IMPACT OF ESG PRACTICES AND INTELLECTUAL CAPITAL ON COMPETITIVENESS AND INTERNATIONALIZATION: A SYSTEMATIC LITERATURE REVIEW

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OPEN ACCESS

How to cite this paper: Yan, H., Ong, S. T., & Ruza, N. B. (2025). Impact of ESG practices and intellectual capital on competitiveness and internationalization: A systematic literature review [Special issue]. *Corporate Governance and Sustainability Review, 9*(3), 297–308. https://doi.org/10.22495/cgsrv9i3sip10

ISSN Online: 2519-898X
ISSN Print: 2519-8971

Received: 20.02.2025
Revised: 11.06.2025; 10.10.2025
Accepted: 20.10.2025

JEL Classification: F23, L25, M14, O34
DOI: 10.22495/cgsrv9i3sip10

Abstract

This paper investigates the role played by environmental, social, and governance (ESG) practice, together with intellectual and human capital, to improve firm competitiveness and influence the level of internationalization. As per Ng et al. (2020), in the contemporary global economy, ESG frameworks serve as reputational assets as well as strategic tools to assist companies in controlling the financial and regulatory risks while positioning in line with international normative standards. Following the PRISMA method, 44 peer-refereed papers published from 2019 to 2024 were systematically reviewed using the systematic literature review (SLR) on JSTOR and Science Direct databases. The results show that strong ESG performance contributes to market reputation, risk resilience, and financial stability. Moreover, strategic investments in human and intellectual capital expand the potential of a company to innovate and obtain useful resources from the global market. Thus, firms that can integrate compliance with ESG principles and sound management of capital are usually more likely to achieve sustainable growth. The study adds to the growing literature on responsible competitiveness and insights for policy makers, corporate strategy makers, and international investors interested in negotiating the intersection of sustainable and worldwide corporate strategy.

Keywords: ESG, Firm Capital, Competitiveness, Internationalization

Authors' individual contribution: Conceptualization — H.Y., S.T.O., and N.B.R.; Methodology — H.Y. and S.T.O.; Writing – Original Draft — H.Y. and N.B.R.; Investigation — S.T.O. and N.B.R.; Funding — H.Y.; Resources — H.Y. and S.T.O.; Supervision — S.T.O.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

In the contemporary world, firms are facing increased pressures to maximize financial performance while simultaneously trying to align their goals with society's expectations and environmental initiatives. Therefore, a substantial proportion of existing literature has examined either of the two: environmental, social, and governance (ESG) practices or intellectual and human capital. The studies have considered them in isolation as they both posit separate contributors to a firm's performance. The interaction of ESG and firm capital has become a point of attention. It shapes research on how firms gain a competitive advantage and internationalize in the wake of an increasingly globalized world. What is more, the value of being sustainability-minded has only served to heighten this playground. No longer are ESG practices a simple moral value. Instead, now they have become integral considerations while formulating firm strategies. Further, ESG activities and firm capital are essential in facilitating innovation, growth, and world market incorporation (Tang et al., 2022). Note that the latter includes intellectual, human, and financial resources. All these collectively enhance firm operations. This exists in regard to exploring synergistic effects of ESG practices and capital that a firm possesses, and their collective impact on competitiveness and internationalization. This is especially evident via the lens of comparative and empirical studies. This paper thus aims to examine the dual role played by ESG practices and firm capital. The study will explore the combined impact of these variables on the competitiveness quotient of the firm and simultaneously analyze the effect on internationalization. The adopted method to support this analysis is the systematic literature review (SLR) methodology.

The aim of this study is to investigate the dual role that is played by ESG practices alongside intellectual or perhaps human capital. It will examine how these components enhance the competitive position that a firm holds. It will also determine firms' ability to expand across the world.

Therefore, the research questions that will be answered include:

RQ1: How do ESG practices influence the competitiveness and internationalization of firms?

RQ2: What exact role does firm capital play in this entire process?

For these questions, the focus will be on intellectual and human capital. Lastly, the paper will also answer where ESG practices and firm capital exert a compounded effect when they are applied in tandem. The study will draw richly from a conceptual framework that is integrated in the theory of strategic management (Adinolfi et al., 2025). It will combine elements from institutional theory as well as the resource-based view (RBV). This is primarily because ESG practices are seen both as external mechanisms that seek legitimacy, plus they are also seen as strategic assets that work internally. In this context, intellectual and human capital are framed as core resources that drive innovation, adaptability, and performance in the long term.

The relevance of this research, along with its significance, is actually two-fold. The research contributes to a relatively more holistic understanding of how firms can leverage sustainability. It also analyzes how firms use assets that are knowledge-based to build competitive advantages in the global market. The insights concern designing narrative frameworks that aim to align ethical business practices with resource management in a strategic manner. Moreover, as discussed earlier, the study will employ a systematic literature review (SRL) approach that follows the PRISMA framework. The study has successfully shortlisted 44 journal articles that are peer-reviewed. Additionally, note that these papers were chosen from JSTOR and Science Direct. This was done using rigorous screening criteria such that academic quality and relevance can be ensured. It was found that ESG practices significantly enhance the competitiveness of the firms. The channels that they use to do the same include reputation, resilience and innovation. At the same time, investments in intellectual and human capital also support adaptability across markets as well as their integration into the global scenario. Moreover, the key contribution that this study makes is that it demonstrates that firms integrate their compliance with ESG with strategies that manage capital.

The structure of this paper is as follows. Section 2, which is the literature review section, provides a comprehensive review of existing studies that are relevant to the research conducted. Section 3 focuses on the research methodology. It details how an SLR is conducted with the help of PRISMA. Section 4 discusses the results of the research. It points out how ESG and capital strategies have been categorized and how they influence firm-level outcomes across different contexts and sectors. Section 5 explored the key findings, which also encompass the synergistic effects, policy implications, and strategic insights. Section 6 summarizes the contributions of the study, addresses its limitations, and suggests different avenues for future research.

2. LITERATURE REVIEW

Firms that excel in ESG practices benefit from enhanced reputational capital and trust from the stakeholders. This, in turn, translates into a significant competitive edge over the rest of their rivals. Therefore, having a good performance in ESG reduces market risks. It further enhances financial stability, which positions the firms as attractive options to invest in (Lopez-de-Silanes et al., 2019). Furthermore, governance practices that are linked with ESG have successfully improved the decision-making and innovation capabilities of the firms. These practices include factors such as increased diversity in the board of directors and incentives that are primarily focused on sustainability (Katmon et al., 2019; Garsaa & Paulet, 2022). Yet again, these tend to provide firms with a competitive advantage that they demand. This, in turn, gives an edge to those firms that operate in carbon-intensive industries. In the same context, firms that have high ESG ratings have also shown the ability to build resilience, as illustrated by Breuillot (2021). This being said, Ibrahimi et al. (2021) provided empirical evidence to support this. They studied firms listed in Morocco to provide evidence that ESG performance significantly enhances financial flexibility, but their evidence was quite compelling. They also have a healthier profile of their leverage, which allows them to absorb shocks and act with increased agility in terms of strategies. Thus, those findings underline how the ESG practices play a strategic role in emerging markets, especially Morocco. It aligns the firm's ethics and also realizes financial and competitive advantages. They efficiently protect themselves from financial shocks and focus on fostering innovative solutions at the same time. Most firms aim to counter environmental and social challenges from a broader perspective.

Additionally, a critical resource for enhancing innovation is firm capital. This factor, which includes intellectual as well as human capital, is crucial for sustaining relevance in the market for all firms. On the other hand, human capital further amplifies the competitiveness of the firms (Gutierrez-Huerter et al., 2020). This kind of capital predominantly encompasses investments in diversity and the development of skills among those working in the firm. This demonstrates the significance of firm capital. In fact, as posited by

Uzhegova et al. (2019), leveraging firm capital through network competitiveness has also allowed firms to enter new markets. They have simultaneously improved stakeholder engagement. The idea is to build external partnerships and collaborate across borders to increase credibility and reach for the firms. Moreover, Ghose et al. (2025) found that strong ESG mechanisms are directly correlated with high disclosure about intellectual capital from firms across several companies that have been listed in Europe. Firms that are driven by ESG are perhaps more likely to report their assets based on knowledge and their metrics of innovation more strategically. This, in turn, suggests a deliberate alignment between factors such as transparency, deployment of resources, and government practices that are sustainable.

ESG practices can be integrated into the internationalization strategy of firms to mitigate obstacles. Some of these obstacles include liability of foreignness and divergences in regulations. In this regard, companies that have strong ESG disclosures are to be targeted for investing across borders. They basically align themselves with standards of international sustainability, which in turn fosters ideas of trust, credibility, and legitimacy in foreign markets (Rezaee & Tuo, 2019; Rodgers et al., 2019). Moreover, initiatives that are driven by ESG, such as green innovation, usually enable firms to align with global environmental regulations. This facilitates smooth entry into those markets that are environmentally conscious (Leyva-de la Hiz et al., 2019). Firms that skillfully integrate ESG compliance into their respective supply chains are usually able to build better and stronger collaborations (Liu et al., 2024). They also expand their reach in the global markets. The state-owned enterprises (SOEs), for instance, use their firm capital and ESG integration to enhance global production aspirations (Tang et al., 2022). This helps them in creating an economic advantage for their own country. However, analysis of big data is usually insufficient to drive innovation and increase global reach (Namasivayam et al., 2025). Therefore, it is also important to carry on internal creation of value with the help of mechanisms such as the sharing of knowledge and aligning business with information technology (IT).

A combination of ESG measures with corporate capital should likewise produce synergetic benefits for firms. The effects of the benefits are magnified within themselves. Firms that can do a good job with intellectual capital and financial capital can receive a multiplier effect. As green innovation in the form of a firm's capital is included in product differentiation, more conformity is provided for international standards (Liu et al., 2024). The result is increased global presence. This further exacerbates their operational footprint in the global scenario. Thus, using both ESG principles and capital utilization is actually imperative to establish strong corporate strategies. It will help in ensuring resilience and adaptability when it comes to the global business landscape, which is constantly evolving. Additionally, when digital technologies are integrated into the reporting of ESG practices, they emerge as a critical avenue that enhances credibility and also promotes trust among stakeholders. In this context, Mohammad (2025) showed how blockchain technology can revolutionize the reporting of corporate social responsibility (CSR). It basically ensures data records that are immutable, transparent, and cannot be tampered with. This mitigates risks of greenwashing significantly and also ensures no selective disclosures, which often undermine traditional reporting of ESG. Thus, the nature of blockchain, which is decentralized, actually allows multiple stakeholders to access and verify disclosures related to sustainability. These make corporate practices more and more accountable and also traceable. Thus, this technological reinforcement of ESG helps in boosting the legitimacy of firms across international markets. This is true in arenas wherein there is high regulatory compliance and high scrutiny from stakeholders.

3. RESEARCH METHODOLOGY

The SLR for this study was conducted using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) framework. The process consists of four stages: identification, screening, eligibility, and inclusion. The sources chosen to extract the articles include JSTOR and ScienceDirect. The rest of the details have been mentioned below.

3.1. Identification

The search began by identifying relevant articles using certain specific criteria for inclusion. The chosen time span was 2019 to 2024 to include the latest contributions to literature. The inclusion criteria have been stated as follows:

- Articles must be journal articles or research articles.
- The publication language must be English.

The above criteria were common to both sources. However, for ScienceDirect, a few additional criteria were used to be more thorough with the screening and choose articles that were comprehensive and discoverable; these have been mentioned below:

- Article must be relevant to economics, econometrics, or finance.
- The articles must have open access.

A keyword search was conducted in this regard, specific keywords searched, and the number of entries found across each database is shown in Table 1. Keywords such as ESG practices, firm capital, competitiveness, internationalization, and other related terms were combined using the Boolean operator AND. A total of 1286 records were discovered, out of which 676 articles were from JSTOR and the remaining 610 were from ScienceDirect. The specific break of the number of records found for each combination of keywords used has been provided in Table 1. The distribution of studies found from JSTOR is given in Figure 1, and that of ScienceDirect is given in Figure 2. A number of duplicate records were found, which had to be screened. After removing duplicates, the number of records remaining was 400 from JSTOR and 434 from ScienceDirect. The number was quite overwhelming. However, the use of Zotero made the process swift and precise.

Table 1. Keyword combinations and record counts by source

Keyword combinations	*JSTOR*	*ScienceDirect*
ESG Practices AND Firm Capital AND Firm Competitiveness	73	193
Sustainability AND Firm Capital AND Internationalization	270	163
Firm Capital AND ESG Practices AND Cross Border Trade	66	2
ESG Practices AND Firm Capital AND Global Market Entry	57	33
Best Practices AND ESG Practices AND Firm Capital	210	219
Total	676	610
After removing duplicates	400	434

Source: Authors' elaboration.

Figure 1. Distribution of the studies: JSTOR

Source: Authors' elaboration.

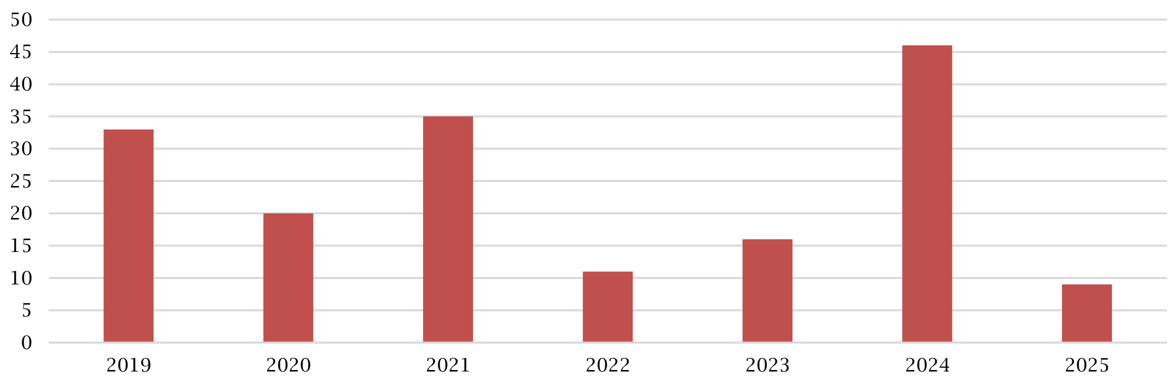
Figure 2. Distribution of the studies: ScienceDirect

Source: Authors' elaboration.

3.2. Title and abstract screening

The next step in PRISMA included a title and abstract screening of the identified articles, both using tags from Zotero as well as manual screening to ensure robust screening results. During this process, all irrelevant articles were excluded, which primarily included those that do not remotely answer the research question of this study. Post screening, a total of 172 articles were shortlisted. Ninety-two were from JSTOR, and the remaining 80 were from ScienceDirect. Some manual errors were corrected as two studies from JSTOR were published in 2017, a year that was not included in the scope of this study. Hence, the total number of articles came down to 170. The year-wise distribution of these articles is shown in Figure 3. Interestingly, the maximum number of studies, 46 precisely, were published in 2024. The year in which the need for ESG reforms became more apparent. The minimum number of studies was published in 2022, as the total was 11.

Figure 3. Year-wise distribution of the studies after title and abstract screening



Source: Authors' elaboration.

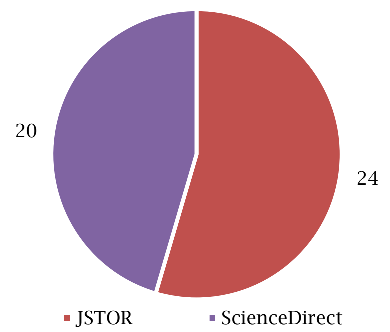
3.3. Eligibility

The next step involved a full-text review of all 170 articles, which was conducted over a period of about two months, with 20 hours of work per week. This review basically evaluated if the studies explicitly address the relationship between ESG practices, firm capital, competitiveness, and internationalization. Only articles that met this particular criterion were included in the final list.

3.4. Inclusion

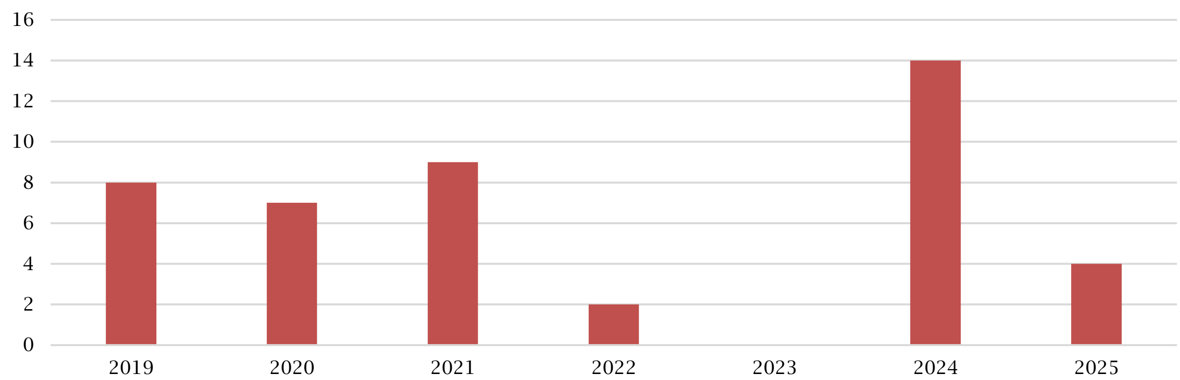
The final screening resulted in an overall shortlisting of a total of 44 articles. These studies formed the basis of the SLR. The distribution of the final shortlisted studies from each source is shown in Figure 4. A total of 24 studies were extracted from JSTOR, and the remaining 20 were from ScienceDirect. Additionally, the year-wise distribution of the final shortlisted studies has also been shown in Figure 5. Yet again, the maximum number of studies was found to be published in 2024, whereas all studies from 2022 were excluded due to irrelevance. The selected articles covered a diverse range of metrics such as ESG scores, intellectual and human capital efficiency, governance indicators, and firm innovation. The list of these metrics is provided in Table 2. This ensures a comprehensive analysis.

Figure 4. Distribution of the final shortlisted studies



Source: Authors' elaboration.

Figure 5. Year-wise distribution of the final shortlisted studies



Source: Authors' elaboration.

Table 2. Metrics analyzed across the shortlisted studies (Part 1)

Article	***Measurement/Metric***
Mohanty et al. (2021)	Alpha, Beta, Sharpe ratio, factor risk analysis
Grewal et al. (2021)	Stock price synchronicity, SASB material disclosures
Breuillot (2021)	Diversity attributes: surface-level (e.g., age, gender, cultural origins) and deep-level (e.g., experience, knowledge) diversity; perspectives on diversity management (resistance, access and legitimacy, learning)
Bohnsack et al. (2021)	Location-bound vs. non-location-bound FSAs; recombination barriers
Gutierrez-Huerter et al. (2020)	Types of translation: filtering, coupling, repurposing; barriers and enablers of translation
Papanastassiou et al. (2020)	Asset-exploiting, asset-seeking, and asset-augmenting strategies; Network-like R&D models; Location-specific factors
Alger et al. (2021)	Voluntary sustainability standards; CSR initiatives; fuel efficiency and emissions benchmarks
Kubíčková and Chudá (2021)	High-quality human resources, cutting-edge technologies, customer satisfaction, and stable operations
Uzhegova et al. (2019)	Network competence, CSR practices, and competitive performance metrics
Puthusserry et al. (2020)	Internal and external knowledge sources; learning approaches (experiential, vicarious, congenital)
Rodgers et al. (2019)	Corporate political activity (CPA) and CSR strategies; legitimacy in turbulent institutional contexts
Leyva-de la Hiz et al. (2019)	Technological intensity, environmental, and innovation institutional profiles
Katmon et al. (2019)	Diversity metrics: gender, education, tenure, age, nationality, ethnicity
Garsaa and Paulet (2022)	ESG disclosure score, employee turnover rates, mandatory vs. voluntary reporting
Lopez-de-Silanes et al. (2019)	Bloomberg ESG disclosure scores; Sustainalytics ESG rankings
Derchi et al. (2020)	CSR-linked pay duration, CSR governance systems (reports, audits, committees)
Ng et al. (2020)	Financial Development Index (depth, access, efficiency); ESG scores (Bloomberg)
Clementino and Perkins (2021)	ESG rating conformity vs. resistance; Fourfold typology: passive/active conformity, passive/active resistance
Khan (2019)	Composite ESG score, governance score, shareholder orientation, and institutional strength
Hasan et al. (2025)	CSR scores (Refinitiv ASSET4); profit-shifting measures based on low-tax subsidiaries
Özcan (2019)	ESG scores (Bloomberg); board size; independent directors; financial indicators (profitability, leverage, tangibility)

Table 2. Metrics analyzed across the shortlisted studies (Part 2)

Article	*Measurement/Metric*
Rezaee and Tuo (2019)	Quantity and quality of ESG disclosures (GRI guidelines); Innate and discretionary earnings quality
Krueger et al. (2020)	Climate risk perceptions, regulatory risk analysis, and carbon footprint assessments
Vincent and Yusuff (2020)	Corporate environmental performance (CEP); financial performance (ROE, market-to-book ratio)
Csapi et al. (2024)	ESG scores; Leverage deviation from golden ratio targets
Marie et al. (2024)	ESG performance metrics (environmental, social, governance); financial metrics (ROE, ROA, Tobin's Q)
Feng et al. (2025)	ESG ratings (CSI), supply chain resilience, firm size, patent counts
Bagh et al. (2024)	ESG performance (ESGP), growth option value (GV), firm value (Tobin's Q)
Choi et al. (2024)	ESG scores (Refinitiv); Altman's Z-score for stability
Lin et al. (2025)	ESG scores (CNRDS), alliance types (equity vs. contractual), and partner characteristics
Lin and Li (2024)	Supply chain resilience score, ESG composite score (CSI), and revenue growth rate
Song (2024)	ESG ratings (Huazheng); human capital efficiency (investment/profit ratio)
Lin (2024)	ESG ratings (Huazheng); sustainable growth rate (SGR); firm risk, agency cost metrics
Michalski and Low (2024)	ESG components: environmental innovation, emissions, resource use, CSR, workforce determinants
Subhani et al. (2025)	ESG investment, financial sector depth, and debt-to-total assets ratio
Liu et al. (2024)	Radical and progressive green innovation; ESG scores (Huazheng)
Mohammad and Wasiuzzaman (2021)	ESG disclosure scores, Tobin's Q, resource-based competitive advantage
Pham et al. (2024)	ESG scores (environmental, social, governance); intellectual capital proxies (HCP, ICP, CCP, VAIC)
Talan et al. (2024)	Holistic value addition (HVA) framework, stakeholder satisfaction metrics
Falavigna et al. (2024)	Export/import intensity; financial constraints (credit rating, trade credit, bank debt)
Tang et al. (2022)	Foreign direct investment (FDI), greenfield investments, acquisitions, resource access, and market knowledge
Pata et al. (2024)	MSCI Europe ESG Leaders Index, Transition and Physical Risk Indices (TRI, PRI), EU ETS
Díaz et al. (2024)	Prospect theory value (PTV), ESG scores, risk-adjusted returns
Ali et al. (2024)	Morningstar ESG ratings, Transition Risk Index (TRI), Physical Risk Index (PRI), fund flow sensitivity

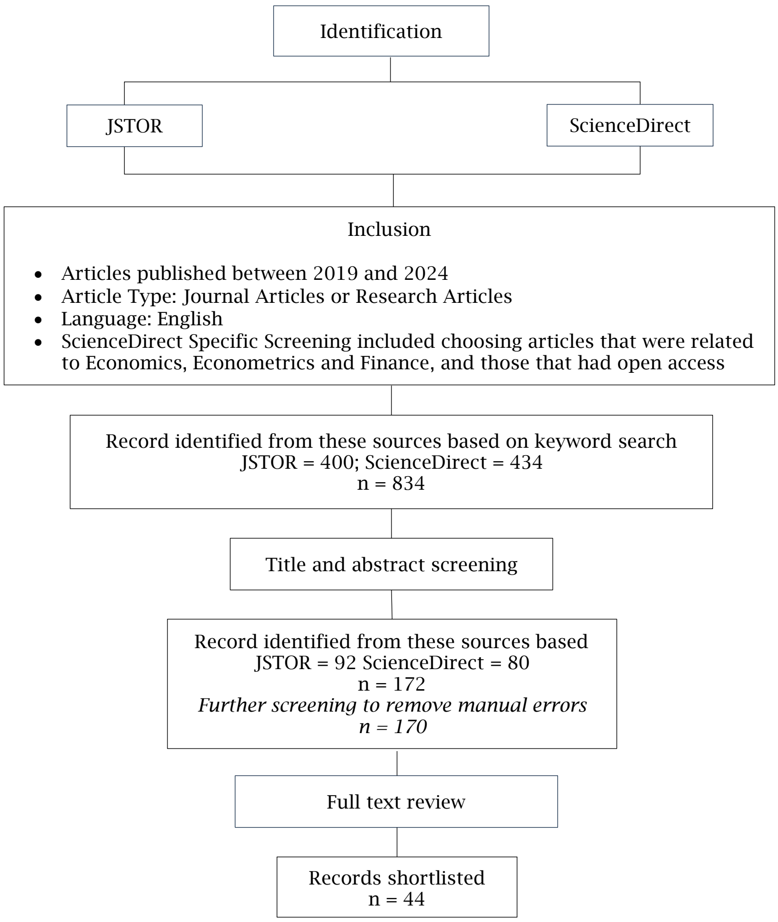
Source: Authors' elaboration.

3.5. Data extraction and synthesis

Key information from each shortlisted study was extracted. These insights were tabulated as presented in Table A.1, in the Appendix. The findings were then synthesized to highlight patterns. Also, please note how the PRISMA framework ensures transparency, reproducibility, and rigor of the study. The result is therefore a robust foundation for analyzing the relationship between the corresponding variables of the study alongside their dual impact.

Figure 6 provides an easy description of the process.

Figure 6. PRISMA description



Source: Authors' elaboration.

4. RESULTS

The review that was conducted found several critical insights into the realms of how ESG practices and firm capital affect or perhaps increase the competitiveness and internationalization of firms. They do so through the channels of innovation, transparency, and trust among the stakeholders. For instance, high ESG ratings improve risk management alongside financial stability, which in turn enables firms to build strong reputations and adapt better to market demands (Mohanty et al., 2021; Khan, 2019). Additionally, ESG disclosures that are robust, align with international sustainability standards, attract investors, and reduce volatilities in the market (Garsaa & Paulet, 2022; Clementino & Perkins, 2021). Moreover, firm capital in the form of intellectual and human capital plays a vital role in strengthening competitiveness and internationalization. This, in turn, enables them to gain competitive advantages via diffusion of knowledge and technological advancements (Pham et al., 2024; Papanastassiou et al., 2020) via innovation channels. On similar lines, human capital efficiency, which has been increased with the help of ESG practices, improves productivity and fosters cross-border collaborations (Song, 2024).

However, the impact of ESG practices and firm capital does not manifest in isolation; instead, they always occur in conjunction with other factors. These factors have multidimensional effects and sometimes manifest as synergistic effects. Strategic alliances that are ESG-driven help firms overcome barriers in global markets, whereas green innovation allows them to adhere to governance norms (Lin et al., 2025; Liu et al., 2024). For example, as suggested by Leyva-de la Hiz et al. (2019), green technology improves corporate reputation and lowers the cost of compliance. It is good for smooth internationalization. Additionally, according to Tang et al. (2022), companies are more likely to receive FDI if they have strong governance and sustainability approaches. They also promote international co-operation and thus overall international market presence. Therefore, ESG business systems and a company's capital often complement each other and support corporate competitive advantages. They will help to spur innovation, minimize risk, and gain the confidence of stakeholders. The combined effects of these factors allow internationalization as they align operations with global sustainability standards. They simultaneously address market-specific challenges as well (Bagh et al., 2024; Lopez-de-Silanes et al., 2019). The shortlisted articles and the respective findings from them are provided in Table A.1, in the Appendix. This table explains the comprehension done above regarding the impact of ESG and firm capital on firm competitiveness and internationalization.

5. DISCUSSION

The role of ESG as a strategic framework for fostering resilience and adaptability became very clear with the review. So much so that it was established as a central theme of the paper. Not only in the domestic context but in the global one as well. ESG enhances financial resilience (Subhani et al., 2025). It moderates the impact of debt constraints, especially in developed financial systems. This bears testimony to the fact that ESG initiatives are imperative for financial stabilization as well. This extends their impact beyond the common notion of resilience and includes various aspects of sustainability into the equation. Moreover, green innovation also emerges as a critical factor. It aligns firms with global environmental regulations while simultaneously reducing operational costs. In this regard, Liu et al. (2024) demonstrate how progressive green innovation enhances the performance of ESG indicators. It basically facilitates internationalization seamlessly while simultaneously enabling firms to meet the stringent standards of global sustainability. Therefore, there is a link between the corresponding components that underscores a dynamic interplay between firm capital and ESG practices. It also highlights the collective role that they play when it comes to achieving relevance in the context of the global economy. Furthermore, it emphasizes the role that is played by intellectual capital in terms of amplifying the strategies that are integrated with ESG. This being said, it was Pham et al. (2024) who found that ESG practices increase the strength of intellectual capital. Our findings practically confirm this inference put forth by them. It fosters innovation and reputation and increases the efficiency of human capital. Therefore, these synergies drive competitiveness. Firms will then be able to navigate international markets with increased confidence and resourcefulness. On the other hand, those studies that focused specifically on governance-related practices underscore the significance of strategic alliances in the execution of ESG and how financial constraints are mitigated by these alliances. They also expand the firm's capability to innovate and improve operational efficiency as well. Overall, most firms that use these alliances can increase their competitiveness and foster collaborations across the border, thereby highlighting the impact the ESG-driven initiatives have on the world.

6. CONCLUSION

This study emphasizes the need to complement ESG efforts with firm capital for a competitive advantage. This work highlights the necessity of bridging ESG efforts and firm capital in order to gain a competitive advantage and internationalization. Firms that practice embedded ESG strategies with open reporting, green innovation, and better relations with stakeholders are assumed to be in a better position to engender trust, to respond to risks, and to adapt to changes in the marketplace over time. With the right allocation of resources, including intellectual, human, and financial capital, these practices offer a powerful opportunity for a sustainable future. One of the most common ESG practices is green innovation. Therefore, if environmental challenges are addressed relative to other firms, then costs for the firm in question can be reduced. This would better their reputation in the global market and simultaneously respond to the expectations of sustainability and innovative solutions. Thus, green innovation is posited as a very important strategy that helps firms in maintaining a competitive edge in the international scenario. In this context, businesses that mold ESG practices with investment in management of smart capital tend to fare better when it comes to addressing global challenges. These, in turn, help firms attract better foreign investors and also positions them better to ensure long-term success.

As sustainability emerges as a key driver of success in the current economy, ESG practices must become part of every business's strategy. Thoroughly balanced with respect to their industry, such as green practices & innovation, implementation of these with appropriate resource usage, companies can sustain performance and relevance in a modernizing world. There are some limitations of this study. This study completely relies on existing literature. However, studies are often known to be biased as they focus primarily on ensuring the significance of the results. They might not cater to the actual interpretations obtained via analysis and instead depend on manipulated data. These significantly biased estimates reduce the credibility of studies. Moreover, most studies focus on an aggregate set of industries, which causes them to overlook certain sectoral or geographic variations which are critical. In particular, future research can advance even further by performing longitudinal studies to understand how such firms evolve over time, and how their competitiveness and internationalization. An is affected both by their ESG practices and through their use of firm capital. Going more in-depth into some individual industries or SMEs might provide more. Lastly, future studies should also focus on the exploration of modern trends un ESG practices that include digital practices such as blockchain, artificial intelligence (AI) and machine learning (ML). This type of an exploration may reveal new pathways that lead firms toward success in the global context.

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APPENDIX

Table A.1. Shortlisted studies and findings from them (Part 1)

Article	*Measurement/Metric*	*Impact on competitiveness*	*Impact on internationalization*
Mohanty et al. (2021)	Alpha, Beta, Sharpe ratio, factor risk analysis	High ESG-rated firms demonstrate lower systematic risk, enhanced transparency, and a higher alpha in equity markets, which boosts competitiveness.	Larger firms adhering to ESG principles mitigate market shocks, thus better aligning with global market practices and strategies.
Grewal et al. (2021)	Stock Price Synchronicity, SASB material disclosures	Enhances firm-specific information in stock prices, aiding price discovery and competitive positioning.	Improved price discovery from material disclosures helps attract institutional investors globally, aiding cross-border investments.
Breuillot (2021)	Diversity attributes: surface-level (e.g., age, gender, cultural origins) and deep-level (e.g., experience, knowledge) diversity; perspectives on diversity management (resistance, access and legitimacy, learning)	Diversity can act as a negative, ordinary, or strategic resource depending on management. Strategic diversity management enhances innovation, resourcefulness, and firm adaptability.	Proper diversity management aids transition between internationalization phases and supports sustainable global growth. Lack of management hinders firm progress.
Bohnsack et al. (2021)	Location-bound vs. non-location-bound FSAs; recombination barriers	Business models act as firm-specific advantages (FSAs), enhancing adaptability and value creation across borders.	Effective BMSA recombination enables firms to overcome location-specific barriers and expand internationally.
Gutierrez-Huerter et al. (2020)	Types of translation: filtering, coupling, repurposing; barriers and enablers of translation	Effective translation aligns CSR practices to local contexts, enhancing relevance and acceptance within subsidiaries.	Enables smoother adaptation of HQ-initiated practices to subsidiary contexts, supporting global consistency and effectiveness.
Papanastassiou et al. (2020)	Asset-exploiting, asset-seeking, and asset-augmenting strategies; network-like R&D models; location-specific factors	Enhances innovation capacity by leveraging global knowledge networks and addressing diverse market demands.	Facilitates adaptation and integration of R&D across geographies, enabling global knowledge diffusion and innovation.
Alger et al. (2021)	Voluntary sustainability standards; CSR initiatives; fuel efficiency and emissions benchmarks	Enhances competitiveness for large firms like Maersk by using sustainability to consolidate market power.	Enables stronger global positioning by aligning operations with international environmental standards and regulations.
Kubíčková and Chudá (2021)	High-quality human resources, cutting-edge technologies, customer satisfaction, and stable operations	Enhances competitiveness through innovation, product quality, and effective management of resources and relationships.	Supports international market entry through adaptability, robust product portfolios, and strong customer-supplier relationships.
Uzhegova et al. (2019)	Network competence, CSR practices, competitive performance metrics	CSR mediates the relationship between network competence and competitive performance in SMEs, enhancing adaptability.	CSR, driven by network competence, supports international market success by enabling better stakeholder engagement and resource utilization.
Puthusserry et al. (2020)	Internal and external knowledge sources; learning approaches (experiential, vicarious, congenital)	Enhances firm adaptability, innovation, and ability to meet international market demands	Facilitates geographic and product diversification through network-enabled learning.
Rodgers et al. (2019)	Corporate political activity (CPA) and CSR strategies; legitimacy in turbulent institutional contexts	Strengthens competitiveness by enhancing legitimacy and navigating institutional voids through CSR and CPA	Facilitates international operations in weak institutional contexts by mitigating risks and liabilities of foreignness.
Leyva-de la Hiz et al. (2019)	Technological intensity, environmental and innovation institutional profiles	Green innovation strengthens firm reputation and mitigates risks, enhancing competitiveness in diverse markets.	Enables firms from institutionally weak countries to overcome legitimacy barriers in international markets.
Katmon et al. (2019)	Diversity metrics: gender, education, tenure, age, nationality, ethnicity	Board diversity enhances governance, decision-making, and CSR, which improves firm reputation and competitiveness.	Improved CSR disclosures align with global expectations, facilitating international stakeholder engagement and legitimacy.
Garsaa and Paulet (2022)	ESG disclosure score, employee turnover rates, mandatory vs. voluntary reporting	Improved ESG transparency reduces employee turnover, enhancing organizational stability and operational efficiency	Better ESG practices and reporting support global reputation and stakeholder trust, facilitating international operations.
Lopez-de-Silanes et al. (2019)	Bloomberg ESG disclosure scores; Sustainalytics ESG rankings	Higher ESG disclosure reduces volatility and enhances firm stability, aiding competitive positioning.	Strong ESG performance aligns firms with global sustainability standards, improving international investor confidence.
Derchi et al. (2020)	CSR-linked pay duration, CSR governance systems (reports, audits, committees)	Enhances firm performance by improving CSR outcomes through effective learning and long-term incentives.	Aligns firms with global sustainability standards, increasing stakeholder trust and cross-border appeal.
Ng et al. (2020)	Financial Development Index (depth, access, efficiency); ESG scores (Bloomberg)	Enhances competitiveness by enabling investments in green technologies and improving social and governance practices.	Improves alignment with global sustainability standards, attracting foreign investments and facilitating trade.

Table A.1. Shortlisted studies and findings from them (Part 2)

Article	*Measurement/Metric*	*Impact on competitiveness*	*Impact on internationalization*
Clementino and Perkins (2021)	ESG rating conformity vs. resistance; fourfold typology: passive/active conformity, passive/active resistance	Active conformity improves ESG disclosures and CSR practices, enhancing reputation and investor trust.	Aligns ESG practices with global standards, facilitating international operations and investor relationships.
Khan (2019)	Composite ESG score, governance score, shareholder orientation, institutional strength	Higher ESG performance enhances stock returns and long-term firm stability, improving competitive advantage.	Strong governance and ESG practices align firms with international investor standards, facilitating global market access
Hasan et al. (2025)	CSR scores (Refinitiv ASSET4); profit-shifting measures based on low-tax subsidiaries	High CSR firms gain legitimacy and moral capital, enhancing risk management and stakeholder trust.	Enables MNEs to mitigate scrutiny and sanctions in global operations, facilitating smoother international expansion.
Özcan (2019)	ESG scores (Bloomberg); board size; independent directors; financial indicators (profitability, leverage, tangibility)	Improved ESG disclosure enhances transparency, stakeholder trust, and financial performance, strengthening market competitiveness.	Strong ESG practices align firms with international standards, facilitating global stakeholder trust and operations.
Rezaee and Tuo (2019)	Quantity and quality of ESG disclosures (GRI guidelines); Innate and discretionary earnings quality	High-quality ESG disclosures improve earnings quality, enhancing firm stability and long-term competitiveness.	Aligns firms with international reporting standards, boosting investor trust and global stakeholder engagement.
Krueger et al. (2020)	Climate risk perceptions, regulatory risk analysis, carbon footprint assessments	Enhances competitiveness by integrating climate risk management into investment processes and improving firm stability.	Aligns firms with global sustainability standards, attracting international investors and enhancing global operations.
Vincent and Yusuff (2020)	Corporate environmental performance (CEP); financial performance (ROE, market-to-book ratio)	CEP has limited impact on competitiveness in the extractive sector due to non-substitutability and market dynamics.	Sector-specific idiosyncrasies limit broader applicability of CEP strategies for global reach.
Csapi et al. (2024)	ESG scores; Leverage deviation from golden ratio targets	Superior ESG performance aligns leverage targets with golden ratio levels, reducing risk and enhancing financial stability.	Better ESG practices and harmonized capital structures attract global investors and align with international financial norms.
Marie et al. (2024)	ESG performance metrics (environmental, social, governance); financial metrics (ROE, ROA, Tobin's Q)	ESG enhances financial stability and competitiveness, but political connections can distort its financial benefits.	Aligns with global sustainability trends, yet political ties may limit international ESG credibility and investment.
Feng et al. (2025)	ESG ratings (CSI), supply chain resilience, firm size, patent counts	Strong ESG practices enhance innovation and reduce financial risks, boosting competitiveness.	Aligns with global ESG standards, fostering cross-border trust and partnerships.
Bagh et al. (2024)	ESG performance (ESGP), growth option value (GV), firm value (Tobin's Q)	ESGP enhances competitiveness through trust-building and risk mitigation, with diminishing returns at excessive levels.	Strong ESG practices align with global sustainability goals, fostering trust and expanding international investments.
Choi et al. (2024)	ESG scores (Refinitiv); Altman's Z-score for stability	ESG enhances financial stability, reducing risk and increasing firm competitiveness.	Strong ESG practices attract global investors, improving trust and supporting international operations.
Lin et al. (2025)	ESG scores (CNRDS), alliance types (equity vs. contractual), and partner characteristics	Strategic alliances reduce financial constraints, enhance innovation, and improve ESG performance, boosting competitiveness.	Alliances with non-enterprise organizations and international partners enhance ESG practices, facilitating global operations.
Lin and Li (2024)	Supply chain resilience score, ESG composite score (CSI); revenue growth rate	Strengthened supply chains and ESG enhance productivity, risk management, and profitability, boosting competitiveness.	ESG compliance supports global market integration; resilient supply chains ensure smooth international operations.
Song (2024)	ESG ratings (Huazheng); human capital efficiency (investment/profit ratio)	ESG enhances human capital efficiency, improving productivity, innovation, and long-term competitiveness.	Strong ESG performance and efficient human capital attract global talent and foster cross-border partnerships.
Lin (2024)	ESG ratings (Huazheng); sustainable growth rate (SGR); firm risk, agency cost metrics	ESG enhances SGR by reducing agency costs, mitigating risk, and fostering innovation, improving competitiveness.	Strong ESG performance aligns with global sustainability standards, fostering trust and investor confidence internationally.
Michalski and Low (2024)	ESG components: environmental innovation, emissions, resource use, CSR, workforce determinants	ESG factors improve creditworthiness, boosting investor trust and financial stability, enhancing market competitiveness.	Firms with strong ESG profiles align better with global standards, attracting cross-border investments and partnerships.
Subhani et al. (2025)	ESG investment, financial sector depth, debt-to-total assets ratio	ESG investment initially constrains debt financing but enhances financial resilience in developed financial systems.	Financial sector development moderates ESG investment impact, fostering sustainability and cross-border financial trust.
Liu et al. (2024)	Radical and progressive green innovation; ESG scores (Huazheng)	Green innovation enhances ESG performance, building reputation and reducing compliance costs, boosting competitiveness.	Stronger ESG performance aligns with global standards, fostering trade and international collaboration.
Mohammad and Wasiuzzaman (2021)	ESG disclosure scores, Tobin's Q, resource-based competitive advantage	ESG disclosure strengthens competitive advantage through improved reputation, governance, and stakeholder trust.	Strong ESG practices attract international investors and improve market accessibility.

Table A.1. Shortlisted studies and findings from them (Part 3)

Article	*Measurement/Metric*	*Impact on competitiveness*	*Impact on internationalization*
Pham et al. (2024)	ESG scores (environmental, social, governance); intellectual capital proxies (HCP, ICP, CCP, VAIC)	ESG strengthens intellectual capital, improving innovation, reputation, and human capital, enhancing competitiveness.	Strong ESG and intellectual capital alignment support global innovation, compliance, and cross-border stakeholder trust.
Talan et al. (2024)	Holistic value addition (HVA) framework, stakeholder satisfaction metrics	Shifts focus from profit maximization to value addition, improving long-term sustainability and competitive positioning.	Facilitates global alignment with holistic sustainability models, fostering international partnerships and investments.
Falavigna et al. (2024)	Export/import intensity; financial constraints (credit rating, trade credit, bank debt)	Financial constraints limit firm competitiveness by restricting liquidity, while moderate constraints may boost export competitiveness.	Access to international trade credit aids firms with moderate constraints in global integration, enhancing trade opportunities.
Tang et al. (2022)	Foreign direct investment (FDI), greenfield investments, acquisitions, resource access, and market knowledge	SOEs improve competitiveness by leveraging state support for innovation, technology, and strategic global positioning.	SOEs drive global integration through resource acquisitions, boosting the comparative advantage of their home countries.
Pata et al. (2024)	MSCI Europe ESG Leaders Index, Transition and Physical Risk Indices (TRI, PRI), EU ETS	TRI and PRI increase ESG adoption at higher quantiles, improving firm resilience and risk management for competitiveness	Carbon pricing and ESG alignment foster compliance with global sustainability goals, enhancing international trade relations.
Díaz et al. (2024)	Prospect Theory Value (PTV), ESG scores, risk-adjusted returns	ESG-based portfolios enhance risk-adjusted performance, boosting competitiveness in the energy sector.	ESG-aligned portfolios attract international investors, supporting global financial integration and sustainability.
Ali et al. (2024)	Morningstar ESG ratings, Transition Risk Index (TRI), Physical Risk Index (PRI), fund flow sensitivity	ESG ratings enhance fund competitiveness by improving investor trust and asset allocation under climate uncertainty.	ESG alignment facilitates global capital flows, especially for high-rated sustainable funds under regulatory climates.