Wong et al. 2022)	Malaysia	Panel regression	Results reveal a positive correlation between a company's ESG performance and the duration of its presence in Bloomberg's ESG score. This implies that firms proactively improve their ESG practices following third-party ratings	11
Mixed (Listed Firms)	(Habermann 2021)	Germany	correlation and regression analysis	German Prime Standard firms benefit from improved CFP with social and governance pillar performance. However, CSP over-investment in the social pillar harms value	12
	(Al-Issa et al. 2022)	USA	Panel regression	Environmental focus alone doesn't significantly enhance firm value; societal engagement must be emphasized	13
	(Mans-Kemp and van der Lugt 2020)	South Africa	Mixed-model analysis of variance and panel regressions	A strong correlation was observed between elevated IRQ and heightened ESG performance, alongside increased earnings per share and greater leverage	14
	(Yip and Lee 2018)	Malaysia	Panel regression	Firms with higher ESG disclosure scores, particularly in environmental and governance dimensions, tend to have higher market valuations	15

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Aqabna et al. 2023)	MENA region	The random effect estimation (RE) method examines relationships, while GMM regression tests robustness and consistency	ESG scores positively impact ROA, even post-COVID. CSR has an insignificant positive effect on financial performance. ESG has little impact on ROE, but strongly influences Tobin's Q	16
	(Hasan et al. 2022)	India	Panel regression	ESG score positively correlates with Tobin's Q (market-based), but not with ROA (accounting-based) at a 5% significance level	17
	(Yoon et al. 2018)	Korea	Panel regression	Examines the impact of corporate social responsibility (CSR) on market value in Korea using ESG and results indicate a positive relationship with firm valuation, influenced by industry sensitivity and governance structures	18
	(Pham et al. 2021)	Sweden	Tobin's Q,	The research shows a positive link between corporate sustainability and financial performance, measured by earnings yield, ROA, ROE, and return on capital employed. However, the relationship with Tobin's Q is inconclusive	19

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Shaikh 2022)	17 Mixed countries	Descriptive and inductive statistical analysis	ESG compliance varies among regions and sectors, with European companies showing higher compliance. Differences exist between GRI and non-GRI companies in accounting performance and market valuations. Environmental factors significantly impact firm performance, while social aspects have a negative effect and governance positively influences operational efficiency	20
	(Oprean-Stan et al. 2020)	Europe	Multifactorial linear regressions,	effective management of ESG factors positively influences financial and market performance and contributes to sustainable corporate growth	21
	(Wong et al. 2022)	Malysia	Panel regression	firms improve ESG scores over time after being rated, indicating third-party ESG rating agencies foster corporate sustainability	22

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Białkowski and Sławik 2022)	New Zealand	Ordinary Least Squares (OLS) regression	The study investigates the association between ESG scores of New Zealand-listed companies and their stock performance during the COVID-19 pandemic. It reveals no evidence of a positive correlation between ESG scores and stock returns during the pandemic, despite the common acceptance of socially responsible investing in New Zealand	23
	(Alduais 2023)	China	Two-Stage Least Squares (2SLS) regression analysis	Findings reveal that environmental and social disclosures increase capital equity cost (COE), while governance disclosures don’t significantly impact it. Financially sound companies exhibit a stronger ESG-COE link, with strong ESG practices associated with lower capital costs, indicating rising investor appreciation for ESG	24

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Conway 2019)	South Africa	Ordinary least squares regressions	Since mandatory reporting inception, South African firms have experienced decreased financial performance and risk, alongside increased institutional shareholding. Better quality reports correlate with reduced financial performance and risk, higher institutional shareholding, and elevated ESG scores	25
	(Sharma et al. 2024)	34 stock markets	Machine learning	Firms with higher ESG scores demonstrate enhanced financial performance, yielding a 14% increase in return on equity. Additionally, the integration of ESG data into machine learning models enhances prediction accuracy	26
	(Parikh et al. 2023)	India	linear regression model	Positive impact of governance (G) on equity returns, while environmental (E) factors negatively affect returns, with social (S) factors showing insignificant impact	27
	(Sinha Ray and Goel 2023)	India	dynamic panel regression	While ESG scores influence financial metrics with time lags, a positive association exists between ESG disclosure and share prices in the long term	28

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Vinodkumar and Alarifi 2022)	Kingdom of Saudi Arabia	ESG analysis compares its current performance to the historical performance	Analyzing ESG scores in the Tadawul All Share Index (TASI), underscores the importance of ESG reporting for stakeholders, indicating its potential for risk-return trade-offs and sustainable development in Saudi Arabia	29
	(Bifulco et al. 2023)	Europe	Panel regression	The study examines ESG scores' impact on market values, it reveals a negative ESG-stock price link, with CSR committees showing no significant influence on ESG scores' market performance	30
	(Cerciello et al. 2023)	Europe	Dynamic panel model	The Euro Stoxx, 300 index results, suggest that sustainability practices reduce profitability, indicating potential strategic ESG disclosure involving overstated positive behaviors	31

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Fernando et al. 2022)	Asian Countries	Multiple linear regression	This study investigates the impact of ESG Disclosure on Firm Performance in ASEAN countries, before and after the introduction of integrated reporting (IR). The findings reveal an insignificant effect of ESG Disclosure on Firm Performance, but a positive relationship with IR, suggesting potential benefits for firms implementing IR	32
	(Yen-Yen 2019)	Malysia	Panel regression	Positive association between ESG disclosure performance and firm value. Additionally, the study suggests that ESG disclosure enhances superior investors' transparency and information processing abilities, impacting equity market valuation and reducing investment risk	33

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Minutolo et al. 2019)	Global	Panel regression	ESG scores are indicators of firms' strategic transparency choices, impacting performance measured by Tobin's Q and return on assets. results show significant performance differences moderated by firm size, revealing varying ESG influences on financial performance metrics	34
	(Cheng et al. 2023)	China	panel regression	The COVID-19 pandemic accelerated ESG investing, and the results show that disclosing ESG data boosts firm value, especially post-pandemic. Environmental scores notably affect values, while social and governance scores do not	
Food Industry	(Buallay 2022c)	31 different countries	Linear Regression	There is a significant relationship between ESG and financial performance (ROE). However, there is no significant relationship between ESG and operational performance (ROA) and market performance (TQ)	35

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
Utilities Sector	(Remo-Diez et al. 2023)	Worldwide	longitudinal fuzzy set qualitative comparative analysis (fsQCA)	Strong social performance and a lack of emphasis on environmental factors lead to high accounting-based metrics. In contrast, market-based indicators emphasize the importance of environmental and social dimensions for achieving high financial performance	36
Retail	(Buallay 2022b)	38 different countries	regression analysis	ESG has a significant correlation with financial performance (ROE), but not with operational performance (ROA) or market performance (TQ)	37
	(Lee et al. 2018)	Korea	ordinary least square	Higher ESG scores were associated with lower return on equity (ROE). The environmental score was found to have a negative impact on both ROE and Return on Assets (ROA). The effect of the social score was not conclusive, and the governance score was found to negatively influence Tobin's Q, (measure of a firm's market valuation)	38

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
Airline	(Abdi et al. 2022)	Worldwide	Panel regression	The study investigates the impact of ESG initiatives on financial performance (FP) and firm value in the airline industry. It reveals that ESG efforts affect market-to-book ratio and FP differently, with significant moderation effects of firm size	39
Health	(Kalia and Aggarwal 2023)	Worldwide	Multivariate regression	While ESG activities positively influence FP in developed healthcare companies, the relationship is either negative or insignificant in developing economies, emphasizing the contextual nuances in ESG impact	40
Agriculture	(Buallay 2022a)	Worldwide	regression analysis	There is no notable correlation between ESG and operational, financial, or market performance indicators. Surprisingly, when individual ESG components are examined separately, governance disclosure positively influences market performance	41

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
Energy	(Baran et al. 2022)	Poland	Comparative analysis of ESG performance against accounting measures: ROE, ROA, and ROS profitability indicators	The study finds no consistent pattern in the impact of ESG factors on financial performance across enterprises. Although some correlations exist between ESG scores and CFP, individual case studies vary significantly, possibly due to unique sector-specific characteristics	42
	(Zehir et al. 2023)	Istanbul, Turkey	Panel regression	Results indicate larger boards correlate with higher ROI and ROA, suggesting diverse, experienced boards improve financial performance. However, combining CEO and Chairman roles may lead to unfavourable financing preferences	43
	(Wieczorek-Kosmala et al. 2021)	European countries	Weighed least square (WLS) regression	Empirical evidence suggests a positive link between sustainable performance, measured by ESG scores, and financial returns, highlighting the significance of sustainability reporting in driving sustainable performance in the energy sector	44

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
	(Wanday and Ajour El Zein 2022)	Europe	SARIMA (seasonal autoregressive integrated moving average) model	A positive correlation exists between a company's ESG activities and investor returns, as firms investing in ESG activities often demonstrate higher financial performance	45
	(Behl et al. 2022)	India	Panel structural equation modeling	Assesses bidirectional causality and autoregression effects between ESG disclosures and firm value in Indian energy sector companies. Negative associations are observed in the first two lags, with a positive association in the final lag	46
	(Alhawaj et al. 2023)	Developed and Emerging countries	Regression analysis	ESG correlates significantly with operational performance (operation ratio) but not with financial performance (return on equity) or market performance (Tobin's Q)	47
Non-financial firms	(Özer et al. 2023)	Turkey	Panel regression	Results indicate a positive relationship between ESG scores and performance indicators, with environmental factors showing consistent positive effects while some social and governance sub-components lack statistical significance	48

Table 2 (continued)

Industry	Studies	Country	Methodology	Key Findings	No
Construction	(Siew et al. 2013)	Australia	Regression analysis	Most publicly listed construction companies exhibit low reporting levels. Those issuing non-financial reports generally outperform their counterparts in various financial ratios, although the correlation with ESG scores is weak	49
Telecommunications	(Buallay and Al Marri 2022)	Worldwide	Regression analysis	Results show an inverse relationship between ESG and market performance (TQ), yet no significant impact of ESG on operational (ROA) and financial performance (ROE) was found. A stronger link between ESG and ROA was reported in emerging economies than in developed ones	51
Tourism	(Buallay et al. 2022)	37 different countries	Panel regression	There is a significant link between ESG and operational and market performance but not with financial performance. Nonlinear models indicate an inverted U-shaped relationship between sustainability performance and profitability and valuation, highlighting complexities in the ESG-profitability nexus	52

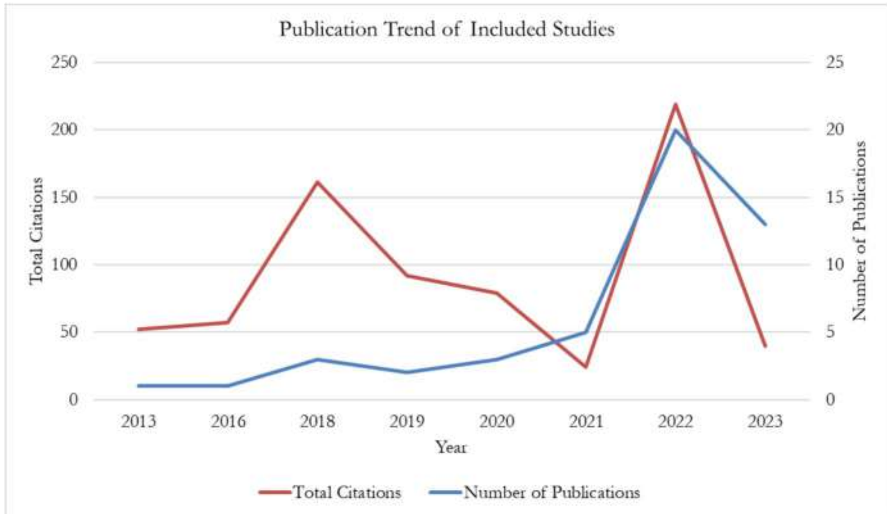

Fig. 2 Publication trends of the included studies

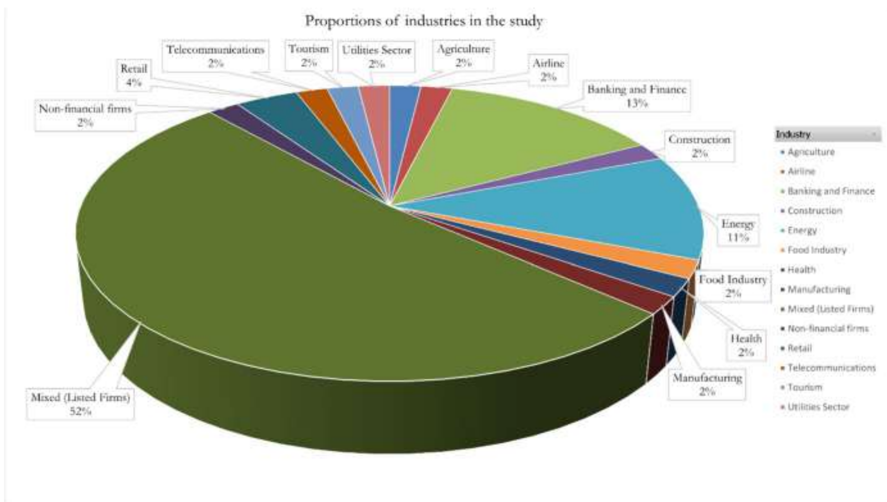

Fig. 3 Distribution of industries in the included studies

decarbonization of the energy systems. As a result, ESG considerations, such as carbon footprint and energy and industrial transition plans, are increasingly important for companies in the energy sector.

Top journal

Figure 4 presents the top 10 journals ranked by citations in ESG research and disclosures. "Sustainability" emerges as the most cited journal, with 174 citations, reflecting its significant impact in the domain. Other notable journals include Corporate Social Responsibility and Environmental Management with 114 citations, "Business Strategy and the Environment" with 73 citations, "Environment, Development, and Sustainability" with 68 citations, and "Annals of Operations Research" with 42 citations.

The top 10 journals presented in Fig. 4 cover a wide range of topics related to sustainable finance, corporate governance, environmental management, and social responsibility, highlighting the interdisciplinary nature of the ESG research agenda.

Discussion

This section presents a discussion based on a content analysis of the articles included in this systematic review. It focuses on answering the research questions outlined in the "Introduction".

Is there a quantifiable relationship between ESG scores and firm profitability when considering the mediating effect of disclosures?

The Banking and Finance industry studies found that environmental and social performance negatively affect corporate financial performance (Daszyńska-żygadło et al. 2021), while governance performance has a positive impact. Additionally, financial statement metrics predict ESG scores, and investors favor sustainable investments, relying on ESG ratings, which influence stock returns. ESG materiality positively affects firm value, and ESG positively affects performance, but social

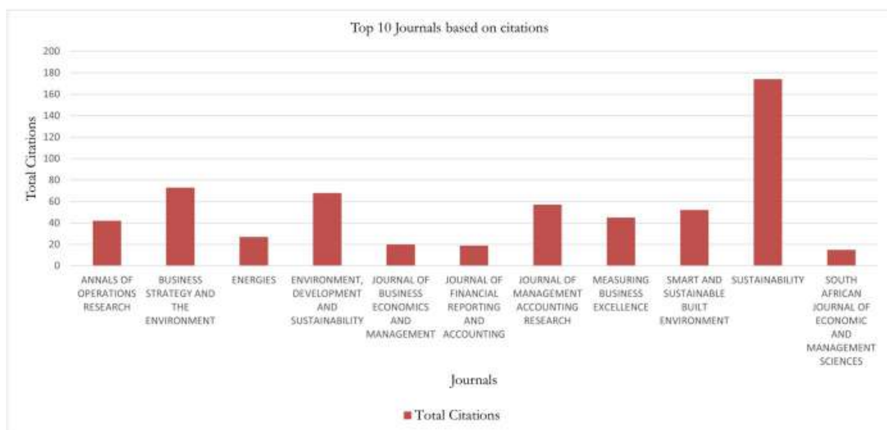

Fig. 4 Top 10 publishing journals based on the total citations of the included studies

performance negatively affects profitability. The study on the Food Industry by Buallay (2022c) found a significant positive relationship between ESG performance and financial performance (ROE), measured by return on equity. However, no significant connection was observed between ESG and operational performance (ROA), measured by return on assets, or market performance (TQ), measured by Tobin's *Q*. This suggests that while stronger ESG performance may lead to better financial results in the food industry, it doesn't necessarily translate to improved operational efficiency or market valuation.

In the retail industry, similar to the food industry, a positive connection exists between ESG and financial performance (ROE), but no significant impact is observed on operational or market performance. Interestingly, the Utilities Sector presents a contrasting picture where a strong social performance paired with a lesser focus on environmental factors leads to high accounting-based performance, while market-based indicators emphasize the criticality of both environmental and social aspects for achieving strong financial results (Remo-Diez et al. 2023). Further insights emerge when looking at specific sectors like Healthcare and Airlines. In Healthcare, the influence of ESG on financial performance is context dependent. Developed economies exhibit a positive link while developing ones show negative or insignificant correlations (Kalia and Aggarwal 2023). Similarly, in the Airline Industry, ESG initiatives impact market-to-book ratio and financial performance differently, with firm size moderating the relationship. Notably, the Agriculture sector stands out. There is no clear connection between overall ESG and performance, but interestingly, governance disclosure specifically shows a positive influence on market performance. Turning to the construction industry, Siew et al. (2013) identify limited non-financial reporting in construction firms. Companies issuing such reports demonstrate superior financial performance, although the association between financial metrics and ESG scores lacks a strong correlation.

These findings showcase the complexity and varied nature of the ESG-performance relationship across different industries. When interpreting these intricate relationships and their implications, it's crucial to consider specific industry characteristics and country factors.

How do variations in ESG disclosure quality and transparency impact stakeholder perceptions and trust in a company's sustainability efforts?

The variations in ESG disclosure quality and transparency impact stakeholders and/or shareholders differently. The impact may differ because of the differences in the methodology used and the industry considered. To shed light on the conundrum, several studies (e.g. Wanday et al., Shaikh) have been carried out for diverse industries. To answer the research question here, the several studies highlight five (5) key outcomes/themes summarized as follows:

1. Credibility and reliability: High-quality disclosures enhance a company's credibility and reliability in the eyes of stakeholders. When companies provide comprehensive and accurate information about their sustainability initiatives, stakehold-

ers are more likely to trust reported data and perceive the company as genuinely committed to sustainability. Shaikh (2022) highlights the need for robust corporate governance and increased transparency in the governance structure and board diversity to buttress this point. These would go a long way in ensuring sustainability and contribute positively to both a firm's operational efficiency and market valuation. However, the outcomes vary according to various disclosures. For instance, US firms provide better quality Sustainability Accounting Standards Board (SASB) disclosures, thus increasing firm values, whilst increased use of "boilerplate" disclosures leads to firm value declines. In fact, in the energy sector, Wieczorek-Kosmal et al. (2021) found sustainability reporting to be more prominent amongst the set of the so-called "sustainability-policy-oriented factors."

2. Risk Assessment: Transparent ESG disclosures enable stakeholders to better assess the company's sustainability risks and opportunities. By understanding the company's environmental, social, and governance practices, stakeholders can make more informed decisions regarding investment, partnerships, or engagement, fostering trust in the company's commitment to sustainability.
3. Accountability and Governance: Transparent ESG disclosures demonstrate a commitment to accountability and strong governance practices. When companies openly communicate their sustainability goals, progress, and challenges, stakeholders perceive them as accountable and responsible, which can foster trust and long-term relationships. Dzingai and Fakoya (2017) assert that board size and independence are critical factors affecting firm performance. Furthermore, the study insists that size matters as far as a board is concerned. For a firm's effective functioning and profitability, a board should be independent. Shaikh (2022) contributed to the debate by arguing that though environmental and social disclosure negatively affect firm performance, governance practice has a positive effect. Buallay et al (2020) bring in a different dimension by revealing that governance disclosure is more pronounced in banks from countries with a high GDP growth rate and high scores for good governance. On the contrary, the latter study asserts that a decline in MENA banks' performance due to improved ESG scores may explain why stakeholders are inclined to choose sustainability by foregoing part of their wealth.
4. Stakeholder Engagement: Transparent ESG disclosures encourage meaningful stakeholder engagement and dialogue. By openly sharing information about sustainability strategies, initiatives, and outcomes, companies can actively involve stakeholders in their sustainability journey, building trust through collaborative efforts and shared goals. Indeed, Buallay et al. (2020) reveals that investors in the MENA region pay a premium to induce firms to disclose a higher level of ESG, thus showing commitment to their stakeholders. Still, in the energy sector, Baran et al. (2022) asserts that firms may reinforce their credibility by providing various stakeholders (both shareholders and internal stakeholders) with all the required information. Additionally, the banking sector in the MENA region puts more emphasis on the social aspect, where banks strive to build a supportive social base that contributes to future sustainable business and governance issues.
5. Long-term value-creation: Companies that prioritize quality and transparency in ESG disclosures are often better positioned to create long-term sustainable value.

By addressing stakeholder concerns, demonstrating proactive management of ESG risks, and showcasing progress toward sustainability goals, companies can build trust and confidence in their ability to generate positive financial, environmental, and social outcomes over time. Wieczorek-Kosmala et al (2021) present evidence that stakeholders' pressure on firms to improve on transparency is a key driver to sustainability in the energy sector.

To what extent do regulatory frameworks affect the quality and impact of ESG disclosures, and how do these regulations shape the relationship between ESG scores and firm value/profitability?

Table 3 synthesizes findings from key studies investigating the influence of regulatory frameworks on ESG disclosures and their impact on firm value/profitability across diverse regions.

In Europe, the EU Directive on Non-Financial Reporting has consistently enhanced the quality and consistency of ESG disclosures, demonstrating a positive correlation with firm value/profitability (Baran et al. 2022; Bifulco et al. 2023; Cerciello et al. 2023; D'Amato et al. 2021; Habermann 2021; Mill 2006; Oprean-Stan et al. 2020; Özer et al. 2023; Popescu and Popescu 2019; Wieczorek-Kosmala et al. 2021; Zehir et al. 2023). This aligns with the notion that well-structured regulations drive improved disclosure practices, fostering a positive relationship between ESG metrics and financial performance. Conversely, studies in the United States (Al-Issa et al. 2022; Brogi and Lagasio 2019; Cohen 2023; Eng et al. 2022; Kolsi et al. 2023; Minutolo et al. 2019) reveal mixed outcomes under SEC Disclosure Requirements. While compliant firms exhibit heightened ESG disclosure quality, the impact on overall firm performance is constrained. This suggests that in the U.S., regulatory efforts may be more effective in influencing transparency rather than directly affecting financial outcomes.

Moving to the Asia–Pacific region, where national ESG reporting standards are emphasized, research indicates a positive association between adherence to these standards and firm value. Importantly, the quality of ESG disclosures plays a mediating role in strengthening this relationship, reinforcing the idea that not just adherence but the caliber of reporting contributes significantly to perceived firm value (Alduais 2023; Aqabna et al. 2023; Białkowski and Sławik 2022; Cheng et al. 2023; Fernando et al. 2022; Gunawan et al. 2022; Lee et al. 2018; Parikh et al. 2023; Siew et al. 2013; Sinha Ray and Goel 2023; Thomas et al. 2021; Yen-Yen 2019).

A global perspective, considering the Review of International Reporting Standards, indicates variability in regulatory impact. Regions with stringent reporting standards demonstrate a stronger correlation between ESG scores and profitability, while those with lax standards exhibit mixed results (Alhawaj et al. 2023; Aqabna et al. 2023; Buallay et al. 2021, 2022; Buallay 2022c; Buallay and Al Marri 2022; Conway 2019; El Khoury et al. 2021; Hasan et al. 2022; Remo-Diez et al. 2023; Saini et al. 2022; Shaikh 2022; Sharma et al. 2024; Thimm and Rasmussen 2023). This underscores the importance of regulatory stringency in shaping the relationship between ESG disclosures and financial outcomes on a global scale.

Table 3 ESG regulatory Framework across regions and associated outcomes

Studies/references	Region	Regulatory framework	Key findings
(Baran et al. 2022; Bifulco et al. 2023; Cerciello et al. 2023; D'Amato et al. 2021; Habermann 2021; Mill 2006; Oprean-Stan et al. 2020; Özer et al. 2023; Popescu and Popescu 2019; Wieczorek-Kosmala et al. 2021; Zehir et al. 2023)	Europe	EU Directive on Non-Financial Reporting	Improved quality and consistency in ESG disclosures due to regulatory requirements; Positive impact on the relationship between ESG scores and firm value/profitability
(Al-Issa et al. 2022; Brogi and Lagasio 2019; Cohen 2023; Eng et al. 2022; Kolsi et al. 2023; Minutolo et al. 2019)	United States	SEC Disclosure Requirements	Mixed results: Firms complying with SEC regulations show enhanced ESG disclosure quality, but limited impact on firm performance; Regulations may influence transparency rather than financial outcomes
(Alduais 2023; Aqabna et al. 2023; Białkowski and Sławik 2022; Cheng et al. 2023; Fernando et al. 2022; Gunawan et al. 2022; Lee et al. 2018; Parikh et al. 2023; Siew et al. 2013; Sinha Ray and Goel 2023; Thomas et al. 2021; Yen-Yen 2019)	Asia–Pacific	National ESG Reporting Standards	The positive association between adherence to national ESG reporting standards and firm value; Quality of disclosures mediates this relationship
(Alhawaj et al. 2023; Aqabna et al. 2023; Buallay et al. 2021, 2022; Buallay 2022c; Buallay and Al Marri 2022; Conway 2019; El Khoury et al. 2021; Hasan et al. 2022; Remo-Diez et al. 2023; Saini et al. 2022; Shaikh 2022; Sharma et al. 2024; Thimm and Rasmussen 2023)	Global	Review of International Reporting Standards	Variability in regulatory impact; Stronger correlation between ESG scores and profitability in regions with stringent reporting standards; Mixed results in regions with lax standards
(Buallay 2022d; Conway 2019; Dzingai and Fakoya 2017; Lee et al. 2018; Mans-Kemp and van der Lugt 2020; Vinodkumar and Alarifi 2022; Yoon et al. 2018)	Africa and Emerging Markets	Comparative Regulatory Analysis	Highlights the nuanced nature of the relationships, acknowledging both positive and negative impacts on various aspects of firm performance

Lastly, a comparative regulatory analysis reveals the nuanced nature of the relationships between regulatory frameworks and firm performance in emerging markets. This suggests that in these markets, the impact of regulations is context-dependent, acknowledging both positive and negative influences on various aspects of corporate performance (Buallay 2022d; Conway 2019; Dzingai and Fakoya 2017; Lee et al. 2018; Mans-Kemp and van der Lugt 2020; Vinodkumar and Alarifi 2022; Yoon et al. 2018).

The findings underscore the pivotal role of regulatory frameworks in shaping the dynamics between ESG disclosures and firm value/profitability, with nuances observed based on regional contexts and stringency levels. These insights contribute to the ongoing discourse on the effectiveness of ESG regulations in promoting sustainable practices and financial success.

Conclusion

On the global stage of international business, the interplay among ESG scores, disclosures, and corporate performance has emerged as a pressing concern. This study conducts a systematic review to examine the role of ESG disclosure in moderating the connection between ESG ratings and the value and profitability of firms. Our analysis reveals a multifaceted relationship highly influenced by industry dynamics and geographical considerations. Our findings support the proposition that governance disclosures positively correlate with market performance, thus highlighting their significance as a crucial determinant of transparent and effective corporate governance practices, ultimately contributing to firm value enhancement.

Based on the insights gained from the systematic review, firms should develop and incorporate context-specific ESG strategies aligned with their core business and stakeholder expectations. Secondly, they should ensure compliance with existing regulations while exploring proactive measures to exceed minimum requirements and enhance operational sustainability. Furthermore, firms should increase transparency and coverage of ESG disclosures by improving the quality of ESG reporting to enhance the company's value and build trust among investors and stakeholders. Additionally, firms could utilize established frameworks such as the GRI and the SASB to ensure consistency and comparability in reporting practices.

Policymakers can take two key steps to establish a functioning and transparent ESG landscape. Firstly, they can encourage high-quality ESG reporting by implementing regulations that require detailed disclosures on material ESG metrics relevant to specific industries. This approach should consider and build upon the existing international reporting framework. Secondly, policymakers can promote uniformity by supporting the development and adoption of standardized ESG reporting practices. This fosters meaningful comparisons across firms and industries, enhancing trust and clarity for investors and stakeholders. Finally, investors should actively integrate ESG disclosures into their decision-making processes. Recognizing the link between strong ESG performance and long-term value, coupled with reduced risk, it's crucial to pay close attention to these disclosures.

However, several gaps remain that warrant further investigation. Future research should explore the longitudinal effects of ESG disclosures on firm performance to determine whether the observed benefits are sustained over time. Moreover, there is a need to examine the role of regulatory frameworks in different regions to understand how varying enforcement and guidelines impact the efficacy of ESG disclosures. Another promising area for future studies is the exploration of the specific mechanisms through which different components of ESG—environmental, social, and governance—individually and collectively influence financial outcomes. Lastly, more granular research focusing on small and medium-sized enterprises (SMEs) and their ESG practices could provide insights into how smaller firms can leverage ESG disclosures to enhance their competitiveness and financial performance.

By addressing these gaps, future research can provide a more comprehensive understanding of the nuanced relationship between ESG practices and firm performance, guiding policymakers and corporate leaders to promote sustainable business practices. It is essential to acknowledge the limitations of this study, including the dynamic nature of methodologies and sectors, which may pose challenges to generalization. Future research endeavors should focus on longitudinal studies to establish causality between ESG practices, disclosures, and performance while closely monitoring the evolving regulatory landscape, as changes in ESG reporting requirements could significantly influence the dynamics under examination.

Author contributions Phemelo Tamasiga: conceptualization, methodology, screening of relevant studies to be included in the systematic review, results analysis, and visualization and submission of the manuscript. Helen Onyeaka: conceptualization, screening of relevant studies, introduction, supervision, and writing and revision of the first draft and writing of the final draft. Malebogo Bakwena: screening of relevant studies, discussion and conclusion. El houssin Ouassou: screening of relevant studies, reference citations, writing and revision of first draft and final version.

Funding This study did not receive any funding.

Data availability All data supporting the findings, discussions, and conclusions is contained in the manuscript.

Declarations

Conflict of interest The authors confirm the absence of competing interests.

Ethical approval This study does not require ethical approval.

Consent to participate The authors confirm the accuracy of all data and findings utilized in this study, and consent to participation.

Consent to publish The authors consent to publishing personally identifiable information in the journal.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission

directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Abdi Y, Li X, Càmara-Turull X (2022) Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance (FP) in airline industry: the moderating role of size and age. Environ Dev Sustain 24(4):5052–5079. https://doi.org/10.1007/s10668-021-01649-w. (**Springer Science and Business Media B.V.**)

Aboud A, Diab A (2018) The impact of social, environmental and corporate governance disclosures on firm value: evidence from Egypt. J Account Emerg Econ 8(4):442–458. https://doi.org/10.1108/JAEE-08-2017-0079

Ademi B, Klungseth NJ (2022) Does it pay to deliver superior ESG performance? Evidence from US S&P 500 companies. J Glob Respon 13(4):421–449. https://doi.org/10.1108/JGR-01-2022-0006

Alduais F (2023) Unravelling the intertwined nexus of firm performance, ESG practices, and capital cost in the Chinese business landscape. Cogent Econ Fin 11(2):2254589. https://doi.org/10.1080/23322039.2023.2254589

Alhawaj A, Buallay A, Abdallah W (2023) Sustainability reporting and energy sectorial performance: developed and emerging economies. Int J Energy Sector Manag 17(4):739–760. https://doi.org/10.1108/IJESM-10-2020-0020. (**Emerald Publishing**)

Al-Issa N, Khaki AR, Jreisat A, Al-Mohamad S, Fahl D, Limani E (2022) Impact of environmental, social, governance, and corporate social responsibility factors on firm's marketing expenses and firm value: a panel study of US companies. In: Cogent Business and Management (vol. 9, issue 1). Cogent OA. https://doi.org/10.1080/23311975.2022.2135214

Alsayegh MF, Abdul Rahman R, Homayoun S (2020a) Corporate economic, environmental, and social sustainability performance transformation through ESG disclosure. Sustainability 12(9):9. https://doi.org/10.3390/su12093910

Alsayegh M, Rahman R, Homayoun S (2020b) Corporate economic, environmental, and social sustainability performance transformation through ESG disclosure. Sustainability 12:3910. https://doi.org/10.3390/su12093910

Aouadi A, Marsat S (2018) Do ESG controversies matter for firm value? Evidence from international data. J Bus Ethics 151:1027–1047. https://doi.org/10.1007/S10551-016-3213-8

Aqabna SM, Aga M, Jabari HN (2023) Firm performance, corporate social responsibility and the impact of earnings management during COVID-19: evidence from MENA region. In: Sustainability (Switzerland) (vol. 15, issue 2). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/su15021485

Aras G, Hacioglu Kazak E (2022) Enhancing firm value through the lens of ESG materiality: evidence from the banking sector in OECD countries. Sustain (Switzerl) 14(22):1. https://doi.org/10.3390/su142215302. (**MDPI**)

Aria M, Cuccurullo C (2017) bibliometrix: an R-tool for comprehensive science mapping analysis. J Inform 11(4):959–975. https://doi.org/10.1016/j.joi.2017.08.007

Aydoğmuş M, Gülay G, Ergun K (2022) Impact of ESG performance on firm value and profitability. Borsa Istanbul Rev 22:S119–S127. https://doi.org/10.1016/j.bir.2022.11.006

Baran M, Kuźniarska A, Makieła ZJ, Sławik A, Stuss MM (2022) Does ESG Reporting relate to corporate financial performance in the context of the energy sector transformation? Evidence from Poland. In: Energies (vol. 15, issue 2). MDPI. https://doi.org/10.3390/en15020477

Bearman M, Smith CD, Carbone A, Slade S, Baik C, Hughes-Warrington M, Neumann DL (2012) Systematic review methodology in higher education. High Educ Res Dev 31(5):625–640. https://doi.org/10.1080/07294360.2012.702735

Behl A, Kumari PSR, Makhija H, Sharma D (2022) Exploring the relationship of ESG score and firm value using cross-lagged panel analyses: case of the Indian energy sector. Ann Oper Res 313(1):231–256. https://doi.org/10.1007/s10479-021-04189-8. (**Springer**)

Bhattacharya S, Sharma D (2019) Do environment, social and governance performance impact credit ratings: a study from India. Int J Ethics Syst 35(3):466–484. https://doi.org/10.1108/IJOES-09-2018-0130

Białkowski J, Sławik A (2022) Does companies' ESG performance make a difference for New Zealand's stock market investors during the COVID-19 pandemic? Sustain (Switzerl) 14(23):1. https://doi.org/10.3390/su142315841. (**MDPI**)

Bifulco GM, Savio R, Paolone F, Tiscini R (2023) The CSR committee as moderator for the ESG score and market value. Corp Soc Respons Environ Manag 30(6):3231–3241. https://doi.org/10.1002/csr.2549

Brogi M, Lagasio V (2019) Environmental, social, and governance and company profitability: are financial intermediaries different? Corpor Soc Respon Environ Manag 26(3):576–587. https://doi.org/10.1002/csr.1704. (**John Wiley and Sons Ltd**)

Buallay A, Al Marri M (2022) Sustainability disclosure and its impact on telecommunication and information technology sectors' performance: worldwide evidence. Int J Emerg Serv 11(3):379–395. https://doi.org/10.1108/IJES-08-2021-0054. (**Emerald Publishing**)

Buallay A, Fadel SM, Al-Ajmi JY, Saudagaran S (2020) Sustainability reporting and performance of MENA banks: is there a trade-off? Measur Bus Excell 24(2):197–221. https://doi.org/10.1108/MBE-09-2018-0078. (**Emerald Group Holdings Ltd**)

Buallay A, El Khoury R, Hamdan A (2021) Sustainability reporting in smart cities: a multidimensional performance measures. In: Cities (vol. 119). Elsevier Ltd. https://doi.org/10.1016/j.cities.2021.103397

Buallay A (2022a) Sustainability reporting and agriculture industries' performance: worldwide evidence. J Agribus Dev Emerg Econ 12(5):769–790. https://doi.org/10.1108/JADEE-10-2020-0247. (**Emerald Publishing**)

Buallay A (2022b) Sustainability reporting and retail sector performance: worldwide evidence. Int Rev Retail Distrib Consumer Res 32(3):311–330. https://doi.org/10.1080/09593969.2022.2048410. (**Routledge**)

Buallay A (2022c) Sustainability reporting in food industry: an innovative tool for enhancing financial performance. Br Food J 124(6):1939–1958. https://doi.org/10.1108/BFJ-01-2021-0053. (**Emerald Group Holdings Ltd**)

Buallay A (2022d) Toward sustainability reporting in the MENA region: the effects on sector's performance. Manag Fin 48(8):1137–1155. https://doi.org/10.1108/MF-09-2021-0422. (**Emerald Group Holdings Ltd**)

Buallay A, Al-Ajmi J, Barone E (2022) Sustainability engagement's impact on tourism sector performance: linear and nonlinear models. J Organiz Change Manag 35(2):361–384. https://doi.org/10.1108/JOCM-10-2020-0308. (**Emerald Group Holdings Ltd**)

Cerciello M, Busato F, Taddeo S (2023) The effect of sustainable business practices on profitability. Accounting for strategic disclosure. Corpor Soc Respons Environ Manag 30(2):802–819. https://doi.org/10.1002/csr.2389. (**John Wiley and Sons Ltd**)

Chauhan Y, Kumar SB (2019) The value relevance of nonfinancial disclosure: evidence from foreign equity investment. J Multinatl Financ Manag 52–53:100595. https://doi.org/10.1016/j.mulfin.2019.100595

Cheng R, Kim H, Ryu D (2023) ESG performance and firm value in the Chinese market. Invest Anal J. https://doi.org/10.1080/10293523.2023.2218124

Chouaibi S, Affes H (2021) The effect of social and ethical practices on environmental disclosure: evidence from an international ESG data. Corpor Gov Int J Bus Soc 21(7):1293–1317. https://doi.org/10.1108/CG-03-2020-0087

Cohen G (2023) The impact of ESG risks on corporate value. Rev Quant Fin Account 60(4):1451–1468. https://doi.org/10.1007/s11156-023-01135-6. (**Springer**)

Conway E (2019) Quantitative impacts of mandatory integrated reporting. J Fin Report Account 17(4):604–634. https://doi.org/10.1108/JFRA-08-2018-0066. (**Emerald Group Publishing Ltd**)

D'Amato V, D'Ecclesia R, Levantesi S (2021) Fundamental ratios as predictors of ESG scores: a machine learning approach. Decis Econ Fin 44(2):1087–1110. https://doi.org/10.1007/s10203-021-00364-5. (**Springer Science and Business Media Deutschland GmbH**)

Daszyńska-Żygadło K, Słoński T, Dziadkowiec A (2021) Corporate social performance and financial performance relationship in banks: sub-industry and cross-cultural perspective. J Bus Econ Manag 22(2):424–444. https://doi.org/10.3846/jbem.2020.13892. (**VGTU**)

Dzingai I, Fakoya MB (2017) Effect of corporate governance structure on the financial performance of johannesburg stock exchange (JSE)-listed mining firms. Sustain (Switzerl). https://doi.org/10.3390/su9060867

Eng LL, Fikru M, Vichitsarawong T (2022) Comparing the informativeness of sustainability disclosures versus ESG disclosure ratings. Sustain Account Manag Policy J 13(2):494–518. https://doi.org/10.1108/SAMPJ-03-2021-0095. (**Emerald Group Holdings Ltd**)

Evans JR, Peiris D (2010) The relationship between environmental social governance factors and stock returns (SSRN Scholarly Paper 1725077). https://doi.org/10.2139/ssrn.1725077

Fernando K, Nurcholifah S, Pulunga AH (2022) Disclosure of environmental, social, and governance on firm performance pre and post introduction of integrated reporting: evidence from ASEAN countries. Int J Energy Econ Policy 12(6):377–382. https://doi.org/10.32479/ijeep.13561. (**Econjournals**)

Gunawan J, Permatasari P, Sharma U (2022) Exploring sustainability and green banking disclosures: a study of banking sector. Environ Dev Sustain 24(9):11153–11194. https://doi.org/10.1007/s10668-021-01901-3

Habermann F (2021) Corporate social performance and over-investment: evidence from Germany. J Global Respon 12(3):347–363. https://doi.org/10.1108/JGR-11-2020-0095. (**Emerald Group Holdings Ltd**)

Hasan I, Singh S, Kashiramka S (2022) Does corporate social responsibility disclosure impact firm performance? An industry-wise analysis of Indian firms. Environ Dev Sustain 24(8):10141–10181. https://doi.org/10.1007/s10668-021-01859-2. (**Springer Science and Business Media B.V.**)

Helfaya A, Morris R, Aboud A (2023) Investigating the factors that determine the ESG disclosure practices in Europe. Sustainability 15(6):6. https://doi.org/10.3390/su15065508

Hnyp N, Kolomiiets D (2023) Analysis of the influence of factors regarding the formation of enterprise profit and methods of its optimization. Financ Credit Syst Prospect Dev. https://doi.org/10.26565/2786-4995-2023-3-0

Kalia D, Aggarwal D (2023) Examining impact of ESG score on financial performance of healthcare companies. J Glob Respons 14(1):155–176. https://doi.org/10.1108/JGR-05-2022-0045. (**Emerald Publishing**)

El Khoury R, Nasrallah N, Alareeni B (2021) The determinants of ESG in the banking sector of MENA region: a trend or necessity? Compet Rev Int Bus J 33(1):7–29. https://doi.org/10.1108/CR-09-2021-0118

Kim S, Li Z (2021) Understanding the impact of ESG practices in corporate finance. Sustainability. https://doi.org/10.3390/SU13073746

Kolsi MC, Al-Hiyari A, Hussainey K (2023) Does environmental, social, and governance performance mitigate earnings management practices? Evidence from US commercial banks. Environ Sci Pollut Res 30(8):20386–20401. https://doi.org/10.1007/s11356-022-23616-2

KrnicMartinic M, Pieper D, Glatt A, Puljak L (2019) Definition of a systematic review used in overviews of systematic reviews, meta-epidemiological studies and textbooks. BMC Med Res Methodol 19(1):203. https://doi.org/10.1186/s12874-019-0855-0

Lee J-H, Kang Y-S, Kim S-S (2018) Corporate social responsibility and financial performance in Korean retail firms. J Distrib Sci 16(5):31–43. https://doi.org/10.15722/jds.16.5.201805.31. (**Korea Distribution Science Association (KODISA)**)

Li T-T, Wang K, Sueyoshi T, Wang DD (2021) ESG: research progress and future prospects. Sustainability 13(21):21. https://doi.org/10.3390/su132111663

Lokuwaduge CSDS, Heenetigala K (2017) Integrating environmental, social and governance (ESG) disclosure for a sustainable development: an Australian study. Bus Strateg Environ 26(4):438–450. https://doi.org/10.1002/bse.1927

Manita R, Bruna MG, Dang R, Houanti L (2018) Board gender diversity and ESG disclosure: evidence from the USA. J Appl Acc Res 19(2):206–224. https://doi.org/10.1108/JAAR-01-2017-0024

Mans-Kemp N, van der Lugt CT (2020) Linking integrated reporting quality with sustainability performance and financial performance in South Africa. South Afr J Econ Manag Sci 23(1):1–11. https://doi.org/10.4102/sajems.v23i1.3572. (**AOSIS (pty) Ltd**)

Mill GA (2006) The financial performance of a socially responsible investment over time and a possible link with corporate social responsibility. J Bus Ethics 63(2):131–148. https://doi.org/10.1007/s10551-005-2410-7

Minutolo MC, Kristjanpoller WD, Stakeley J (2019) Exploring environmental, social, and governance disclosure effects on the S&P 500 financial performance. Bus Strat Environ 28(6):1083–1095. https://doi.org/10.1002/bse.2303. (**John Wiley and Sons Ltd**)

Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart LA, PRISMA-P Group (2015) Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. Syst Rev 4(1):1. https://doi.org/10.1186/2046-4053-4-1

Novy-Marx R (2013) The other side of value: the gross profitability premium. J Financ Econ 108:1–28. https://doi.org/10.1016/J.JFINECO.2013.01.003

Oprean-Stan C, Oncioiu I, Iuga IC, Stan S (2020) Impact of sustainability reporting and inadequate management of esg factors on corporate performance and sustainable growth. Sustain (Switzerl) 12(20):1–31. https://doi.org/10.3390/su12208536

Özer G, Aktaş N, Çam İ (2023) Environmental, social, and governance (ESG) scores and financial performance of publicly listed companies in Turkey. Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilimler Dergisi 18(2):2. https://doi.org/10.17153/oguiibf.1239759

Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, Moher D (2021) The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. https://doi.org/10.1136/bmj.n71

Parikh A, Kumari D, Johann M, Mladenović D (2023) The impact of environmental, social and governance score on shareholder wealth: a new dimension in investment philosophy. Clean Respons Consump 8:100101. https://doi.org/10.1016/j.clrc.2023.100101

Pham DC, Do TNA, Doan TN, Nguyen TXH, Pham TKY (2021) The impact of sustainability practices on financial performance: empirical evidence from Sweden. Cogent Bus Manag 8(1):1912526. https://doi.org/10.1080/23311975.2021.1912526

Pollock A, Berge E (2018a) How to do a systematic review. Int J Stroke 13(2):138–156. https://doi.org/10.1177/1747493017743796

Pollock A, Berge E (2018b) How to do a systematic review. Int J Stroke 13:138–156. https://doi.org/10.1177/1747493017743796

Popescu CRG, Popescu GN (2019) An exploratory study based on a questionnaire concerning green and sustainable finance, corporate social responsibility, and performance: evidence from the Romanian business environment. J Risk Fin Manag 12(4):4. https://doi.org/10.3390/jrfm12040162

Remo-Diez N, Mendaña-Cuervo C, Arenas-Parra M (2023) Exploring the asymmetric impact of sustainability reporting on financial performance in the utilities sector: a longitudinal comparative analysis. Utilit Policy 84:101650. https://doi.org/10.1016/j.jup.2023.101650

Saini N, Antil A, Gunasekaran A, Malik K, Balakumar S (2022) Environment-social-governance disclosures nexus between financial performance: a sustainable value chain approach. In: Resources, Conservation and Recycling (vol. 186). Elsevier B.V. https://doi.org/10.1016/j.resconrec.2022.106571

Sciarelli M, Cosimato S, Landi G, Iandolo F (2021) Socially responsible investment strategies for the transition towards sustainable development: the importance of integrating and communicating ESG. TQM J 33(7):39–56. https://doi.org/10.1108/TQM-08-2020-0180

Shahid MK, Khin AA, Seong LC, Shahbaz M, Ahmad F (2024) Mapping the relationship of research and development expenditures and economic growth through bibliometric analysis: a theoretical perspective. J Knowl Econ. https://doi.org/10.1007/s13132-024-01781-8

Shaikh I (2022) Environmental, social, and governance (ESG) practice and firm performance: an international evidence. J Bus Econ Manag 23(1):1. https://doi.org/10.3846/jbem.2022.16202

Sharma U, Gupta A, Gupta SK (2024) The pertinence of incorporating ESG ratings to make investment decisions: a quantitative analysis using machine learning. J Sustain Fin Invest 14(1):184–198. https://doi.org/10.1080/20430795.2021.2013151

Siew RYJ, Balatbat MCA, Carmichael DG (2013) The relationship between sustainability practices and financial performance of construction companies. Smart Sustain Built Environ 2(1):6–27. https://doi.org/10.1108/20466091311325827

Sila I, Cek K (2017) The impact of environmental, social and governance dimensions of corporate social responsibility on economic performance: Australian evidence. Proc Computer Sci 120:797–804. https://doi.org/10.1016/j.procs.2017.11.310

Sinha Ray R, Goel S (2023) Impact of ESG score on financial performance of Indian firms: static and dynamic panel regression analyses. Appl Econ 55(15):1742–1755. https://doi.org/10.1080/00036846.2022.2101611. (**Routledge**)

Smith C (2011) Systematic reviews and meta-analyses. J Canad Acad Child Adolesc Psychiatry 26:271–273. https://doi.org/10.1258/phleb.2011.011j04

Taliento M, Favino C, Netti A (2019) Impact of environmental, social, and governance information on economic performance: evidence of a corporate 'sustainability advantage' from Europe. Sustain (Switzerl). https://doi.org/10.3390/su11061738

Tambunan S (2023) Analysis of Tobin's Q, market to book value of equity and profitability (ROA), on asset growth in property companies on the Indonesia stock exchange (IDX). Ilomata Int J Tax Acc. https://doi.org/10.52728/ijtc.v4i3.755

Thimm H, Rasmussen KB (2023) A multi-perspective exploration of the environmental website disclosure in global manufacturing. Bus Strategy Environ 32(4):1719–1738. https://doi.org/10.1002/bse.3214. (**John Wiley and Sons Ltd**)

Thomas CJ, Tuyon J, Matahir H, Dixit S (2021) The impact of sustainability practices on firm financial performance: evidence from Malaysia. Manag Account Rev 20(3):211–243 (**Universiti Teknologi Mara**)

Tranfield D, Denyer D, Smart P (2003) Towards a methodology for developing evidence-informed management knowledge by means of systematic review. Br J Manag 14:207–222. https://doi.org/10.1111/1467-8551.00375

Tsang A, Frost T, Cao H (2023) Environmental, social, and governance (ESG) disclosure: a literature review. Br Account Rev 55(1):101149. https://doi.org/10.1016/j.bar.2022.101149

Utz S (2019) Corporate scandals and the reliability of ESG assessments: evidence from an international sample. RMS 13(2):483–511. https://doi.org/10.1007/s11846-017-0256-x

Varma S (2023) A study on profitability performance of selected private sector banks in India. Res Rev Int J Multidiscip. https://doi.org/10.31305/rrijm.2023.v08.n04.018

Vinodkumar N, Alarifi G (2022) Environmental social governance: a core value to responsible stakeholders and stock market sustainability in the Kingdom of Saudi Arabia. J Sustain Fin Investment 12(4):1085–1101. https://doi.org/10.1080/20430795.2020.1827602

Wanday J, Ajour El Zein S (2022) Higher expected returns for investors in the energy sector in Europe using an ESG strategy. Front Environ Sci. https://doi.org/10.3389/fenvs.2022.1031827. (**Frontiers Media S.A.**)

Wieczorek-Kosmala M, Marquardt D, Kurpanik J (2021) Drivers of sustainable performance in European energy sector. Energies 14(21):7055. https://doi.org/10.3390/en14217055. (**MDPI**)

Wong WC, Ahmad AH, Mohamed-Arshad SB, Nordin S, Adzis AA (2022) Environmental, social and governance performance: continuous improvement matters. Malays J Econ Stud 59(1):1

Yen-Yen Y (2019) The value relevance of esg disclosure performance in influencing the role of structured warrants in firm value creation; [Strategie różnorodności: Problemy zarządzania praktykami i perspekcje w prywatnych organizacjach]. In: Polish Journal of Management Studies (Vol. 20, Issue 1, pp. 468–477). Czestochowa University of Technology. https://doi.org/10.17512/pjms.2019.20.1.40

Yip YY, Lee HH (2018) Does ESG disclosure create value to firms? The Malaysian case. J Soc Sci Res 6:515–521. https://doi.org/10.32861/jssr.spi6.515.521. (**Academic Research Publishing Group**)

Yoon B, Lee JH, Byun R (2018) Does ESG performance enhance firm value? Evidence from Korea. Sustain (Switzerl). https://doi.org/10.3390/su10103635. (**MDPI**)

Zehir C, Özyeşil M, Borodin A, Aktürk EB, Faedfar S, Çikrikçi M (2023) Corporate governance's impact on sustainable finance: an analysis of Borsa istanbul energy sector companies. Energies. https://doi.org/10.3390/en16145250. (**Multidisciplinary Digital Publishing Institute (MDPI)**)

Zhou G, Liu L, Luo S (2022) Sustainable development, ESG performance and company market value: mediating effect of financial performance. Bus Strat Environ. https://doi.org/10.1002/bse.3089

Authors and Affiliations

Phemelo Tamasiga[1] · Helen Onyeaka[2] · Malebogo Bakwena[3] · El houssin Ouassou[4]

✉ Helen Onyeaka
H.Onyeaka@bham.ac.uk

Phemelo Tamasiga
phemelo.tamasiga@gmail.com

1 German Institute of Development and Sustainability, Bonn, Germany

2 Birmingham Institute of Sustainability and Climate Action, University of Birmingham, Birmingham, UK

3 Department of Economics, University of Botswana, Gaborone, Botswana

4 Laboratory of Applied Economics (LAE), Mohammed V University in Rabat, Rabat, Morocco