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INTERACTIONS AMONG INTANGIBLE CAPITAL, ESG PERFORMANCE, GENDER DIVERSITY, AND MARKET VALUE: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

This article analyzes the state of the art in scientific research on the interactions among intangible capital, ESG performance, gender diversity on boards of directors, and market value. Through a systematic literature review conducted in accordance with the PRISMA protocol guidelines, 106 articles published between 2015 and 2024 and indexed in Scopus, Web of Science, SciELO, and SPELL were examined. The results indicate an increase in publications from 2021 onward, with a predominance of positive evidence regarding the relationships between ESG, gender diversity, and market value, as well as between intangible capital and market value. However, research remains concentrated on bilateral associations, with limited integration among the four constructs and limited exploration of the relationship between intangible capital and ESG. The theoretical advancement of this study lies in demonstrating that corporate value creation is associated with the interplay among intangible resources, ESG practices, and governance mechanisms, indicating that these elements should be analyzed in an integrated manner rather than as isolated dimensions. The review also identifies gaps related to the predominance of studies in developed countries, the heterogeneity of metrics used to measure intangibles, and the need for integrated models. Therefore, the study contributes to the accounting and management literature by organizing a fragmented field and proposing a research agenda aimed at an integrated understanding of the non-financial attributes that influence firm valuation.

Keywords: intangible capital, ESG performance, gender diversity, market value.

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1 INTRODUCTION

In an increasingly complex business environment, organizational survival has come to depend on strengthening intangible assets, such as intellectual capital, organizational relationships, and innovation capacity (Huang & Huang, 2020). At the same time, economic development has heightened concerns about the social and environmental impacts of business activities (Asif *et al.*, 2023). In response to this reality, companies have sought to conduct their business ethically and sustainably, with the integration of environmental, social, and governance (ESG) issues becoming a priority in corporate decision-making and capital markets (Chen & Xie, 2022).

ESG performance has emerged as a competitive factor for companies seeking to increase their market value and sustain their relevance in the economic environment (Moussa *et al.*, 2024). Strategic decisions oriented toward such performance are associated with increased profitability, reduced corporate risk, and strengthened intangible assets (Shakil, 2021). ESG performance contributes to the consolidation of corporate reputation and brand value, reinforcing intangible assets that are relevant to organizational value creation (Bai *et al.*, 2025). Thus, in addition to its positive effects on corporate performance (Chen & Xie, 2022), ESG can also play a strategic role in intangible capital management.

This debate also encompasses gender diversity on boards of directors, which stands out as an element that facilitates sustainable development (Heubeck, 2023). Gender diversity enhances corporate governance, contributing to organizational success (Truong & Nguyen, 2024; Pearce & Zahra, 1992). Birindelli *et al.* (2018) argue that women tend to demonstrate greater sensitivity to sustainability initiatives than men, influenced by factors such as psychological traits, educational background, individual characteristics, and professional experience. According to Sofiati and Mita (2024), by considering gender diversity in the composition of their boards, companies can improve their sustainability strategies, optimizing the management of intangible capital resources and thereby enhancing both ESG performance and market value creation.

Intangible capital, ESG performance, and gender diversity are interrelated and exert a significant influence on firm value (Piekkola, 2014; Zhou *et al.*, 2022; Nascimento *et al.*, 2022). The advancement of research on these topics indicates that non-financial attributes have become part of the explanation of firm valuation. However, the evidence found is not homogeneous. Teixeira *et al.* (2024), when analyzing studies on the impact of ESG disclosure on companies' market value, found a predominance of positive, but not universal, relationships. Similarly, Sundarasen *et al.* (2024), in a literature review, observed that gender diversity on boards contributes to improving ESG reporting, although its effects may vary depending on the context analyzed.

These heterogeneous findings indicate the need to develop integrative models capable of providing greater explanatory power regarding the relationships among the constructs. Despite advances in the literature, studies remain dispersed and fragmented, lacking a systematization that would enable an integrated understanding of how these variables have been analyzed and related over time. To a large extent, scientific research has focused on partial associations, such as ESG and market value, ESG and gender diversity, or intangible capital and corporate performance, without consolidating, in an articulated manner, the interactions among the four constructs. This approach limits the understanding of the mechanisms through which intangible resources, ESG practices, and governance characteristics combine to create value (Aziz *et al.*, 2025).

In light of this, the research gap addressed by this study lies in the fragmentation of the literature and the absence of a systematic synthesis that highlights the interactions among the four constructs, the empirical inconsistencies observed across different contexts, and the lack of integrated explanatory models. Accordingly, the following research question arises: **What is the state of the art of scientific research on the interactions among intangible capital, ESG performance, gender diversity on boards of directors, and market value?** Thus, this article

seeks to understand the state of the art of scientific research on the interactions among intangible capital, ESG performance, gender diversity on boards of directors, and market value.

The integration of these constructs is justified because they represent complementary dimensions of firm valuation, encompassing strategic resources, governance mechanisms, socio-environmental responses, and their pricing by the market (Aziz *et al.*, 2025). By systematizing the existing evidence, the study provides a foundation for the development of integrated explanatory models and for advancing future research on sustainable value creation. This holistic approach makes it possible to recognize that intangible assets, such as knowledge and reputation, can strengthen an organization's capacity to respond to ESG demands (Gao *et al.*, 2022), while gender diversity on the board can enhance the decision-making process and increase the organization's sensitivity to institutional and stakeholder demands (Yavuz *et al.*, 2024). Sustainability, in turn, contributes to firm valuation by signaling responsibility, transparency, and risk management capabilities (Ahmad & Aljifri, 2025).

Based on the identified gap, this article contributes to the advancement of accounting research by systematizing the available knowledge through a systematic review, mapping studies that address the interactions among intangible capital, ESG performance, gender diversity, and market value. In addition, the study contributes to the international theoretical debate on sustainable value creation, corporate governance, and the relevance of non-financial attributes to firm valuation. From a scientific perspective, the results of the systematic literature review are expected to provide a mapping of the accumulated knowledge from research conducted within this focus. From a social perspective, the study is expected to contribute to the debate on the inclusion of underrepresented groups in leadership positions and the alignment of organizations with the environmental and social commitments demanded by stakeholders.

2 THEORETICAL FRAMEWORK

2.1 ESG Performance and Market Value

Concerns about social, ethical, and environmental performance have received increasing attention in the corporate world (Temminck *et al.*, 2013). As ESG-related challenges gain prominence, stakeholders increasingly demand concrete actions from companies to meet corporate sustainability expectations (Saharti *et al.*, 2024). Consequently, companies are gradually recognizing the central role of ESG (Wu *et al.*, 2022).

ESG scores reflect companies' performance across the three pillars, environmental, social, and governance, and serve as a reference for investors, buyers, regulators, and other stakeholders (Asif *et al.*, 2023). The environmental pillar of ESG captures the effects of business activities on the environment, including carbon emissions, waste generation, and the use and depletion of natural resources (Senadheera *et al.*, 2021). In contrast, the social dimension assesses relationships with employees, customers, and communities, affecting innovation capacity, while governance addresses management quality and ethical business practices, ensuring that business decisions are aligned with sustainability goals (Wu *et al.*, 2025).

Performance across these pillars can affect various aspects of companies, such as corporate performance (Bilyay-Erdogan & Oztürkkal, 2023), market value (Li *et al.*, 2018; Parwani *et al.*, 2024), and the cost of capital (Macedo *et al.*, 2022). Researchers argue that the disclosure of information on ESG practices contributes to strengthening corporate legitimacy in the market, enhancing companies' reputation and, consequently, their market value (Bifulco *et al.*, 2023).

2.2 Intangible capital and value creation

Intangible capital is related to ESG performance, as sustainable value creation in companies is associated with the management of intangible assets. According to Chokki (2024),

investing in employee well-being, talent development, and sound governance strengthens an organization's capacity for ESG reporting and disclosure. On the other hand, Reboredo and Sowaity (2022) argue that ESG disclosure strengthens corporate reputation and increases the value of intangible assets, such as employee expertise, organizational processes, and accumulated knowledge. This highlights the existence of a mutually influential relationship between intangible assets and ESG.

Intangible capital comprises assets of a permanent nature, without physical substance, that are under the organization's control and have the capacity to generate future benefits (Perez & Famá, 2006). These assets drive innovation, improve operational performance, and promote competitive advantages (Sofiati & Mita, 2024). Regardless of the label assigned to the intangible elements that are part of organizations, the need for knowledge and its management in business administration is recognized, as knowledge materializes in technologies, systems, and services that add value to organizations (Antunes & Martins, 2002).

However, there are difficulties in measuring these intangibles, given that accounting records on the balance sheet only those assets that can be objectively quantified (Gomes *et al.*, 2020). This limitation helps explain the coexistence of different indicators in the literature and the lack of consensus regarding the best way to capture intangible capital. Among the most widely used measures is the Value Added Intellectual Coefficient (VAIC) (Habib & Dalwai, 2023). Developed by Pulic (1998), the VAIC model encompasses the efficiency of three main components: human capital (HCE), structural capital (SCE), and capital employed (CEE).

In the literature, intangible capital has been extensively studied in terms of its impact on organizational performance (Lestari & Adhariani, 2022), market value (Nuryaman, 2015; Salehi & Zimon, 2021), innovation (Truong & Nguyen, 2024), and sustainability (Zhang & Wang, 2022). Research indicates that components such as human capital, structural capital, and relational capital are associated with improved operational efficiency, strengthened innovation capacity, and the development of competitive advantages aligned with sustainability (Zhang & Wang, 2022; Bontis, 1998). In addition, there is growing interest in understanding how these intangible assets relate to social, environmental, and governance disclosure in response to demands for ESG performance (Chokki, 2024).

2.3 Gender diversity on the board of directors

In addition to intangible resources and ESG practices, gender diversity on the board of directors constitutes a relevant governance mechanism for corporate value creation. In the context of corporate governance, gender diversity is associated with strengthening organizations' market value (Alharbi *et al.*, 2022), and female representation on boards has shown positive impacts on growth and market performance (Najaf *et al.*, 2024). The board of directors exerts a recognized influence on organizational success and is responsible for approving and overseeing the implementation of strategic objectives, ensuring the effectiveness of the governance system, and promoting the development of organizational culture (Pearce & Zahra, 1992).

With the increasing participation of women in the labor market and universities, it became expected that this trend would also extend to leadership positions in companies (Costa *et al.*, 2019). In addition to its impact on market value, studies have investigated the effects of gender diversity on ESG performance and intangible capital. Gender diversity on boards of directors has been found to contribute to the quality of ESG reporting (Sundarasen *et al.*, 2024; Rabbani *et al.*, 2024). Regarding intellectual capital, Arora and Tiwari (2024) identified that, among its components, only the HCE coefficient is directly affected by gender diversity. Additionally, Shahzad *et al.* (2020) indicate that intangible capital acts as a mediator in the relationship between board gender diversity and financial performance, suggesting complex interactions among these factors.

2.4 Integrative conceptual framework

Given the fragmentation of the literature and the predominance of bilateral analyses, this section proposes an integrative conceptual framework to understand how intangible capital, ESG performance, gender diversity, and market value interact in corporate value creation. Market value can be understood as investors' collective perception of a company's value, expressed in its market price and influenced by factors such as financial performance, tangible and intangible assets, and expectations of future profits (Ayuso-Estellés *et al.*, 2025). According to Lestari *et al.* (2020), firm valuation may also be influenced by factors such as corporate governance, firm size, and management decisions (Lestari *et al.*, 2020; Esan *et al.*, 2022). In addition, relationships with stakeholders contribute to the consolidation and valuation of the firm (Freeman, 1984). Studies show that both ESG performance and intangible capital have a positive influence on companies' market value (Li *et al.*, 2018; Pratama *et al.*, 2024).

Based on these relationships, an integrative conceptual framework is proposed in which market value results from the interaction among intangible resources, ESG performance, and gender diversity. From the theoretical perspective of the Resource-Based View, intangible capital provides the organization's strategic resource base, encompassing knowledge, innovation, reputation, and organizational capabilities (Barney, 1991). According to stakeholder theory, ESG performance acts as a mechanism of external legitimation by signaling responsibility, transparency, and responsiveness to stakeholder demands (Liu *et al.*, 2025). Agency theory, in turn, contributes to understanding gender diversity on the board of directors as a governance mechanism capable of strengthening monitoring, improving the decision-making process, and reducing conflicts of interest (Jensen & Meckling, 1976; Alharbi *et al.*, 2022).

In this conceptual model, the constructs are understood as complementary dimensions of corporate value creation. Intangible capital influences the company's capacity to respond to ESG demands, ESG performance can strengthen intangible assets by enhancing legitimacy, trust, and reputation among stakeholders (Reboredo & Sowaity, 2022), and gender diversity can increase the organization's strategic sensitivity to sustainability issues (Alkhawaja *et al.*, 2023). Therefore, market value can be interpreted as an external expression of how investors perceive and price the interplay among intangible resources, sustainable practices, and governance mechanisms.

3 METHODOLOGICAL PROCEDURES

To review what has already been investigated regarding the relationship among intangible capital, ESG performance, market value, and gender diversity, this qualitative and descriptive study proposes a systematic review. The systematic review was conducted based on studies published between 2015 and 2024, following the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol to organize the article selection and analysis process (Page et al., 2021). The search period was adopted with the aim of capturing recent and methodologically robust research on the topic, considering that, from 2015 onward, there was significant progress in the incorporation of ESG guidelines by companies, driven by international agreements such as the United Nations (UN) Sustainable Development Goals (SDGs) (Perevoznic & Dragomir, 2024). This time frame also makes it possible to observe the evolution of academic discussions over a decade marked by increasing regulatory, institutional, and social pressure surrounding corporate sustainability.

The following scientific databases were selected for the searches: Scopus, SciELO, Web of Science, and SPELL. The choice of these databases is justified by their academic relevance, ensuring access to a broad range of journals covering various fields of knowledge. In total, twenty-four searches were conducted, corresponding to the application of six combinations of terms in each of the four databases. The search strategies were operationalized by combining terms in

English, using the Boolean operator "and" between the constructs investigated. The combinations used were: (i) "ESG" and "intangible", (ii) "ESG" and "Gender diversity", (iii) "ESG" and "Market value", (iv) "Intangible" and "Gender diversity", (v) "Intangible" and "Market value", and (vi) "Gender diversity" and "Market value". Searches were conducted in the title, abstract, and keyword fields when this option was available in the databases consulted. The combinations were applied in a standardized manner across the four selected databases to ensure comparability among the results and enable replication of the methodological procedure.

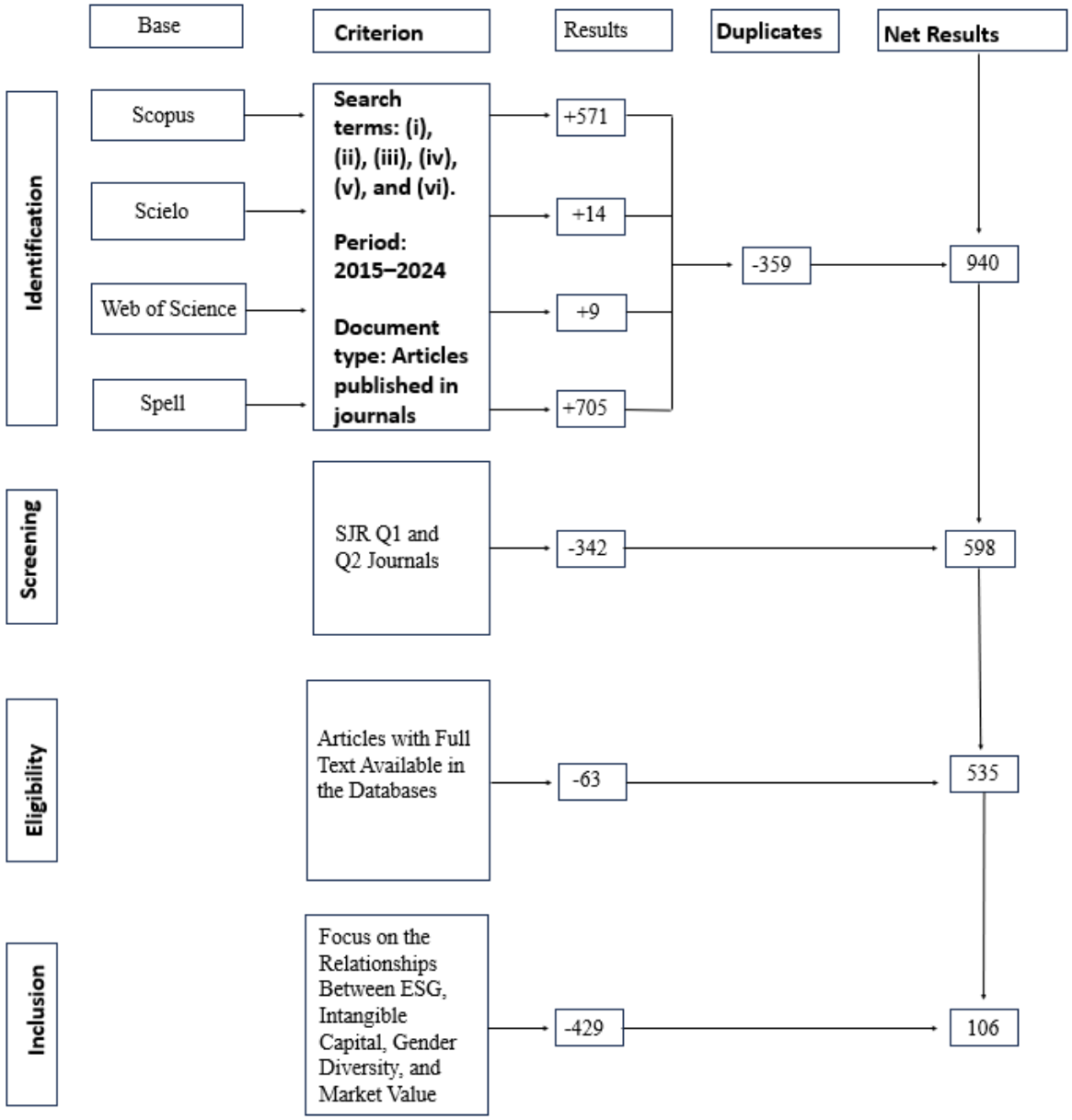
The searches were conducted on April 6, 2025. The terms were defined based on the research objectives, prioritizing a broad approach that would capture relevant studies even when they employed terminological variations. For example, ESG performance may be described as ESG practices, ESG indicators, ESG disclosure, or ESG scores, while intangible capital is frequently referred to as intangible assets, intangible resources, or intellectual capital. This strategy sought to ensure breadth and sensitivity in identifying publications relevant to the topic.

Additionally, the inclusion criteria were restricted to scientific articles published in journals, excluding publications such as conference proceedings, books, book chapters, and reviews. Based on these criteria, the search resulted in a total of 1,299 articles. After duplicate articles were removed, 944 records remained. The references collected were organized in Excel spreadsheets, facilitating data analysis. This selection restricts the inclusion of other types of scientific output; therefore, although the search across four databases was comprehensive, it does not exhaust the scientific literature on the topic.

Subsequently, an initial screening was conducted based on the journals' impact factor, using the Scimago Journal Rank (SJR) metric as a reference. Only articles published in journals classified as Q1 and Q2 were included in the review to ensure methodological rigor and the reliability of the results analyzed. This resulted in 598 documents selected for the abstract analysis stage. It is acknowledged that using the SJR as a filter may restrict the inclusion of relevant research published in journals from other quartiles or in less internationalized academic contexts. Therefore, the results of this review should be interpreted in light of this delimitation.

At the eligibility stage, articles that were not available in full text through the databases were excluded. This decision was made because universal access to restricted or paid content was not feasible, which would compromise the continuity of the analysis. Following this process, the titles and abstracts of the identified articles were read to assess their alignment with the scope of the research. Studies that explicitly addressed the relationships among intangible capital, ESG performance, gender diversity, and market value were considered eligible, whether they examined these variables jointly or through partial interactions. Articles that did not directly address these topics were excluded. Therefore, after the screening process, 106 articles were included in the systematic review. Figure 1 presents in detail the process adopted for selecting the articles included in the review.

Figure 1
Stages of the article selection process



Source: Adapted from "Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement" by Moher, Liberati, Tetzlaff e Altman, 2009, *Methods of Systematic Reviews and Meta-Analysis, 62*(10), p. 1009 (https://doi.org/10.1016/j.jclinepi.2009.06.005).

As shown in Figure 1, the selection of studies followed successive screening criteria, considering publication type, the period analyzed, the indexing database, journal classification, full-text availability, and thematic alignment with the scope of the review. Ultimately, the studies that remained were those explicitly focused on the relationships among intangible capital, ESG performance, gender diversity, and market value. Additionally, Table 1 presents the number of articles identified in the systematic review after duplicates were removed, organized according to the combinations of terms used in the search strategies.

Table 1
Articles selected in the systematic review by search terms

Terms	Identification	Screening	Eligibility	Inclusion
(i) "*ESG*" "*Intangible*"	37	26	24	3
(ii) "*ESG*" "*Gender diversity*"	307	250	223	37
(iii) "*ESG*" "*Market value*"	178	114	110	31
(iv) "*Intangible*" "*Gender diversity*"	25	19	18	6
(v) "*Intangible*" "*Market value*"	343	154	129	22
(vi) "*Gender diversity*" "*Market value*"	50	35	31	7
Total	**940**	**598**	**535**	**106**

Content analysis was conducted based on the three stages proposed by Bardin (2016): pre-analysis, exploration of the material, and treatment of the results. In the pre-analysis stage, the selected articles were organized and subjected to an initial reading. Subsequently, during the material exploration stage, the information of interest was identified and coded, considering analytical categories previously defined based on the study objectives, such as authorship, year, journal, method, objective, results, gaps, underlying theories, variables, and the country of the sample analyzed. This procedure enabled the identification of patterns and gaps in the literature.

Finally, it should be noted that, during the preparation of this study, artificial intelligence tools, specifically ChatGPT® and NotebookLM®, were used to support textual revision and the initial interpretation of the selected studies. All content generated by these tools was subsequently subjected to critical review by the authors, who verified its conceptual adequacy, consistency with the research objectives, and fidelity to the evidence extracted from the articles analyzed. Following this process, the content was manually adjusted and validated, with the authors remaining fully responsible for the final version of the manuscript.

4 RESULTS

4.1 Descriptive Analysis

The analysis of the 106 articles included in the review shows that the field under investigation gained momentum from 2021 onward. This indicates that, from this period onward, the constructs analyzed ceased to be treated merely as peripheral topics in governance and sustainability and became part of the research agenda on corporate value creation. Table 2 presents the temporal distribution of the selected articles according to the search terms used.

Table 2
Temporal distribution of articles

Terms	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
(i) "*ESG*" "*Intangible*"								3		
(ii) "*ESG*" "*Gender diversity*"		1		1		3	2	4	11	15
(iii) "*ESG*" "*Market value*"		1		1	1	2	2	8	8	8
(iv) "*Intangible*" "*Gender diversity*"				1		1	1	1		2
(v) "*Intangible*" "*Market value*"	1	2	2	3	2	1	7	2	2	
(vi) "*Gender diversity*" "*Market value*"	1				1		1	3		1
Grand Total	2	4	2	6	4	7	13	21	21	26

Between 2015 and 2020, the number of annual publications remained stable, indicating that the relationships among the constructs were still addressed in a fragmented manner. However, from 2021 onward, there was an increase in the volume of publications across all combinations of terms analyzed, which may be attributed to growing demands for transparency from investors, institutions, and civil society, whose attention has increasingly focused not only on financial

results but also on the processes and socio-environmental impacts associated with corporate value creation (Lavin & Montecino-Pearce, 2021). The growth in publications over the years demonstrates the consolidation of the ESG agenda and the increasing interest in non-financial attributes associated with value creation.

Among the terms analyzed, the relationship between ESG and gender diversity shows consistent growth over the period, revealing that the social dimension of governance has been increasingly incorporated into discussions on corporate sustainability. In contrast, the association between intangibles and market value follows a stable trajectory, indicating that this is a more established line of research, although less closely connected to recent discussions on ESG and diversity.

Regarding the journals comprising the sample, a broad dispersion was observed, with the articles distributed across 68 different scientific journals. The journal *Sustainability* accounts for the largest number of publications, with 24 studies identified. *Business Strategy and the Environment* and the *Journal of Intellectual Capital* also stand out, followed by the *Journal of Risk and Financial Management* and *Corporate Social Responsibility and Environmental Management*. The identified dispersion demonstrates that the constructs analyzed have developed at an interdisciplinary interface, linking accounting discussions with debates on strategy, sustainability, and intangible resources.

The United States was the most frequently investigated country in the reviewed publications, with 21 studies identified. Italy, Spain, and China followed in terms of frequency in the sample. The concentration of studies in developed countries reveals a significant asymmetry in the literature, as much of the available evidence derives from contexts characterized by well-developed capital markets, greater regulatory pressure, and greater maturity in ESG disclosure practices. This pattern may limit the applicability of the results to emerging countries, which have distinct institutional and socioeconomic configurations. Thus, the geographical distribution of the studies represents not only a descriptive characteristic of the sample but also a theoretical limitation to the generalizability of the findings. In addition to studies with a national focus, studies with a global scope were identified, although they were limited to specific sectors, such as the pharmaceutical sector (López-Toro *et al.*, 2021) and the travel and tourism sector (Ionescu *et al.*, 2019; Bodhanwala & Bodhanwala, 2022).

4.2 Contributions and Relationships Observed

The analysis of the selected studies enabled the identification of different contributions and patterns of association among the constructs investigated. The first relationship examined concerns the association between intangibles and ESG. It was possible to observe that this relationship remains underexplored in the literature, as only three studies were identified, all conducted in emerging Asian countries. The studies analyzed indicate a positive association between intangibles and ESG. However, the findings suggest a reciprocal interaction between the constructs, as intangible assets can strengthen organizational capabilities associated with sustainability (Gao *et al.*, 2022), while ESG performance can enhance reputation, trust, and other intangible resources (Reboredo & Sowaity, 2022; Jun *et al.*, 2022).

The three studies examined adopt a quantitative approach and do not use a specific theory to explain the relationship between intangibles and ESG. The studies also differ in how the constructs are measured, using measures such as investments in intangibles, VAIC and its components, together with aggregate ESG scores, specific pillars, and disclosure measures. This diversity demonstrates that literature has yet to establish a consolidated approach to operationalizing this relationship. The heterogeneity observed in measurement and the limited body of evidence constrain consistent inferences regarding the relationship between intangibles and ESG. The topic is still undergoing consolidation in the literature, requiring further theoretical,

empirical, and methodological development.

In contrast, the search using the terms "ESG" and "*gender diversity*" yielded the largest number of publications identified in the sample. The 37 studies addressing this relationship present varied results in terms of conclusions and empirical evidence. Approximately 84% of the studies indicate a positive relationship between gender diversity and ESG performance. The studies identified adopt quantitative methodologies and cover different countries across several continents and diverse economic conditions. In general, gender diversity is measured by the proportion of women on the board, the Blau Index, or dummy variables indicating the presence or absence of women, while ESG is measured using scores from specialized databases such as Refinitiv, Morgan Stanley Capital International (MSCI), and Bloomberg.

The association between ESG disclosure and female representation on the board of directors is frequently explained from the perspective of stakeholder theory. Based on this theory, several studies, including the global investigation by Alkhawaja *et al.* (2023), argue that companies with more gender-diverse boards of directors tend to be more responsive to their responsibilities toward stakeholders. This responsiveness may facilitate the integration of ESG policies and practices into organizational strategy and the company's day-to-day operations (Yavuz *et al.*, 2024).

In developing countries, some studies, such as Abdelkader *et al.* (2024), conducted in South Africa, identified negative or non-significant relationships between board gender diversity and ESG performance. The authors argue that although the positive relationship is evident in developed countries, in developing economies the impact of female board representation on ESG disclosure tends to be more limited, possibly due to local institutional and cultural characteristics. These results indicate that the influence of gender diversity on ESG performance is not uniform and depends on the environment in which companies operate. The observed divergences may arise from institutional differences among the countries analyzed, the degree of maturity of ESG practices, regulatory pressures, and the methods used to measure gender diversity. While some studies use the proportion of women on the board, others adopt diversity indices or *dummy* variables, which may produce different results.

Next, the relationship between ESG and market value emerged as the second most recurrent among the studies analyzed. The review identified 23 studies showing that investment in ESG disclosure is associated with an increase in firm valuation, corresponding to more than 70% of the studies examining this relationship. The research covers different countries, with a greater concentration in the United States, as well as global studies focused on specific sectors, such as oil and gas. The most commonly used variables include stock prices, companies' market value, and ESG scores provided by specialized databases.

Several theories are used to explain this relationship. Cherkasova *et al.* (2023), investigating companies across three continents from an agency theory perspective, argues that executives and controlling shareholders may invest heavily in ESG to obtain reputational gains, even though this does not always benefit outside shareholders. Their results indicate positive effects in Asia but negative effects in Europe and North America, reinforcing the notion that the impacts of ESG on market value vary according to the context analyzed.

Based on stakeholder theory and signaling theory, Al-Issa *et al.* (2022) argues that Corporate Social Responsibility and ESG practices can increase companies' market value through two main pathways. According to stakeholder theory, these practices strengthen the company's relationships with investors, customers, society, and other stakeholders, reducing conflicts and increasing organizational legitimacy. According to signaling theory, ESG disclosure communicates to the market a commitment to responsibility, transparency, and risk management, generating a more favorable perception among investors. Thus, engagement in ESG practices tends to be reflected in greater profitability, asset appreciation, and, consequently, an increase in the

organization's market value.

The findings reinforce that the effect of ESG on market value depends not only on the adoption or disclosure of sustainable practices but also on how investors interpret these initiatives in each context. In markets where ESG is perceived as a signal of transparency, risk management, and legitimacy, the tendency is toward higher valuation. However, in other contexts, the costs associated with ESG practices or the possibility that these initiatives are used for reputational purposes may lead to less favorable market interpretations.

In addition to the ESG dimension, the literature also frequently explores the relationship between intangible capital and market value, indicating a predominant consensus regarding the positive association between these variables. Of the 22 studies analyzed, most show that intangible assets, such as human capital, reputation, and innovation, contribute to firm valuation. Only two studies reported mixed results, varying according to the intangible indicator used, and one found no statistical significance. Regarding this relationship, most studies were conducted in developed countries, particularly European countries. To measure intangibles, the studies use different metrics, such as the degree of asset intangibility, economic value added (EVA), VAIC and its components, as well as indicators related to research and development, patents, brands, human capital, and innovation. Market value is measured predominantly using market value information available in specialized databases.

A large proportion of the studies do not explicitly identify a specific theory to support the influence of intangibles on firm valuation. The resource-based view constitutes the theoretical foundation of some studies examining this relationship, as it considers intangible resources to be strategic for firm differentiation and the development of sustainable competitive advantage, particularly because they are rare, valuable, and difficult to imitate. Thus, assets such as human capital, reputation, innovation, brands, and patents can enhance an organization's capacity to generate value (Ge & Xu, 2021).

Although a positive association between intangible capital and market value predominates, this relationship should be interpreted with caution because different measurement metrics capture distinct dimensions of intangibles. Tahat *et al.* (2018) show that *goodwill* is positively associated with market value and stock returns, whereas research and development (R&D) investments may have a negative effect in the short term, possibly due to the perception of reduced dividends. Thus, the observed effects cannot be generalized without considering the variable used to represent intangibles, as different metrics may lead to different interpretations of this relationship.

Continuing the analysis, the relationship between intangible capital and gender diversity was one of the least recurrent in the sample, with only six studies included. The results were also controversial: four studies indicated a positive association, one reported a negative relationship, and another found no statistical significance. The sample includes both developed and developing economies, with two studies conducted in India standing out. The variables used in these studies mainly include VAIC and its components, R&D intensity, and the proportion of women on the board of directors.

Vafaei *et al.* (2021) explain this relationship based on the behavioral theory of the firm, human capital theory, upper echelons theory, and risk tolerance theory. Under these approaches, female representation on the board can alter decision-making dynamics by bringing together different experiences, knowledge, management styles, greater monitoring, and greater caution in risk assessment. Women can thereby contribute to strategic decisions that are more conducive to innovation, which helps explain the positive association identified by the authors between female board representation and innovative activity, measured by patents and R&D intensity. Resource dependence theory and agency theory are also used to explain this relationship by suggesting that board gender diversity can broaden strategic competencies, strengthen monitoring, and reduce conflicts of interest (Ribeiro *et al.*, 2025). Based on these theoretical perspectives, Smriti and Das

(2022), in the Indian context, proposed a positive effect of gender diversity on intangible capital, measured by VAIC; however, the results indicated a negative association.

Finally, the relationship between gender diversity and market value was addressed in seven studies included in the review. Unlike the previous combination, the results were consistent: six studies indicated a positive association between the presence of women on boards and companies' market valuation. The variables used include the presence and proportion of women on the board, as well as market value obtained from specialized databases. The studies cover countries across different continents and, once again, rely primarily on agency theory and resource dependence theory as explanatory lenses for this relationship.

Agency theory associates board gender diversity with stronger monitoring, transparency, and decision quality, while resource dependence theory emphasizes that more diverse boards broaden the range of experiences, knowledge, networks, and strategic perspectives valued by the market (Alharbi *et al.*, 2022). From this perspective, Ntim (2015) identified a positive association between gender diversity on boards of directors and the market valuation of South African companies. Similarly, Alharbi *et al.* (2022), when investigating banks in developing countries with low levels of female empowerment, found that the presence of women on boards is positively associated with market value, particularly in contexts that are more open to diversity.

Taken together, the relationships observed indicate that intangible capital, ESG performance, gender diversity, and market value should not be understood as independent dimensions. Intangible assets can strengthen an organization's capacity to develop ESG practices, while ESG performance can enhance reputation, legitimacy, and market trust. Gender diversity, in turn, acts as a governance mechanism capable of improving strategic decisions and increasing the organization's responsiveness to stakeholder demands. Thus, market value tends to reflect not only financial results but also how investors perceive the interplay among intangible resources, sustainability, and governance. This integrated perspective reinforces the need for explanatory models that move beyond bilateral relationships and explain the combined mechanisms of value creation.

4.3 Gaps and Future Research

Although the literature on intangible capital, ESG, gender diversity, and market value has been consolidating, gaps remain that offer relevant opportunities for future research. The concentration of studies in developed countries highlights a recurring limitation in the literature, restricting the understanding of the phenomena analyzed to institutionally stable and economically consolidated contexts (Lavin & Montecinos-Pearce, 2021). This focus reduces the applicability of the results to emerging contexts characterized by their own governance and development dynamics. In this regard, expanding research to countries in Latin America, Africa, and Southeast Asia represents a promising opportunity to deepen the understanding of these topics under different institutional and sectoral arrangements, contributing to a comprehensive and contextualized perspective (Wedajo *et al.*, 2024).

The articles analyzed recommend the use of alternative models for measuring intangibles and ESG performance, as well as the inclusion of sectors that remain underexplored, such as the financial sector (Kumar *et al.*, 2020; Reboredo & Sowaity, 2022). The investigation of different forms of intangible capital, such as relational, reputational, or innovation capital, is also suggested (Hejazi *et al.*, 2016). Smriti and Das (2022) indicate that future research could advance the refinement of VAIC, a traditional indicator of intangible capital, by incorporating dimensions related to innovation and organizational reputation. In addition, future studies may benefit from the inclusion of moderating variables and longitudinal analysis (Ersoy *et al.*, 2022; Lee & Jung, 2024).

Gerged *et al.* (2023) suggest that future research examine the potential mediating effect of

sustainability performance on the relationship between corporate adoption of global transparency initiatives and firm value. In summary, investigating the dynamics among board gender diversity, innovation, and organizational reputation, and how these factors contribute to value creation, represents a promising avenue for research. Furthermore, future research is recommended to advance the development of integrated models that jointly analyze ESG performance and intangible capital, considering the view that ESG may represent a relevant form of intangible capital for value creation (Cai & He, 2014; Zhou *et al.*, 2022).

5 CONCLUSIONS

This article aimed to understand the state of the art of scientific research on the interactions among intangible capital, ESG performance, gender diversity, and market value. Through a systematic literature review conducted in accordance with the PRISMA protocol guidelines, 106 studies published between 2015 and 2024 were selected and analyzed, enabling the mapping of the main findings, empirical contributions, and theoretical gaps in the literature. This research contributes by systematizing the available knowledge, highlighting patterns and divergences in existing studies, and proposing avenues for further investigation into the internal factors that drive sustainable value creation in the contemporary corporate context.

The results revealed a significant increase in publications from 2021 onward, reflecting the growing relevance of sustainability, governance, and corporate value creation. Among the relationships investigated, the associations of ESG with gender diversity and market value received the greatest attention in the literature and mostly presented positive evidence. The relationship between intangible capital and market value proved to be one of the most consistent, with strong convergence toward positive results. In contrast, the association between intangible capital and ESG has received limited attention, indicating a relevant gap to be addressed. Analyses examining the interaction between intangibles and gender diversity yielded heterogeneous results, whereas the relationship between gender diversity and market value showed consistent results, with a tendency toward positive associations.

Taken together, these conclusions demonstrate that sustainable corporate value creation can be better understood when intangible resources, ESG practices, and governance mechanisms are analyzed in an integrated manner rather than solely through isolated relationships. Intangible capital encompasses strategic resources associated with knowledge, innovation, reputation, and organizational capabilities; ESG performance signals responsibility, transparency, and risk management; and gender diversity on the board can improve the decision-making process and increase organizational responsiveness to stakeholder demands. Thus, the review findings indicate that market value may reflect not only financial information but also how non-financial attributes are perceived and assessed by investors.

Quantitative methodologies predominate in specific contexts, with limited methodological diversity and a concentration of samples in developed countries, which limits the generalizability of the results. This pattern highlights a first priority for future research: expanding investigations in emerging countries, where institutional, cultural, and regulatory factors may alter the direction and intensity of the relationships analyzed. In addition, few studies simultaneously consider the combined effects of the variables analyzed, limiting the understanding of the complex mechanisms underlying sustainable corporate performance. This gap supports a second priority: developing integrated models that jointly analyze the variables studied, moving beyond the predominance of studies focused on bilateral relationships.

The limited number of studies on intangible capital and ESG also points to a specific research agenda, particularly to understand how resources such as innovation, reputation, and knowledge can enhance ESG performance. Furthermore, the heterogeneity of the metrics used to represent intangibles reinforces the need to consolidate the measurement models used in the

accounting literature. In summary, the future research agenda should prioritize three main avenues: expanding studies in emerging economies, developing integrated models, and improving metrics for measuring intangibles. Moreover, the use of longitudinal, qualitative, and comparative approaches may also contribute to explaining the mechanisms through which these constructs translate into corporate value.

Therefore, the scientific contribution of this study lies in organizing a still-fragmented field and proposing an integrative conceptual perspective on the interactions among intangible capital, ESG performance, gender diversity, and market value. From this perspective, corporate value creation should not be analyzed solely through bilateral relationships, but rather through explanatory models capable of demonstrating how intangible resources, sustainable practices, and governance mechanisms combine to enhance firm valuation. For the fields of accounting and management, this approach reinforces the need to improve the measurement and disclosure of non-financial attributes that are relevant to investors, managers, and other stakeholders.

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CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest.

DATA AVAILABILITY

The complete dataset supporting the findings of this study is available from the authors upon reasonable request.

AUTHOR CONTRIBUTIONS

Roles	1st author	2nd author	3rd author	4th author	5th author
Conceptualization	♦	♦	♦	♦	♦
Data Curation	♦				
Formal Analysis	♦				
Funding Acquisition	♦				
Investigation	♦	♦			
Methodology	♦			♦	♦
Project Administration	♦	♦	♦		
Resources	♦	♦			
Software	♦		♦		
Supervision		♦	♦	♦	♦
Validation		♦	♦	♦	
Visualization	♦	♦	♦	♦	♦
Writing – Original Draft Preparation	♦				
Writing – Review & Editing	♦			♦	

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