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How do Board Characteristics influence ESG-Disclosure? A Systematic Literature Review

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Abstract

This work presents a systematic literature review of how different board characteristics influence environmental, social and governance disclosure. Using the databases of Scopus, Web of Science and Google Scholar, this study applies a five-step methodology proposed by Denyer and Tranfield (2009) to identify and analyze findings across 55 peer-reviewed journal articles. In total, 25 distinct board attributes are identified and grouped into four categories: board composition, board expertise and experience, board committees, and incentives and roles. The results also reveal that ESG disclosure can be influenced in nine different dimensions, while the direction of influence are often inconsistent and sometimes even contradictory. This literature review finds that these inconsistencies can mainly be explained by contextual factors such as cultural settings, regulatory environments, and interactions between different board characteristics. By summarizing and analyzing existing knowledge and identifying future research paths, this review offers a deeper understanding of how the structure of a board can effectively influence ESG disclosure.

Diese Arbeit untersucht, wie sich unterschiedliche Eigenschaften eines Vorstandes die Offenlegung von Informationen bezüglich Umwelt-, Sozial- und Governance-Aspekten (ESG) beeinflussen können. Aufgrund der zunehmenden Bedeutung nachhaltiger Unternehmensstrategien und den wachsenden Erwartungen aller Stakeholder, analysiert diese Arbeit die empirischen Erkenntnisse aus insgesamt 55 wissenschaftlichen Fachartikeln. Grundlage dabei ist die systematische Vorgehensweise empfohlen von Denyer und Tranfield (2009), welche eine transparente, strukturierte und reproduzierbare Analyse des aktuellen Forschungsstandes ermöglicht. Ziel dabei ist es nicht nur die Ergebnisse zusammenzufassen, sondern bestehende Unklarheiten aufzuzeigen, sowie ein ganzheitliches Verständnis dafür zu entwickeln, welche Vorstandsmerkmale sich auf welche Art und Weise auf die ESG-Berichterstattung auswirken können.

Insgesamt identifiziert diese Arbeit 25 unterschiedliche Board-Attribute, die in 4 Hauptkategorien eingeordnet werden können: Die Zusammensetzung des Vorstandes, die Erfahrung und Expertise der Mitglieder, Vorstandsausschüsse sowie interne Rollen und Anreizstrukturen. Die Analyse dieser Merkmale zeigt deutlich, dass der Einfluss auf ESG-Berichte selten einheitlich ausfällt, sondern vielmehr, dass sowohl positive als auch negative Wirkungsrichtungen vorkommen können. Zu den zentralen Einflussfaktoren gehören unter anderem die Unabhängigkeit, die Größe sowie die Gender Diversität innerhalb eines Vorstandes. Des Weiteren zeigt die Analyse, dass ESG-Reporting in der Literatur aus neun unterschiedlichen Dimensionen betrachtet wird, unter anderem wird der Umfang des Berichts, dessen Qualität, Vergleichbarkeit, Frequenz, die Einbindung der Sustainable Development Goals (SDG) sowie der externen Prüfung eines solchen Berichts untersucht. Die überwiegende Mehrheit der Studien konzentriert sich auf den Umfang der ESG-Berichterstattung, wobei auch hier unterschiedliche Auswirkungen der Vorstandsmerkmale festgestellt werden können.

Ein zentraler Beitrag dieser Arbeit besteht daraus, die Ursachen aller Inkonsistenzen herauszuarbeiten und zu verstehen. Der Grund für die heterogenen Ergebnisse liegt zum einen daran, dass die Wirkung von Vorstandsmerkmalen stark durch kontextuelle Einflussgrößen geprägt ist. Dazu zählen kulturelle Rahmenbedingungen, aber auch nationale und branchenspezifische Regulierungen. Zum anderen hat die Interaktion von verschiedenen Board-Attributen untereinander Einfluss auf die letztendliche Wirkung. So zeigt sich etwa, dass größere Vorstände in einem gewissen Umfeld zu einer besseren ESG-Transparenz beitragen können, jedoch in einem anderen Kontext sogar Koordinationsprobleme oder ineffiziente Entscheidungsprozesse auslösen können. Ähnlich variiert der Einfluss von Frauen im Vorstand. Dieser ist abhängig von der gesellschaftlichen Norm, des Governance-Systems und der institutionellen Entwicklung des jeweiligen Landes.

Durch die Analyse und der Kombination der bestehenden Forschungsergebnisse liefert diese Arbeit nicht nur einen umfassenden Überblick über den aktuellen Wissensstand, sondern identifiziert gleichzeitig wichtige Forschungslücken. Dazu gehören unter anderem die einseitige empirischen Methoden in den 55 Studien, die unzureichende Berücksichtigung nicht-linearer Zusammenhänge, das Zusammenspiel mehrerer Vorstandsmerkmale und die mangelnde Einbindung von Ländern außerhalb Europas, insbesondere Entwicklungsländern. Die Ergebnisse dieser systematischen Literaturübersicht leisten somit einen Beitrag zur theoretischen Weiterentwicklung und bieten gleichzeitig praxisorientierte Implikationen für Unternehmen, Regulierungsbehörden und weitere Stakeholder, denen die Gestaltung von Corporate Governance und nachhaltiger Berichterstattung ein Anliegen sein könnte.

Dennoch unterliegt diese Arbeit gewissen Einschränkungen. Die neuen Erkenntnisse basieren ausschließlich auf bestehenden Studien, deren Qualität, Methodenwahl und regionaler Fokus Auswirkungen auf die beobachteten Wirkungsrichtungen haben können. Zudem lassen sich nicht alle Wirkungsrichtungen eindeutig aus der Literatur ableiten. Dies hebt die Notwendigkeit für zukünftige Forschung auf diesem Gebiet hervor, um die komplexen Beziehungen zwischen Vorstand und ESG-Bericht besser verstehen zu können.

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1. Introduction

1.1 Background and Context

The concept of companies taking on responsibility for their social and environmental impact was first introduced by Sheldon (1924), who claimed that negative consequences of a firms business activities need to be considered. This early recognition laid the basis for what would later be known as corporate social responsibility (CSR). Nevertheless, in early stages many companies refused to disclose information regarding their sustainable activities. Firms often saw no direct benefit in doing so or feared revealing confidential and sensitive information about their business operations (Wu et al., 2021; Mkadmi et al., 2025). However, this attitude began to change significantly in the last couple of decades. Beginning with a series of corporate scandals and cases of unethical corporate behavior, the pressure from investors, regulators and society as a whole, started to rise (Rashid, 2021; Yekini et al., 2021). Stakeholder priorities started to shift from focusing solely on short-term profits and the maximization of shareholder value towards favoring long-term growth strategies and sustainable firm operations (Bhatia & Marwaha, 2022). Investors started to show increased interest in "companies that are socially committed, environmentally friendly and practice good governance" (Jizi, 2017; Pimple, 2012; Bhatia & Marwaha, 2022, p. 10). As a result, more and more firms around the world decide to adopt sustainability strategies and disclose their environmental, social and governance (ESG) performance (Mkadmi & Daafous, 2025). This trend has continued to grow and remains ongoing, with a rising number of companies recognizing that transparency in ESG is not only expected by all kinds of stakeholders, but offers possibilities for strategic advantages in every business environment.

Alongside this growing demand for transparency, several institutions have developed and introduced frameworks and guidelines to help companies disclose their ESG topics in a consistent, effective and comparable way (Hamrouni et al., 2022; Caputo et al., 2021; del Miras-Rodriguez & di Pietra, 2018; Diouf & Boiral, 2017). The Global Reporting Initiative (GRI) has emerged as one of the most widely used frameworks since its establishment in the year of 1997 (Bhatia & Marwaha, 2022; Nicolo et al., 2023; Fuente et al., 2017; Hahn & Kühnen, 2013). The advantage of GRI coherence lies not only in its structured guidance on how to identify, measure and disclose ESG-related topics, but also to enhance the comparability and credibility of this information (Caputo et al., 2021; del Miras-Rodriguez & di Pietra, 2018; Diouf & Boiral, 2017). Therefore, the alignment of reports with GRI guidelines increases the level of trust for a diverse set of stakeholders, such as “legislators, the business press, investors, and non-governmental organizations” (Dawkins, 2004; Fernandez-Gago et al., 2018, p. 991), making it a useful tool for creating corporate legitimacy. Over time, GRI has been complemented by various other frameworks and initiatives, such as the Sustainability Accounting Standards Board (SASB), which “guides the disclosure of financially material sustainable activities” (Grassa et al., 2025, p. 4), the Task Force on Climate-related Financial Disclosure (TCFD), which assesses climate-related risks and offers recommendations to counter these threats (Bhatia & Marwaha, 2022), and also the Sustainable Development Goals (SDG), which functions as a guide on what topics should be considered and disclosed in order to provide a plan “that guarantees the planets sustainability in the future” (Martinez-Ferrero & Garcia-Meca, 2020, p. 1189).

The Non-Financial Reporting Directive (NFRD 2014/95/EU) marks the turning point with a shift from voluntary to mandatory disclosure in a European context and is strengthened by die Corporate Sustainability Reporting Directive (CSRD) in 2022 (Nicolo & Andrades-Pena, 2024; Nicolo et al., 2023; Christensen et al., 2021; Pizzi et al., 2021). Globally, a similar observation can be made: In April 2022, the United Kingdom obligated all firms listed on the London Stock Exchange to disclose data on ESG dimensions, while a mandatory report was implemented in 29 different countries in February of 2024 (ECGI 2021; Desoky, 2025).

Today, these frameworks do not only encompass more and more companies on mandatory disclosure, but also play a central role in ensuring that sustainability reports are a meaningful tool for stakeholders to assess a company’s commitment to responsible and reliable business activities. Their adoption continues to grow, showing the increasing global awareness for transparency, accountability and long-term value creation.

1.2 Key Definitions and Conceptual Clarifications

Since this systematic literature review investigates the influence of board characteristics on ESG disclosure, this section defines the key concepts of this relationship.

Corporate governance refers to a system by which companies are directed and controlled. It consists of several structures, mechanisms, and processes which aim at promoting accountability, fairness and transparency to stakeholders, such as shareholders, employees, customers, investors, and the wider community (OECD, 2015). Within this, the board of directors is seen as one of the most important governance mechanisms (Chan et al., 2014; Martinez-Ferrero & Garcia-Meca, 2020). The board is responsible for overseeing and controlling management performance, formulating long-term strategies for sustainable growth, and a transparent way of communication between a firm and its stakeholders (Jizi et al., 2017; Mangena & Pike, 2005; Gallego-Alvarez & Pucheta-Martinez, 2020; Arayssi et al., 2020; Fernandez-Gago et al., 2018).

However, the concept of sustainability has been defined in many different ways. For the purpose of this literature review, the definition of the World Bank has been chosen to describe corporate social responsibility and refers to the "commitment of businesses to contribute to sustainable economic development by working with employees, their families, the local community and society at large to improve their lives in ways that are good for business and for development" (Starks, 2009, p. 465; Jizi, 2017). In simpler terms, CSR means that a company acts in a way that is seen as beneficial to the society and the environment, beyond just making profit. It is about following ethical principles, meeting society's expectations, and contributing to sustainable development while still supporting the long-term success of a business (Bowen, 1953; Murray & Montanari, 1986; Khan et al., 2012). Closely connected to CSR is the concept of environmental, social and governance (ESG) disclosure, which refers to the communication of information about a company's performance and practices on these three dimensions (Mangena & Pike, 2005; Martinez-Ferrero & Garcia-Meca, 2020). It contains qualitative and quantitative data that allow insights into the sustainable activities of a firm and enables stakeholders to assess the corresponding sustainable performance (Chen & Xie, 2022; Mkadmi & Daafous, 2025). The environmental dimension focuses on encouraging businesses to manage their operations in a sustainable way, as well as mitigating their overall impact on the natural environment (Mahmood et al., 2018; Roscoe et al., 2019; Bhat et al., 2024). Alongside with the United Nations Sustainable Development Goals (SDG), the following areas, among other things, are discussed in this category: clean and efficient usage of energy, responsible water consumption, and reducing negative impacts in the ecosystem (Vollmer, 2020). The social dimensions on the other side, refers to the relationship between a firm and its employees and the society as a whole. It encompasses topics such as employee health and safety, equality, diversity and inclusion, but also human rights and community engagement (Chandrakant & Rajesh, 2022). Demonstrating fair treatment of employees, active engagement with stakeholders, and the examination of positive contribution to local communities are seen as key drivers for long-term success, while transparent reporting on these topics has become a crucial obligation for responsible businesses (Bhat et al., 2024). Last but not least, the dimension of governance, which is explained in detail at the beginning of this section, relates to the structures and processes of a healthy business environment.

Overall, while CSR provides a broader view of ethical and strategic behavior of a business, ESG disclosure translates this responsibility into a measurable and comparable report for stakeholders.

1.3 Relevance of Research and Problem Statement

As mentioned in Section 1.1, the demand for transparent and reliable ESG disclosure is growing extensively over the past two decades, as stakeholders do not only expect firms to communicate their financial performance, but also their disclosure on environmental, social and governance impacts in a credible and comparable way (Bataineh et al., 2025; Bhatia & Marwaha, 2022). ESG reporting has therefore become a valuable tool for assessing a firms long-term sustainability, identifying potential risks, and building trust between companies and their stakeholders (Bowen, 1953; Murray & Montanari, 1986; Khan et al., 2012). In this context, the board of directors emerges as one of the most important mechanisms when it comes to corporate governance (Chan et al., 2014; Martinez-Ferrero & Garcia-Meca, 2020). As they are responsible for reducing agency costs and information asymmetries in relation to stakeholders (Suttipun, 2021), as well as enabling a “reliable flow of information” (Arayssi et al., 2020, p. 142; Jensen, 1993), the board of directors holds significant influence on how ESG reports are prepared and disclosed (Li et al., 2008; Suttipun, 2021; Gallego-Alvarez & Pucheta-Martinez, 2020; Ong & Djajadikerta, 2020). Within this, the structure of the board plays an important role as a “composition that supports stronger board governance will result in broader awareness and concern for companies stakeholders, and this tends to results in a higher quality of sustainability reporting” (Ong & Djajadikerta, 2020, p. 3; Rupley et al., 2012). Therefore, since the board of directors does not only represent the highest form of management within a firm and has “major impact on a company’s reporting practices and procedures” (Ong & Djajadikerta, 2020, p. 5; Keasey & Wright, 1993), “ESG disclosure is a function of the characteristics of the board” (Nuhu & Alam, 2024, p. 8; Michelon & Parbonetti, 2012). In the light of these facts, the question arises which specific board characteristics are able to influence ESG disclosure. The literature regarding this topic of interest is extensive (Gallego-Alvarez & Pucheta-Martinez, 2020; Chan et al., 2014; Jain & Jamali 2016; Nuhu & Alman, 2024; Zamil et al., 2021; Dwekat et al., 2020). However, scholars fail to agree on a consistent opinion regarding the direction of influence between several board characteristics and ESG disclosure and often provide inconsistent or sometimes even contradictory results (Nguyen & Nguyen, 2023; Zaid et al., 2019). For instance, some studies find evidence that a greater gender diversity improves ESG transparency and reporting (Aliani et al., 2024; Monowar & Nurlan, 2017; Mohd-Said et al., 2018), while others report negative or neutral effects (Zaid et al., 2019; Husted & Sousa-Filho, 2019; Zhu et al., 2024). These mixed results suggest that the concept of the board of directors is not operating in isolation, but rather a construct that interacts in various ways, which are not fully understood yet (Uyar et al., 2021; Nguyen & Nguyen, 2023).

Against this backdrop, the question of how specific board attributes influence ESG disclosure remains theoretically and practically important. A full understanding of this relationship can provide valuable insights for policymakers, companies, investors and all other stakeholders. Addressing inconsistent evidence in the current literature and the limitations of present reporting practices seems to be essential in enhancing academical knowledge, as well as the practical governance of ESG disclosure.

1.4 Theoretical Foundations

For a better understanding of the relationship between board characteristics and ESG disclosure, several theoretical foundations have emerged in the literature. Each provides a different explanation why board characteristics matter for corporate sustainability reporting and how practices in this regard evolve. The following section lists these theoretical perspectives, alongside with a brief introduction.

At first, attention is directed toward the agency theory, which describes the relationship between principles (owners) and their agents (managers) (Jensen & Meckling, 1976). This theory emerges as one of the most frequently used theories in order to explain this relationship. Because of the separation of ownership and control, managers are keen to pursue personal benefits, rather than maximizing shareholder value, giving increased attention to agency problems and agency costs (Jensen & Meckling 1976; Raimo et al., 2021; Shamil et al., 2014; Vitolla et al., 2020). The board of directors is supposed to counter these agency problems by implementing strong internal control mechanisms, as well as monitoring the performance of managers to improve both, the managerial performance and the transparency of ESG disclosure (Jensen & Meckling, 1976; Jizi et al., 2014). Closely connected to this, are information asymmetries, which emerge in situations where insiders, such as managers, possess more information than external stakeholders (Healy et al., 1999; Leuz & Verrecchia, 2000; Jensen & Meckling, 1976). This enlarges the information gap between managers and external stakeholders and enables opportunistic behavior. The disclosure of ESG activities is one central tool to reduce information asymmetries, improve investors' confidence, and lower a firms cost of capital (Dhaliwal et a., 2011; Arvidsson, 2010; Alareeni & Hamdan, 2020).

Also stakeholder theory is commonly used to theoretically explain the relationship between board attributes and ESG disclosure as it functions as an extension of the agency theory (Smallman, 2004; Monowar & Nurlan, 2017). Freeman (1984) and Donaldson and Preston (1995) state that firms must not only consider internal shareholders, but all kinds of groups that can be affected by a firms ESG activities. In other words, stakeholder theory expands the responsibility from protecting only shareholder's interests, to addressing the interests of all stakeholders, including those that are affected by social, environmental and governance considerations (Smallman, 2004). From this perspective, stakeholder theory supports the idea of balancing conflicting interests, which is accomplished by considering the alignment of disclosure policies, ESG practices, and managing risks (Donaldson & Preston, 1995; Clarkson, 1995). In this context, the board of directors plays a central role. For example, independent directors are expected to enhance long-term sustainable growth (Rao et al., 2012; Monowar & Nurlan, 2017), as well as it is expected that a larger or more diversified board can effectively represent stakeholders interest and therefore improve the scope and quality of ESG reporting (Rao et al., 2012; Samaha et al., 2012).

The resource dependence theory emphasizes that companies mainly rely on external resources, such as capital, knowledge, legitimacy, and stakeholder support to achieve a firms goals (Pfeffer & Salancik, 1987, 2003). Within this, the board of directors are able to provide critical access to these resources by bringing various skills to the table, such as expertise, experience, advice and legitimacy (Hillman & Dalziel, 2003; Wernerfelt, 1984). Therefore, larger and more diversified boards are expected to reduce uncertainty and enhance sustainability reporting by encompassing a broader set of perspectives and ideas for rightfully addressing stakeholder needs (Kesner & Johnson, 1990; Post et al., 2011; Rao et al., 2012; Bear et al., 2010). Also the institutional theory is commonly used to explain the relationship between board characteristics and ESG disclosure. Here it is assumed that institutions such as laws, industry norms, and public expectations shape corporate social behavior (Campbell, 2007; Scott, 2001). Furthermore, it can be understood that corporate practices are influenced by three forms of pressure: law- or regulatory enforcement, societal driven pressure, or professional community-related pressure (DiMaggio and Powell, 1983). Therefore, ESG disclosure can be related to as an response to these institutionalized pressures for transparency and sustainability. Finally, upper echelons theory is based on the argumentation that organizational outcomes are influenced by the demographic characteristics and values that are brought by the board of directors (Hambrick & Mason, 1984). In this context, it means that directors experience, cultural background, or personality shape the perception of sustainability, and in this turn also influence the corresponding disclosure practices (Hambrick, 2007; Dodd et al., 2022). Board diversity, for instance, provides different perspectives, knowledge, and values that are expected to enhance the monitoring of ESG activities and encourage a higher quantity and quality of reporting (Hambrick, 2007; Dodd et al., 2022).

In sum, several theories take on the theoretical explanation between the characteristics of a board and the corresponding ESG performance. Agency theory emphasizes the monitoring role of the board, while stakeholder theory expands this responsibility from a shareholder perspective to all kinds of stakeholders. Legitimacy and institutional theory express external pressures from society and institutions, while resource dependence theory focuses on a boards ability to provide critical resources. Finally, upper echelon theory underlines the influence of a directors individual characteristics. Together, these perspectives offer a comprehensive picture of theoretical foundations to understand why certain board characteristics affect ESG disclosure, but yet leave the practical answer for this question.

1.5 Research Objectives and Research Questions

Building on the growing importance of ESG disclosure, along with the corresponding theoretical foundations, this thesis' research objectives are threefold. First, it seeks to identify how and which board characteristics are able to influence ESG disclosure, as well as how this relationship is explored in existing research. Second, it aims at critically evaluating the direction of influence of those identified board attributes, along with the key strengths and gaps in understanding these outcomes. Third, this systematic literature review intends to propose recommendations for further research paths, derived from the analysis and results of this research. Based on this, the following research questions emerge:

1. What board characteristics shape ESG disclosure, and how are these relationships explored in existing research?
2. How does the literature evaluate the influence of board characteristics on ESG disclosure, and what are the strengths and gaps in understanding its outcomes?
3. What emerging factors in board characteristics and their impact on ESG disclosure should future research explore?

This systematic literature review is structured as follows: Section 2 provides a detailed explanation of the methodology in use, Section 3 offers a descriptive analysis of the selected sample, Section 4 discusses the findings, Section 5 introduces recommendations for further research, and Section 6 and 7 closes with the limitations and a conclusion for this study.

2. Methodology

Given that the relationship between board characteristics and ESG disclosure has been the subject of extensive research for the past two decades, the outcomes remain often inconsistent, unclear and sometimes even contradictory (Dwekat et al., 2020; Hamrouni et al., 2022; Wang et al., 2022; Michelon & Parbonetti, 2012). For this reason, the following study employs a systematic literature review to shed light on the field of research. This approach does not only allow a systematic review, analysis and summarization of existing literature (Denyer & Tranfield, 2009), but also enables the possibility to gain new insights (Kochan & Nowicki, 2018), the identification of underexplored topics as well as the identification of research gaps and therefore paving the way for future research questions (Daugaard, 2020). As several successful systematic literature reviews in the field of ESG (Seow, 2024; Dienes et al., 2016) have followed the structural procedure proposed by Denyer and Tranfield (2009), this study will employ the same methodological framework to ensure a transparent and objective review. Accordingly, it applies a five-step process, which is briefly introduced below and then described in detail thereafter.

1. Clarifying the research questions: The first step is formulating well defined and clearly focused research questions, which is described in section 1 of this study.

2. Collecting relevant literature: In the second step, the focus lies on selecting appropriate databases and working out search criteria that identify the most relevant articles within the field of interest,

described in section 2.1.

3. Evaluating and selecting studies: To ensure the selection of high-quality articles, only four predefined objective exclusion criteria have been introduced to avoid excluding valuable articles.
   In a second phase, all studies are assessed based on screening their abstracts and excluding those that meet one or more of the predefined exclusion criteria, which are described in section 2.2.

4. Analyzing the selected studies: In the fourth step, the analysis is conducted. First, general information such as authors, title, journal and the year of publication is extracted for each article. Followed by a more content-based analysis, focusing on the methodologies in use, the dependent variables, as well as the independent variables examined. All information is recorded in a summary table.

5. Results: In the final step, the key findings of this review are summarized and discussed. This includes a summary of the core findings, the current state of knowledge, as well as the identification of areas which require further research. Lastly, the study ends with a critical reflection on its limitations and provides a conclusion.

2.1 Selection of Databases and Defining Research Criteria

To uncover a broad range of reliable and academically relevant articles, the selection of databases needs careful consideration. This study chooses the databases Scopus and Web of Science due to their “high-quality, comprehensive article collection, and their respective citations” (Seow, 2024, p. 2317). Since the Web of Science is considered one of the most extensive databases in the field (Dienes et al., 2016), and given this study focuses on identifying the most relevant publications in the field of ESG literature, the citation indices were adjusted to the “Social Science Citation Index” (SSCI) and the “Science Citation Index Expanded” (SCI-Expanded). The search was conducted in the Web of Science Core Collection, which includes publications from the year 1900 to the present. In the case of the Scopus database, no additional filters were applied at database level.

The selection of appropriate keywords also requires critical assessment since it carries the risk of excluding relevant articles before they appear in the initial search result. For the purpose of this study, it is essential to identify the most commonly used synonyms for both the concept of “board characteristics” and “ESG disclosure”. A search was conducted in both databases using the following search terms applied to the title, abstract and authors keywords: “Board Characteristics” OR “Board composition” OR “Board Structure” AND “ESG Disclosure” OR “ESG Report” OR “Sustainability Disclosure” OR “Sustainability Report” OR “CSR Disclosure” OR “CSR Report” OR “Non-Financial Disclosure” OR “Non-Financial Report”.

In the keyword search phase, two additional limitations were set. Only peer-reviewed journal articles in English language were included to ensure a high level of academic quality. Other publications, such as book chapters or conference papers, were therefore excluded, consistent with other systematic reviews (Hahn & Kuehnen, 2013; Stechemesser & Guenther, 2012). This enhances comparability across studies. The initial search yielded a total of 190 articles, with 117 identified through Scopus and 73 retrieved from the Web of Science covering the years between 2005 to 2025. It is worth noting that no articles have been found meeting the described research criteria in the years between 2006 and 2011. As the single article (Luo, 2005) focuses on the connection between board characteristics and globalization without addressing ESG disclosure in particular, the evaluation was limited to the period beginning from 2012. Since the topic of interest is rapidly evolving, no restrictions were applied to exclude articles that were published more recently. Even though these articles may contain lower numbers of citations, they were considered particularly valuable, as they reflect the most current developments, guidelines, and regulatory changes related to ESG disclosure. Therefore, the search covers the years spanning from 2012 to 2025 and was conducted in the middle of April 2025.

After removing 38 duplicates which were found in both databases, the final sample consisted of 152 articles.

2.2 Evaluation and Screening Process

The second phase of the article selection process focused on identifying those studies that are most suitable for answering the research questions introduced. To include only high-quality content, two journal rankings were used to systematically define which of the 152 articles were published in a reputable and academically recognized journal, recommended by Wallace and Wray (2006). The assessment was done using the Academic Journal Guide 2024 published by the Chartered Association of Business Schools and the 2024 ranking of the VHB. All articles that were not published in a journal ranked by at least one of the two journal ranking systems were considered to not meet the required quality and were therefore omitted from further analysis. In total, 51 articles were found that did not meet the criteria, resulting in a refined sample of 101 articles published in ranked journals.

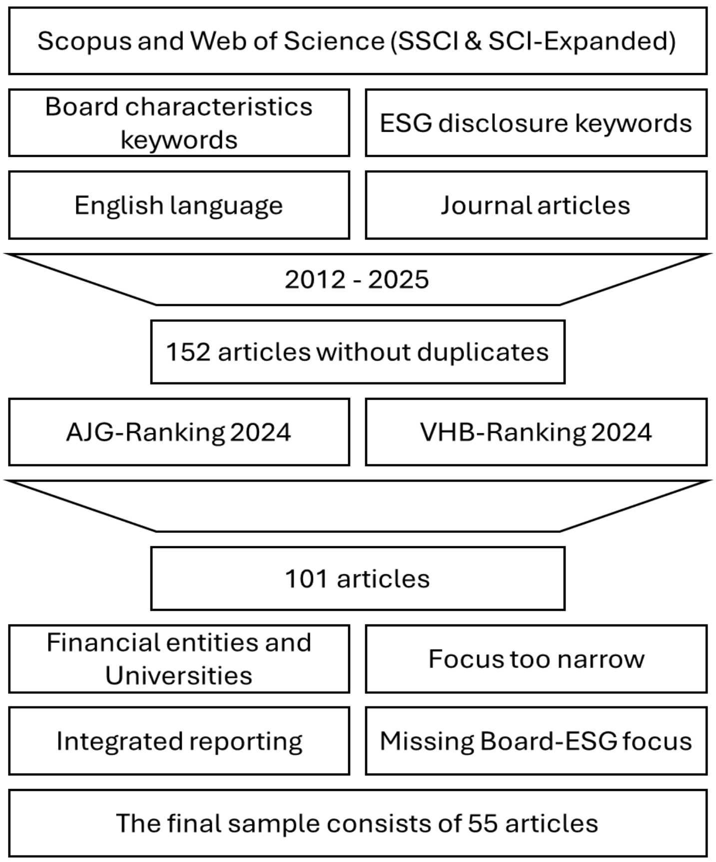
To make sure results in this study are as generalizable and comparable as possible, several predefined exclusion criteria have been defined. First, studies analyzing exclusively financial entities were excluded. This decision is in line with several other publications and is based on the unique accounting systems of financial entities (Bini et al., 2023; Michelon & Parbonetti, 2012) and their operation within a stringent environment with different regulations and policies (Reverte, 2009; Sadou et al., 2017). Furthermore, the second and third exclusion criteria were adopted from Dienes et al. (2016). Studies with a scope too narrow to allow for generalizable conclusions about ESG disclosure and studies focusing on integrated reporting, which was excluded due to its broader conceptual framework. Dienes et al. (2016) state: “It is not just a reporting tool but rather an instrument in support of a holistic approach to management decisions (integrated thinking)”. The final exclusion criterion was based on a more logical assessment. Studies that did not primarily analyze the relationship between board characteristics and ESG disclosure were also excluded from the sample.

During the screening phase, the abstracts of all 101 articles were analyzed. At this stage, studies were only excluded when it was evident that they met one or more of the predefined exclusion criteria. As a result, 14 articles were omitted due to their focus on entities in the banking sector. Additionally, one article analyzing a university was excluded based on the same reasoning. Six articles were excluded due to their narrow focus, while two were omitted because they focused on integrated reporting. Finally, eight articles had to be excluded because their primary focus was on financial aspects in connection with board characteristics. This resulted in a final sample of 70 articles which were seen as suitable in terms of quality and relevance to conduct a systematic literature review that contributes to the academic disclosure.

The remaining sample was reviewed in full length. During the reading phase, it became apparent that several articles still did not meet the inclusion criteria, even though this was not evident from the screening of abstracts. Consequently, two articles were excluded due to their overly narrow research focus, two were removed because they examined the aspects of integrated reporting, and eleven additional articles had to be removed due to their lack of focus on the relationship between board characteristics and ESG disclosure.

The final sample of articles consists of 55 articles, which function as the basis of this systematic literature review and are presented in Table 1 in the appendix while the process of the selection of the articles is visualized in Figure 1.

Figure 1: Visualization of Selection Process



2.3. Principles of a Systematic Literature Review

Denyer & Tranfield (2009) propose four key principles to guide the development of a systematic literature review that minimizes errors and bias: transparency, inclusivity, explanatory power, and heuristic value. The following section outlines how each of these principles was applied in this study to ensure the quality and credibility of this review.

Transparency is achieved through an objective and clearly documented approach within the selection process of the articles. According to Tranfield et al. (2003) transparency requires that each step is explained and recorded. This includes justifying the choice of databases, considering the most suitable keywords, as well as clarifying any additional limitations. In line with this, section 2.1 and 2.2 outlines the applied procedure used to identify, screen and evaluate the articles included in the final sample.

Inclusivity in the context of a systematic literature review aims at balancing the inclusion of a broad and diverse range of perspectives with the need to ensure that selected articles are also relevant for answering the research questions. While a wide scope is essential to not miss out any relevant studies, it is equally important to avoid including articles that do not fit the topic under investigation. Pawson (2006) suggests, each study should be evaluated individually to determine whether it offers a valuable contribution. In line with this recommendation, this review set up predefined exclusion criteria in order to maintain the comparability of the sample. All articles which fulfilled the inclusion criteria after screening the abstracts were analyzed in full length to determine their contribution to the research objective.

Explanatory power addresses a common limitation in literature reviews: the tendency to solely summarize findings without digging into a deeper level of understanding. To counter this Denyer and Tranfield (2009, p. 681) recommend the "systematic organization of the data into formats that allow summary" followed by coding and cross tabulating in various ways. In this study raw data was extracted from the sample and manually coded using an Excel spreadsheet to facilitate the structured analysis. The approach and specific details to which data was extracted and how it was coded follows in section 3.1.

Heuristic nature describes the fact that a systematic literature review will allow deeper understanding of a topic rather than providing a final solution. As Denyer and Tranfield

(2009, p. 681) explain, such reviews offer “progress toward a solution of a problem”. In this context, this study aims to generate insights, identify underexplored areas within the existing literature, and offer new directions for future research. By doing so, it does not only summarize existing knowledge, but also shapes the academic literature moving forward.

3. Descriptive Analysis

This section addresses the first and second research question by analyzing the selected and above-mentioned 55 studies. The aim is to explore which board characteristics influence ESG disclosure, how this relationship is examined across the sample and how the literature evaluates the influence of board characteristics on ESG disclosure.

The analysis is structured into six parts. The first part aims at providing a detailed overview of the journals in which the selected articles are published. The second part offers general insights, such as the publication years of the 55 articles, the time periods they cover, and their geographical focus. In the third part, an analysis of the methodological approaches applied in the studies is conducted, while the fourth section explores how board characteristics can influence ESG disclosure. The fifth analysis identifies which specific board characteristics have an effect, followed by a systematic clustering of these independent variables. Finally, the sixth part presents a qualitative analysis of the core findings, extracting key similarities and differences across the selected sample. This structure allows a systematic and in depth understanding of the current academic literature on board characteristics and ESG disclosure.

3.1 Journal Quality and Publication Outlets

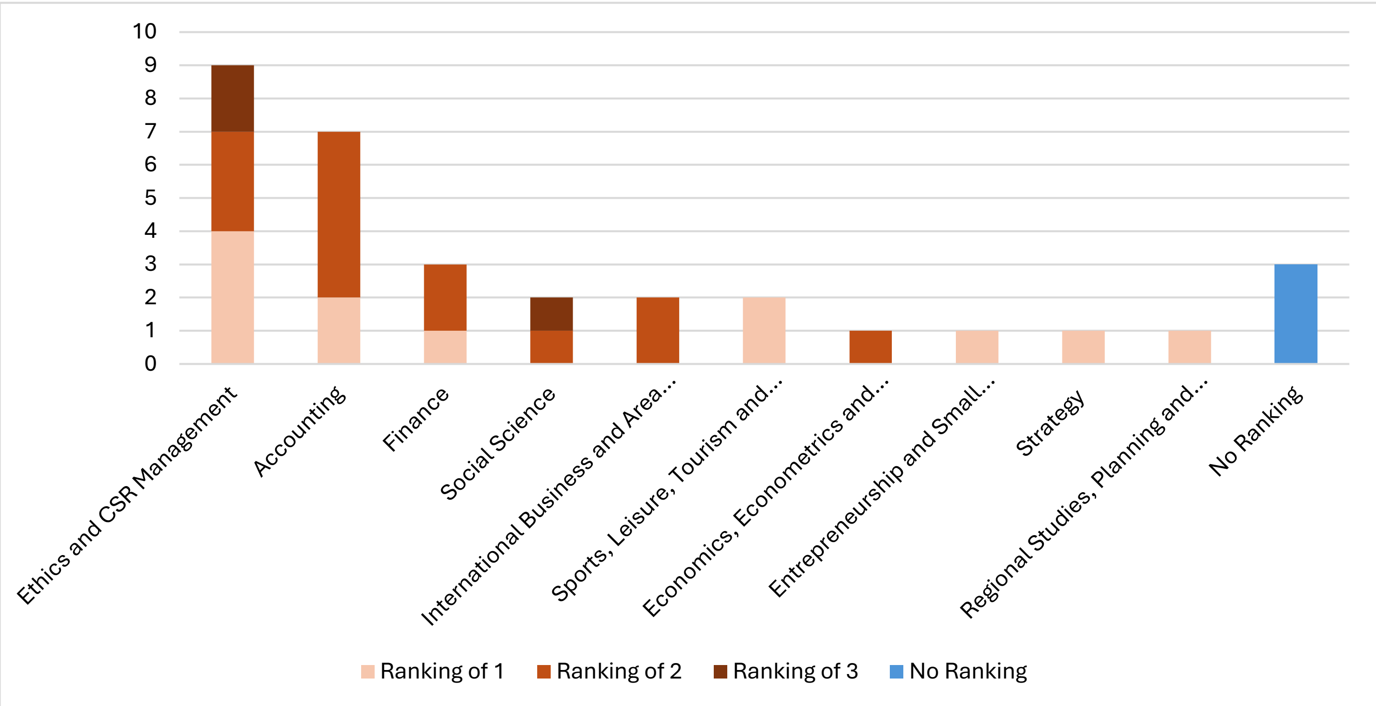
At first attention is directed towards the distribution and quality of the selected literature. To assess the academic relevance of journals in which the 55 articles are published, the Academic Journal Guide 2024 and the VHB-Ranking 2024 are used. The articles in this study are published across 32 different journals, reflecting a broad literature base. Notably, the most represented journal is Corporate Social Responsibility and Environmental Management with eleven articles, followed by the Social Responsibility Journal and the Sustainability Accounting, Management and Policy Journal, each contributing four articles.

With regard to the journals field of research, the AJG 2024 assigns each journal to only one category, meaning there are no multiple classifications or rankings. However, the VHB-Ranking of 2024 lists single journals under multiple subject areas and therefore assigns different ratings depending on the category. To maintain consistency and clarity, this analysis assigns each journal to only one category, based on the main thematic focus of the article, and uses the corresponding ranking for the selected category. In terms of journal quality, the Academic Journal Guide 2024 bases their ratings on a scale between 1 and 4*, with 4* representing journals with the highest academic quality. The VHB on the other side, uses an alphabetical classification system reaching from A+ to D, while A+ represents the highest quality.

According to the AJG 2024 classification, the most represented field of research among the selected journals is “Ethics and CSR Management”, encompassing nine different journals. Within this category, two journals are rated as 3, the highest ranking in the sample, three are rated as 2, and four as 1. The second most frequent field is “Accounting”, contributing seven journals, five of which are rated as 2 and two as 1. The category of “Finance” includes three journals, two are rated as 2 and one as 1. The division of “Social Science” adds two journals, with ratings of 3 and 2. The categories of “International Business and Area Studies” and “Sports, Leisure, Tourism and Sector Studies” are also represented by two journals. In addition, one journal is assigned to each of the following categories: “Economics, Econometrics and Statistics”, “Entrepreneurship and Small Business Management”, and “Strategy”. The field of “Regional Studies, Planning and Environment” also contributes a single journal, namely “Corporate Social Responsibility and Environmental Management”, which notably contributes eleven articles to the sample, as already mentioned, and holds a rating of 1. Only three journals are not tanked by the Chartered Association of Business Schools, indicating that the majority of journals in this study are published in academically credible and high quality outlets.

In contrast, the VHB ranking of 2024 categorizes nine journals under the field of "Sustainability Management", making it the most represented category in this classification as well. Within this group, seven journals are rated as B and two as C. Consistent with the AJG 2024 ranking, "Accounting" also appears prominently, contributing six journals, of which all of them are rated as a C. The field of "Strategic Management" includes five journals, with two of them rated as B and three as C. The category "Banking and Finance" adds another two journals, rated B and C. Lastly, the divisions of "International Management", "Service Management", "Business Taxation", and "Philosophy of Science and Ethics in Economics" each contribute one journals. Notably, the journal in "Service Management" is rated as a D, the lowest rating in the sample, and is not listed in the AJG 2024 ranking. In this ranking six journals are not listed at all.

Figure 2: Categorical Distribution and Rankings of Journals According to AJG 2024

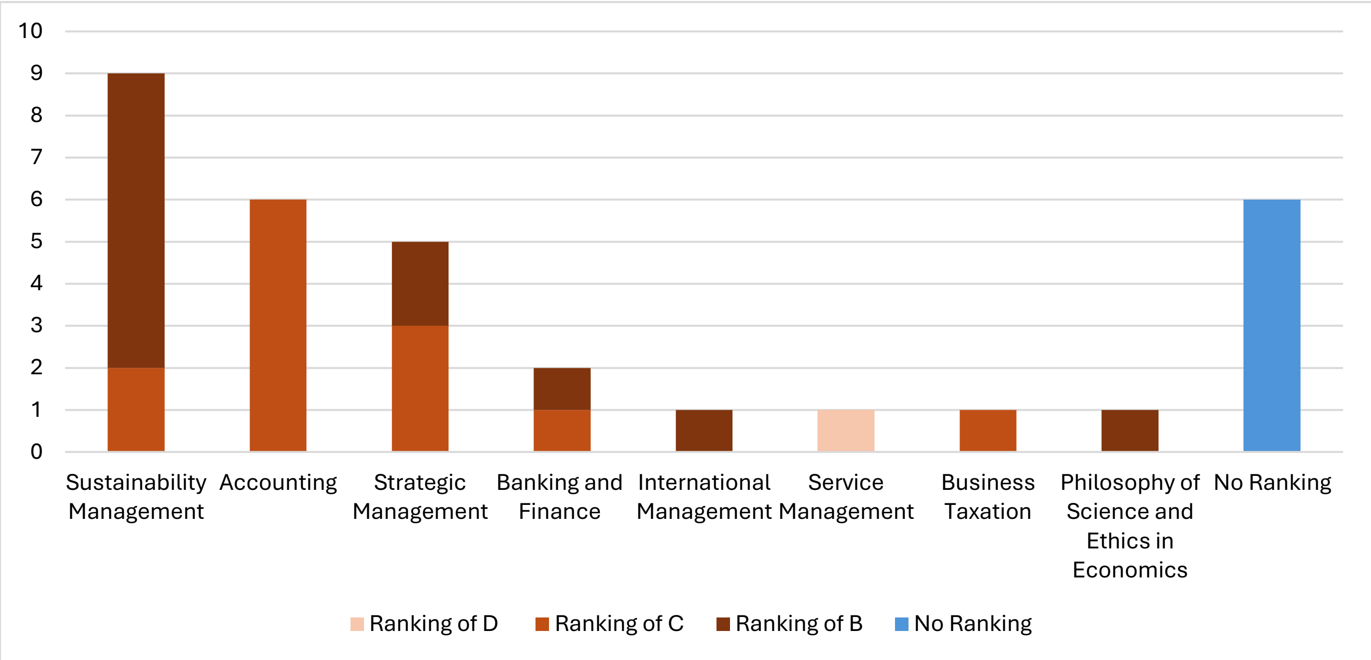


Remarkably, 21 out of the 32 journals are ranked on both, the AJG 2024 as well as the VHB 2024 ranking, while 9 journals are only ranked by one of the two systems. This not only underlines their academic relevance and credibility but also highlights that the majority if the literature is published in journals with internationally recognized standing.

Interestingly, the categorization schemes of the two Rankings show limited overlap in how journals are assigned to research fields. For illustration, Figures 2 and 3 display the distribution of journals across categories, along with the corresponding rating. A full list of the distribution of the articles in the journals and their ranking is provided in Table 2 in the appendix. Overall it can be seen that the topic of interest is approached from a wide range of disciplines, extending beyond the field of sustainability. Research fields such as accounting, finance, and strategic management are also interested in contributing valuable insights, highlighting the interdisciplinary relevance of the topic.

The distribution of journals ensures relevance, credibility as well as high quality and builds a reasonable basis for analyzing the relationship between board characteristics and ESG disclosure.

Figure 3: Categorical Distribution and Rankings of Journals According to VHB 2024

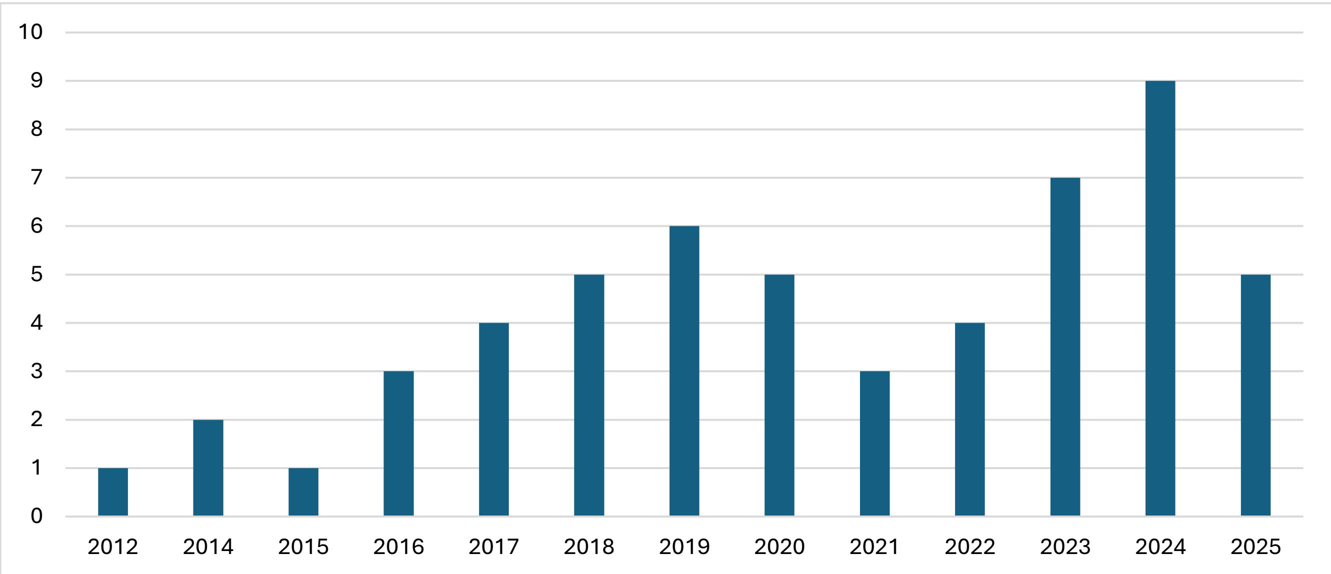


3.2 General Insights of the Sample

An analysis of the publication years within the selected articles reveals a growing interest on the connection between board characteristics and ESG disclosure. While early contributions were relatively limited, the topic has gained interest in recent years. This aligns with the increasing global relevance, including stronger regulatory guidelines, higher stakeholder expectations and the trend towards corporate transparency (Gallego-Alvarez & Pucheta-Martinez, 2020; Hamrouni et al. 2022). The high number of recently published articles shows that corporate governance in relation to ESG has become a widely discussed topic. Figure 4 shows the publications per year within the selected sample.

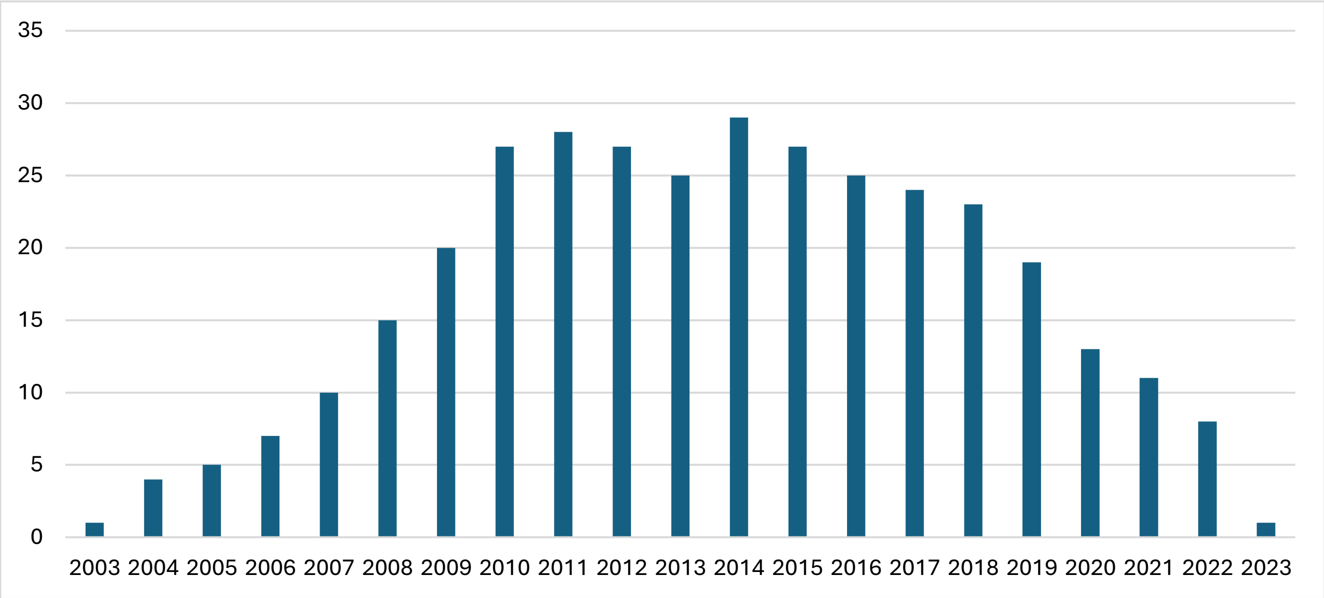
Figure 5 illustrates the distribution of observation years across the sample, showing a concentration between 2010 and 2018. As the number of observations rises steadily beginning in 2003, the peak is in 2014 with nearly 30 entries. After 2018, a decline in the number of observations is visible, with a sharp drop starting in 2019. This is likely due to the fact that a significant amount of articles were published before the data for 2019 and the subsequent years became available.

Figure 4: Publications per Year within the selected Sample



The 55 articles include 353 country-level observations in total, revealing several important patterns related to the geographical focus of scholars and the classification of income of the observed countries. The six most frequently studied countries are China with 17 observations, France and the United Kingdom with 16 observations each, the United States of America with 14 observations, and both Germany and Spain with 13 observations each. The countries which were observed the most show that the focus of academic researchers is strongly connected to large, strong and economically influential countries.

Figure 5: Distribution of Years of Observations within the selected Sample

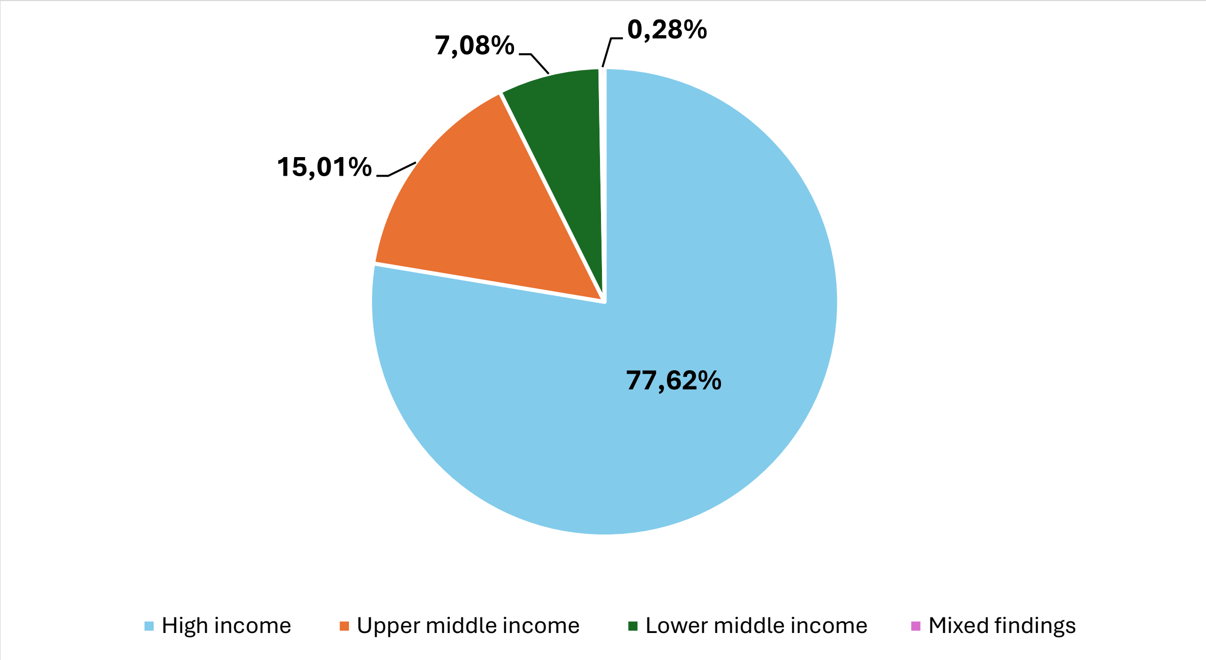


It should be noted that one article did not specify the exact countries of observation but instead referred to Sub-Saharan Africa in general. This is reflected accordingly in the table. In total 65 different countries are analyzed in the selected sample.

For a closer analysis of regional distribution and the development status, it is important to note that the classification of countries by income is done using the World Bank's income classification system. In general the World Bank categorizes countries into four income groups based on the gross national income (GNI) per capita: High income, upper-middle income, lower-middle income and low income. GNI per capita can be influenced by various factors such as the economic growth of a country, inflation, exchange rates, and population dynamics. The World Bank adjusts the income thresholds annually using the Special Drawing Rights (SDR) deflator to account for global inflation. As shown in Figure 6, the vast majority of observed countries are classified as high income and have therefore a GNI above $14,005. This is in line with scholars mentioning that the research on board characteristics and ESG disclosure is investigated stronger in rather developed countries (Zaid et al., 2019). Upper middle income countries make up approximately 15% of the sample, while lower middle income countries account for another 7%.

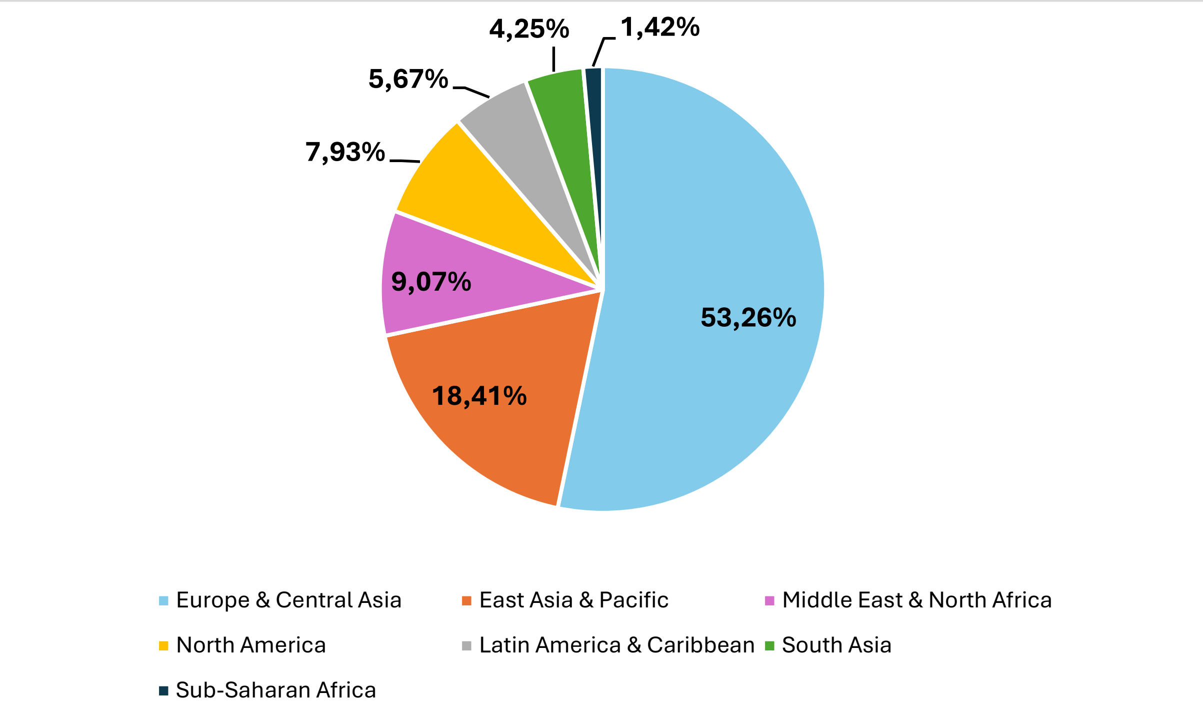
Altogether, developed countries are considered those with a high income and represent more than two-thirds of the observed countries, whereas countries with upper-middle income to low income are considered as developing countries. It should be noted again that the article focusing on Sub-Saharan Africa, where income levels range widely between upper middle income and low income, is listed as "mixed findings". Other low income countries were not observed in this sample.

Figure 6: Distribution of Classification by Income of Observed Countries



For reasons of consistency, the classification of world regions also follows the World Bank's system, which distinguishes between seven regions, namely, Europe and Central Asia, East Asia and Pacific, South Asia, North America, Latin America and Caribbean, Middle East and North Africa and lastly Sub-Saharan Africa. The regional distribution of the sample reveals a significant imbalance, with Europe and Central Asia accounting for over half of all observations. This overrepresentation in the sample helps to understand the imbalance toward high income countries, as most European and central Asian countries are classified as high income countries by the World Bank. East Asia and Pacific follows with 18,41%, reflecting those regions with growing economic importance and the significance of studies regarding emerging markets such as China and Vietnam. The Middle East and North Africa makes up about 9% of the sample, while North America adds roughly 8% and Latin America and the Caribbean comprises just 5,67% and are moderately represented. Meanwhile, the regions South Asia and Sub-Saharan Africa are clearly underrepresented, despite their relevance in global ESG literature. Figure 7 illustrates the precise distribution of regions in the sample. A full list of the observed countries, including their income classification and corresponding region, is provided in Table 3 in the appendix.

Figure 7: Distribution of Regions in the Sample



3.3 Methodological Approaches in ESG Research

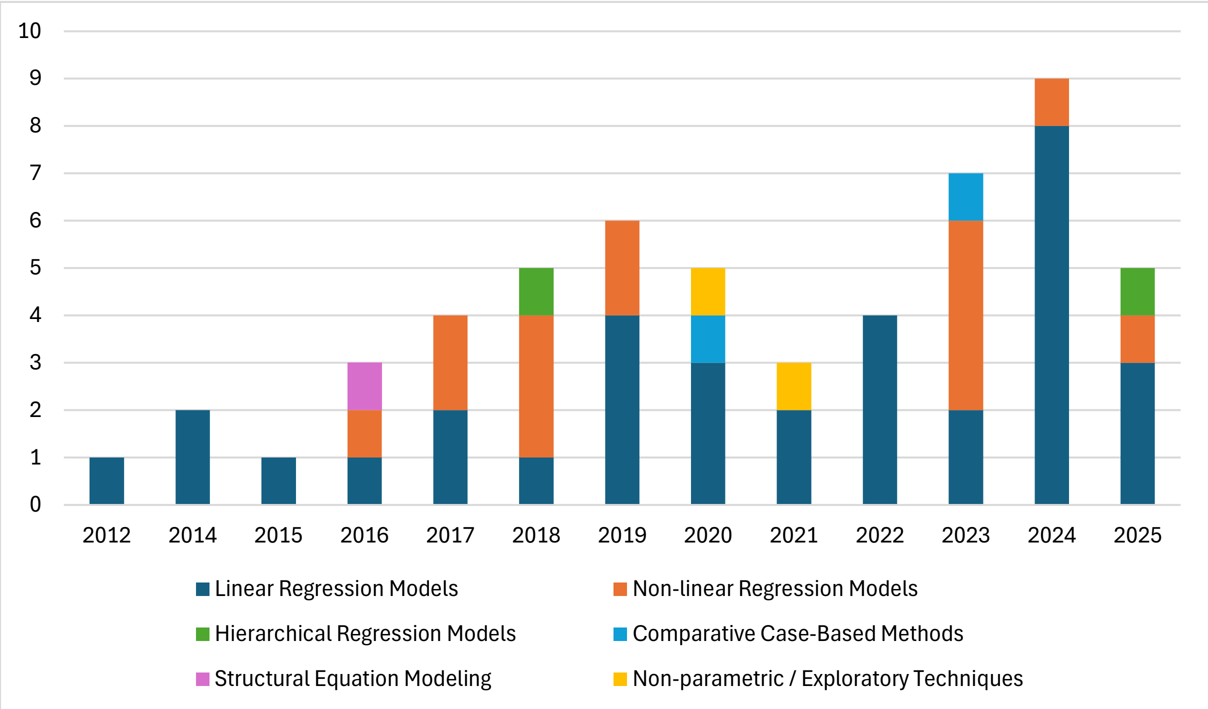
This section presents a deeper understanding and a categorical classification of the methodological approaches used in the reviewed literature. Overall, each methodology was assigned to one category and are categorized as follows:

- Linear Regression Models: 34 Studies (62%)
- Non-linear Regression Models: 14 Studies (25%)
- Hierarchical Regression Models: 2 Studies (4%)

- Comparative Case-Based Methods: 2 Studies (4%)
- Structural Equation Modeling: 1 Study (2%)
- Non-parametric or exploratory techniques: 2 Studies (4%)

Overall a clear pattern emerges: all 55 studies primarily adopt a quantitative research design. Linear regression models are the most frequently used method in the sample across all years. This approach peaks in 2024 but is present consistently throughout the entire observed timeline, indicating that scholars see it as a foundational tool in empirical research on sustainability, particularly for analyzing the relationship between board attributes and ESG disclosure. In the early years of the sample, linear regression is the sole method used. However, beginning in 2016, non-linear regression models appear for the first time and show a strong presence in the years between 2016 and 2019, peaking again in 2023. This makes non-linear models the second most common category overall.

Figure 8: Distribution of Methodological Approaches Across Years

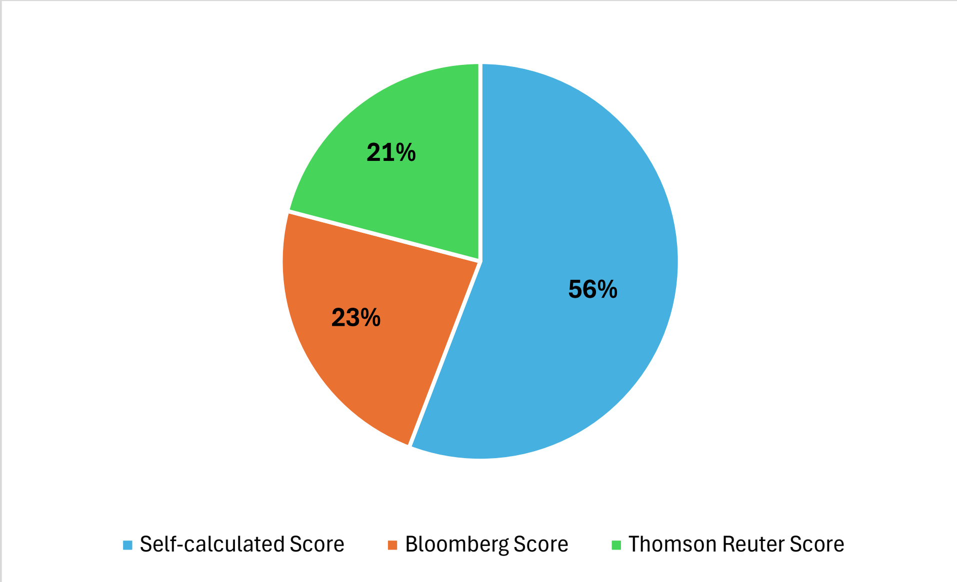


Hierarchical regression models on the other side are only used in 2018 and 2025 and remain rather underrepresented. Taken together, regression based methods (linear, non-linear and hierarchical combined) account for approximately 91% of the total sample. This dominant trend reflects a traditional, variable centered orientation in the chosen literature. Only two papers, Dweka et al. (2020) and Nguyen and Nguyen (2023), adopt a mixed approach by applying a fuzzy set qualitative comparative analysis. This approach is categorized as a comparative case-based method as it combines quantitative data with qualitative analysis. It allows for the exploration of how multiple board characteristics are combined to influence ESG disclosure and allows insights that can be interpreted qualitatively. In comparison, the structural equation model used by Garcia-Torea et al. (2016) allows for the detection of indirect effects of board characteristics on ESG outcomes. The two approaches, categorized as "non-parametric or exploratory techniques", are counted for the work of Ong and Djajadikerta (2020) who apply a non-parametric correlation analysis using Kendall's tau-b and Campanella et al. (2021) who employ a generalized estimating equations model to analyze longitudinal count data. Figure 8 visualizes the distribution of used methodologies across the years.

3.4 The Influence of Board Characteristics on ESG Disclosure

The next part of this review takes a closer look at the various dimensions through which board characteristics may influence ESG disclosure. Across the selected sample, nine different perspectives emerge, reflecting different ways in which board attributes can affect ESG reporting. Of the 55 studies analyzed, 42 adopt the extent of ESG disclosure as a dependent variable, making it the most commonly observed dimension. The extent is calculated using two approaches: researchers either rely on an external ESG score provided by Bloomberg or Thomson Reuter, or they calculate their own indices, most often through content analysis of sustainability and annual reports. The Bloomberg ESG score is one of the most widely used ESG ratings in recent sustainability literature (Nollet et al., 2018) and is even recommended by the Global Reporting Initiative (GRI) as a credible measurement of corporate ESG transparency (Buallay, 2018; Manita et al., 2018). The score covers all three dimensions of ESG and ranges from 0 to 100. It is constructed using data that is derived by Bloomberg analysts from publicly available sources, such as annual and sustainability reports, company websites and official statements (Hamrouni et al., 2022; Nuhu & Alam, 2024; Bhatia & Marwaha, 2022). Among other things, the indicators include topics such as climate change, water usage, and health disclosure (Bloomberg, 2022). Each data point is weighted according to its relevance for the specific industry, and the total score reflects the extent to which ESG topics are covered, not the actual performance on those topics. As Bhatia and Marwaha (2022, p. 1.548) state, it is a “score for disclosure and not for performance on these dimensions.” Among the 42 studies in this review that examine the extent of ESG reporting, ten rely on the Bloomberg ESG score. The ESG score provided by Thomson Reuter follows a similar calculation and is used by nine studies within the reviewed sample. Like Bloomberg’s ESG score, it evaluates a firms ESG disclosure across all three dimensions and uses a set of industry-adjusted, weighted criteria (Arayssi et al., 2020). The data is collected exclusively from publicly available sources such as annual reports, CSR reports, and a company’s website. To ensure accuracy and reliability, the collected information undergoes a quality assurance check (Refinitiv, 2022; Nicolo et al., 2023). In 24 of the reviewed studies, researchers construct their own ESG disclosure score rather than relying on external providers. This is typically done by either extracting items from established databases or by drawing on prior ESG literature to create a checklist of important disclosure items that are expected to be disclosed in annual or sustainability reports. The existence of these items is then checked through content analysis, using a binary scoring system. One point is awarded if a specific ESG topic is disclosed, and zero if it is not (Gallego-Alvarez & Pucheta-Martinez, 2020; Dobija et al., 2023; Mohy-ud-Din, 2023; Abu Qa’dan & Suwaidan, 2019; Gallego-Alvarez & Pucheta-Martinez, 2019; Zaid et al., 2019; Michelon & Parbonetti, 2012; Habbash, 2016; Mohd-Said et al., 2018). Notably, the total number of scoring approaches adds up to 43, because the study by Bhat et al. (2024) uses the environmental and social score from Bloomberg, while the economic score is provided by Thomson Reuter. Therefore this study is accounted for using both database scoring systems. Figure 9 illustrates the distribution of approaches applied in the 42 articles covering the extent of ESG disclosure, while Figure 10 in the Appendix visualizes the direction of influence for the same set of studies.

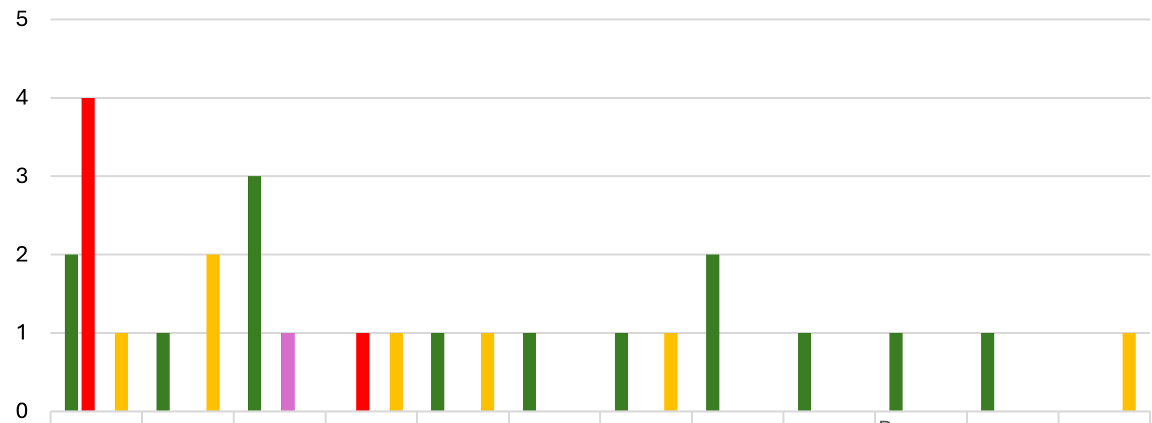
Figure 9: Approaches to Measuring the Extent of ESG Disclosure



The second most observed dimension in the reviewed studies is the comparability of ESG reports across companies. As defined by Garcia-Sanchez and Martinez-Ferrero (2018, p. 612), “comparability means that the information issued by a company can be analyzed comparatively with other organizations at the same time, for the same period of time, and with the information issued by it in that time. Comparable information requires the adoption of standards and formats and their uniform application in time, leading to a similar treatment for transactions and other events that occur in similar circumstances.” In this review, ten studies use comparability as the dependent variable, while mostly the compliance of GRI guidelines are adopted as a proxy for measuring it. These studies apply a binary scoring system, assigning a value of one if a company’s report aligns with the GRI framework, and zero if it does not (Ramon-Llorens et al., 2021; Thun & Zülch, 2023; Fernandez-Gago et al., 2018; Miloud, 2024). One exception is the work by Bini et al. (2023), which employs a different method. Their analysis is based on reported non-financial key performance indicators (NFKPI) and the consistency of their disclosure over time. In this case, a higher consistency in NFKPI reporting results in a higher score of comparability. Figure 11 illustrates the findings of those articles analyzing the comparability between ESG disclosures, where it becomes evident that independent directors seem to have rather negative influence on the comparability and GRI coherence, even though the overall influence of independent directors seems to be rather positive.

Six studies examine whether ESG reporting is subject to external assurance by an independent third party. This information is obtained from the company's annual reports. A binary scoring system is used: a score of one is assigned if the ESG reporting is externally assured, and zero if no assurance is provided (Ramon-Llorens et al., 2021; Thun & Zülch, 2023; Liao et al., 2018; Ng et al., 2023). Another emerging area of focus is the adoption of the Sustainable Development Goals (SDG) within ESG disclosures. Figure 12 visualizes the findings of those studies examining the assurance of ESG reports.

Figure 11: Findings on Board Characteristics Influencing the Comparability of ESG Disclosure

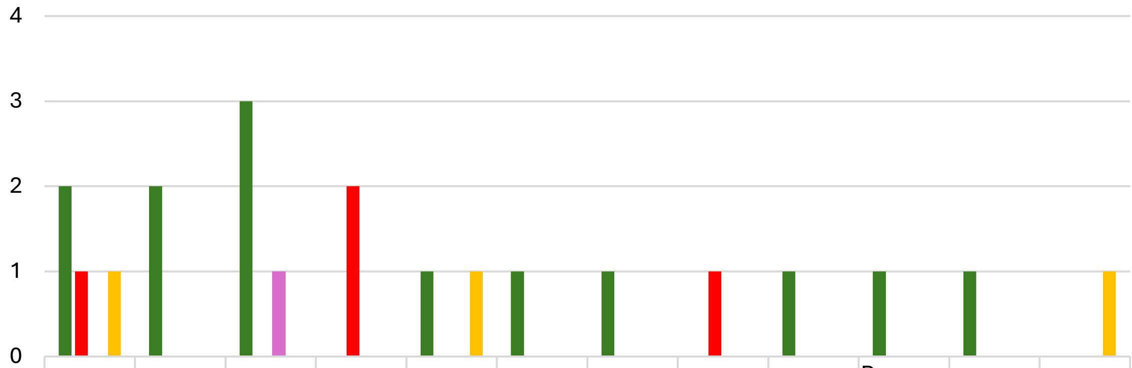


	Board ind.	Board size	Gender div.	CEO duality	Nr. of meetings	CSR committee	Audit committee	Board expertise	Multiple Directorships	Presence of CSO on Management Board	CSO = CFO	CSO = CEO
Significant positive	2	1	3	0	1	1	1	2	1	1	1	0
Significant negative	4	0	0	1	0	0	0	0	0	0	0	0
Mixed findings	0	0	1	0	0	0	0	0	0	0	0	0
No influence	1	2	0	1	1	0	1	0	0	0	0	1

Significant positive   Significant negative   Mixed findings   No influence

Four studies in the sample investigate whether companies integrate SDGs into their reporting. Shahab et al. (2018) assess the depth of SDG reporting using a scale ranging from zero to three points, depending on the comprehensiveness of disclosure. In contrast, both Martinez-Ferrero and Garcia- Meca (2020) and Ng et al. (2023) apply a binary coding approach, assigning one point if a specific SDG is mentioned in the report, and zero if not. Grassa et al. (2025) adopt a more detailed approach through manual content analysis, identifying the presence of words within the report that are relevant to the SDGs. Figure 13 shows the findings of those studies analyzing the adoption of SDG's by companies.

Figure 12: Findings on Board Characteristics Influencing the Assurance of ESG Disclosure

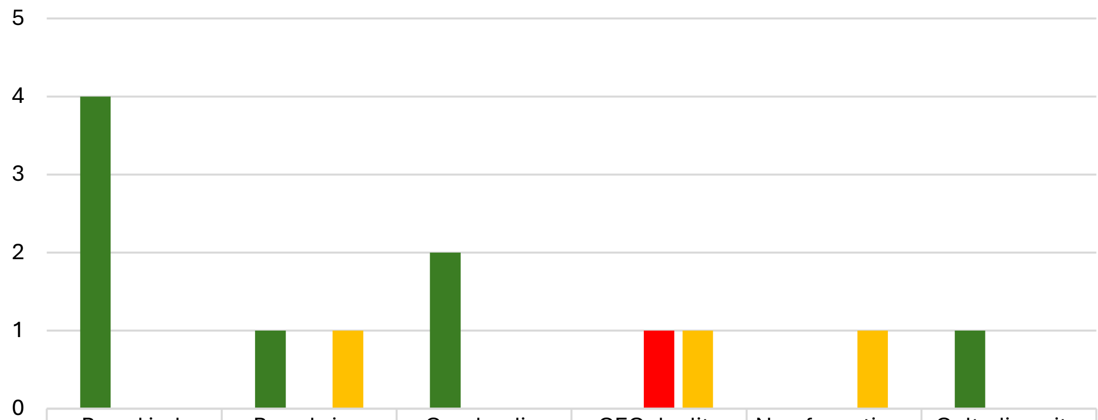


	Board ind.	Board size	Gender div.	CEO duality	Nr. of meetings	CSR committee	Audit committee	Cultural diversity	Board expertise	Presence of CSO on Management Board	CSO = CFO	CSO = CEO
Significant positive	2	2	3	0	1	1	1	0	1	1	1	0
Significant negative	1	0	0	2	0	0	0	1	0	0	0	0
Mixed findings	0	0	1	0	0	0	0	0	0	0	0	0
No influence	1	0	0	0	1	0	0	0	0	0	0	1

Significant positive Significant negative Mixed findings No influence

Finally, five additional dimensions of ESG reporting are addressed in only one study each. Garcia-Torea et al. (2016) examine whether specific board characteristics influence the frequency of reporting. Zhou (2019) investigates the relationship between board attributes and voluntary disclosure, also using a binary scoring system. Li et al. (2022) is the only study in the sample that assesses the quality of ESG reporting using an external scoring system. Specifically, it relies on the Rankins rating, which evaluates report quality based on the compliance with GRI guidelines. In contrast, Hamza and Jarboui (2024) adopt an approach to assess the tone of ESG reporting. Using a dictionary-based content analysis, they count the number of positive and negative words in company reports. A more biased tone is interpreted as a sign of lower quality, as it suggests less objectivity and transparency in reporting. Finally, Ng et al. (2023) examine which board characteristics influence whether, and how, companies disclose information about their stakeholder engagement.

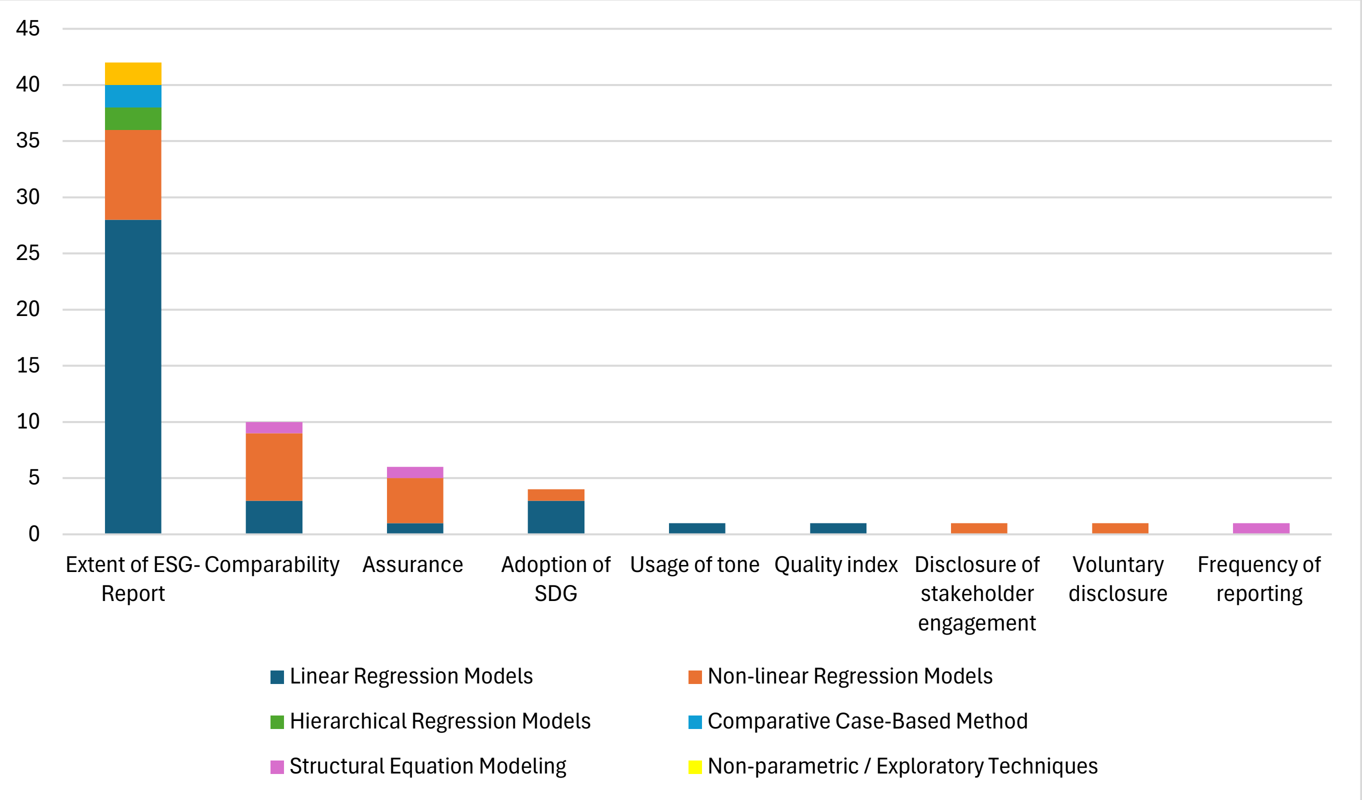
Figure 13: Findings on Board Characteristics Influencing the Adoption of Sustainable Development Goals in ESG Disclosure



	Board ind.	Board size	Gender div.	CEO duality	Nr. of meetings	Cult. diversity
Significant positive	4	1	2	0	0	1
Significant negative	0	0	0	1	0	0
No influence	0	1	0	1	1	0

Figure 14 shows the distribution of the different observed dimensions of influence on ESG reporting, alongside with the corresponding methodological approaches. As the extent of ESG disclosure stands out as the most frequently analyzed dimensions, it employs the broadest methodological diversity. While linear regression models dominate this category with 28 studies, eight articles use a non-linear approach to investigate the quantity of disclosed ESG information. As several studies examine multiple dimensions simultaneously, the total number of observations adds up to 67, exceeding the number of articles in the sample. Interestingly in this context, studies that use hierarchical regression analysis, comparative case-based methods, or non-parametric or exploratory techniques focus exclusively on the extent of ESG disclosure and do not engage with other dimensions.

Figure 14: Empirical Approaches to Dimensions of ESG Disclosure



The comparability and assurance of ESG disclosure are primarily analyzed using non-linear regression models, with the exception of Garcia-Torea et al. (2016), who apply a structural equation model to explore the comparability, assurance and the frequency of reporting. Other dimensions, such as the adoption of SDGs, the usage of tone, and the quality index in Hamza and Jarboui (2024), are examined using linear regression models. Finally, the dimensions of stakeholder engagement and the voluntary disclosure are both explored using a non-linear regression analysis, indicating a preference for a more flexible and complex modelling approach in these emerging areas.

3.5 Key Board Characteristic

In the selected sample of 55 articles, a total of 25 distinct board characteristics were identified, examined in 220 instances. This is due to the fact that most articles analyzed multiple board characteristics in relation to their influence on ESG disclosure. The following section, alongside with Figure 15 in the appendix, present the distribution of these variables and how they are keen to influence ESG disclosure.

The most frequently analyzed board characteristic across the sample is board independence, referred to as the proportion of directors who have no direct ties to ownership and are not involved in the executive operations of the company, but rather serve based on their external experience, reputation, and objectivity (Pucheta-Martinez & Gallego-Alvarez, 2019; Rao et al., 2012; Yadav & Jain, 2023). Of the selected sample of 55 studies, 48 include board independence as an attribute influencing ESG disclosure. Among these, 34 articles find a positive relationship, indicating that greater board independence leads to better ESG disclosure. In contrast, five studies find a negative connection, while eight cannot find a statistically significant correlation. Notably, the study by Bhat et al. (2024) finds a positive effect only for environmental disclosure, but not for the social or economic dimension. As a result, this work is categorized under mixed findings. The second place for the most observed independent variable in the sample is two-folded and divided between board size and gender diversity. The number of directors on a board plays “an important role in decision-making which indicates that it can influence sustainability reporting” (Grassa et al., 2025, p. 7). In total, 36 studies include the size of the board as a potential explanatory factor for variety in ESG disclosure. Of these, 19 report a positive relationship, suggesting that larger boards are more effective in promoting ESG disclosure (Monowar & Nurlan, 2017). Conversely, five studies find that a smaller board may be more effective in promoting ESG transparency. Eight studies report no significant relationship, and four studies identify mixed or inconsistent findings, indicating that larger boards are only effective when combined with other board attributes (Nguyen & Nguyen, 2023). Gender diversity on corporate boards is another frequently observed variable, highlighting that a more balanced composition of genders can positively impact ESG disclosure. Erin et al. (2021) and Pucheta-Martinez and Gallego-Alvarez (2019) emphasize that female directors are often perceived as “less self-oriented than men, more prudent, and averse to risk and litigation” (Nicolo & Andrades-Pena, 2024, p. 4719), which may be in favor of enhanced oversight and accountability in reporting. This variable is also examined in 36 studies, with 26 reporting a consistent positive relationship between gender diversity and ESG disclosure. In contrast, three studies find a negative effect, implying that gender diversity may not always enhance ESG transparency. Additionally, three studies report no significant relationship, and another three present mixed findings, where gender diversity improves some dimensions of ESG reporting but not all. For instance, Li et al. (2022) find that gender diversity on boards lead to better social disclosure but this does not apply for environmental or economic outcomes. Following those three board attributes that are generally associated with a positive influence on ESG disclosure, CEO duality stands out as the only characteristic in this review that is rather linked to negative outcomes. CEO duality occurs when the Chief Executive Officer (CEO) serves at the same time as the chair of the board (Jizi, 2017; Liao et al., 2018). This structure is often described as a form of “managerial power” that may weaken board transparency (Zhou, 2019, p. 5903). Among the 29 studies that examine this variable, 18 report a negative relationship between CEO duality and ESG disclosure. Only three studies identify a positive effect, emphasizing that consolidated leadership can have an impact in favor of the companies sustainability goals. Eight studies find no significant correlation, while no studies report mixed findings, indicating a relatively consistent perception of CEO duality as a governance weakness in the context of ESG disclosure. The final major board attribute in this review is the number of board meetings in a given period of time, which is analyzed in 15 studies. Six studies report a positive connection, suggesting that more frequent board meetings lead to improved ESG disclosure. Eight studies on the other side claim the that the number of meetings does not have a consistent relationship to ESG disclosure or at least depends on the configuration of other board traits (Dwekat et al., 2020). Taken together, these five board characteristics add up to approximately 75% of all 220 observed independent variables in the sample. This highlights their central role in the literature on board composition and ESG disclosure.

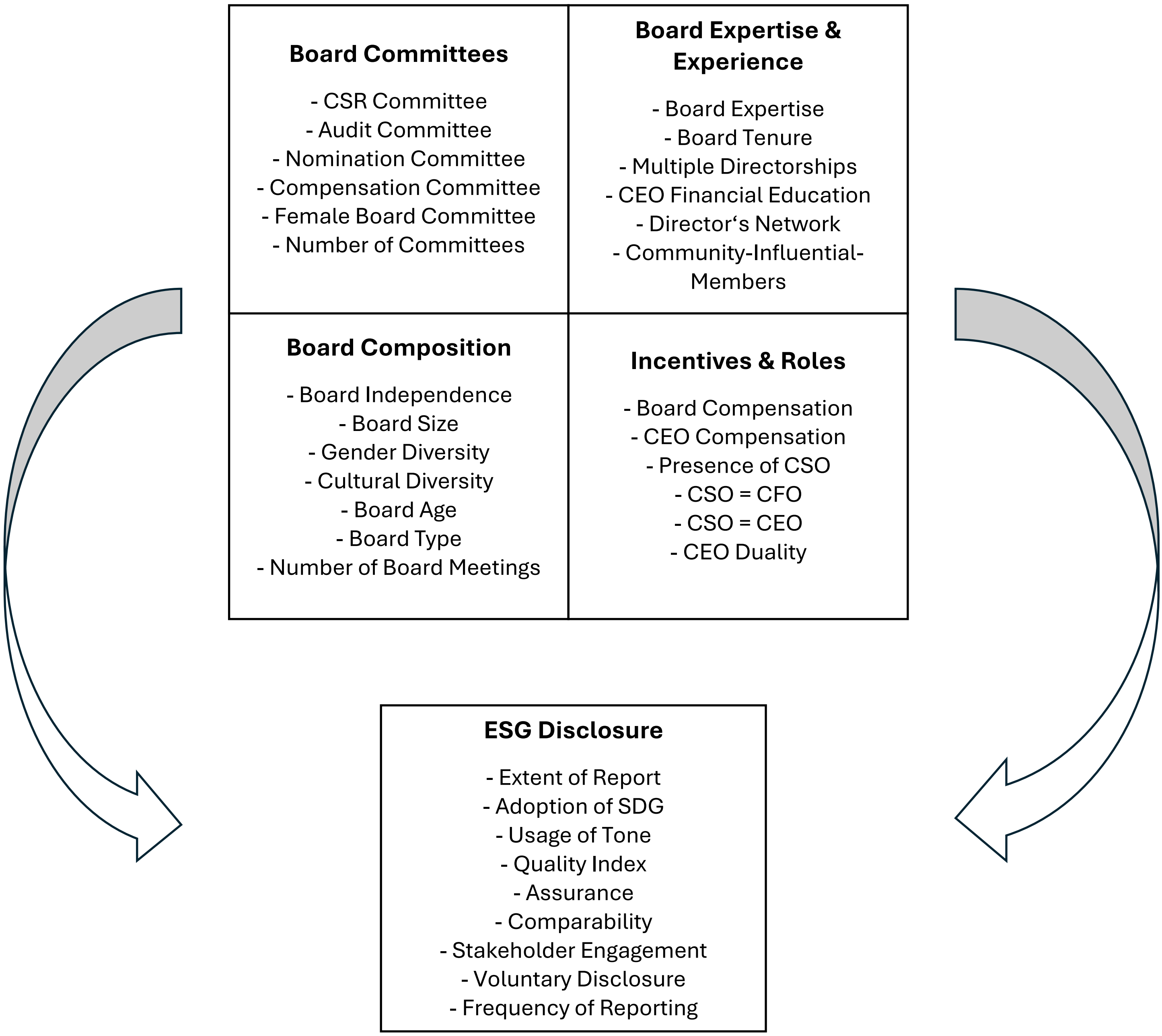
Among the less frequently observed board characteristics, the establishment of a CSR committee follows with a total of nine studies analyzing the influence on ESG disclosure. Notably, all nine articles report a significant positive relationship, indicating that the presence of such a committee contributes positively when it comes to sustainability reporting. On the other hand audit committees are investigated in eight studies, with more divergent findings. Three studies report a positive connection, while only one study can detect a negative one. Three articles find no relationship, and the work by Dweka et al. (2020) presents mixed findings, offering a deeper analysis of attributes within the audit committee. Cultural diversity on the board is examined in seven studies and typically refers to the international orientation and heterogenous backgrounds of the directors

(Dobija et al., 2023). Despite the relatively small number of observations, the distribution of findings is mixed. Three studies imply a positive impact on ESG disclosure, while Liao et al. (2018) find a negative relationship in the context of ESG assurance. However, two studies conclude mixed findings and Almaiman et al. (2024) cannot detect any connection. Next in line is board expertise, which refers to the set of skills and expertise of board members. This characteristic is examined in five studies, all of which conclude that the expertise of a board has a positive impact on ESG disclosure. Multiple directorships, meaning the number of board positions held by one director, is analyzed in four studies. Three of these report that holding multiple employment on different boards can provide an increase in ESG practices. One study, however, finds no significant relationship. Board tenure in comparison to board expertise, focuses more on how long directors have served on the board (Rao & Tilt, 2016). This variable is examined in three studies, while two of them find evidence supporting a positive effect, suggesting that experience over time contributes to better ESG reporting outcomes. Two additional board characteristics that are analyzed in the selected sample are board compensation and board age. Each of these variables is examined in three different studies. For both, two studies argue for a positive relationship, suggesting that a well-structured incentive system and a younger board may be in favor of ESG disclosure (Nguyen & Nguyen, 2023; Almaiman et al., 2024; Mkadmi & Daafous, 2025). However, one study for each finds no statistically significant relationship. The establishment of a nomination and compensation committee is analyzed in two studies each. For nomination committees, findings are mixed. One study reports a positive effect (Monowar & Nurlan, 2017), while the other finds no significant correlation (Suttipun, 2021). In contrast, the presence of a compensation committee is consistently associated with positive effects on ESG disclosure in the same reviewed studies.

Finally, several board characteristics are only examined once in the reviewed sample, reflecting a more niche oriented area of analysis. For example, Monowar and Nurlan (2017) explore whether the number of board committees within a company influences ESG disclosure. Their findings are categorized as mixed, as they report a significant effect only for environmental disclosure, but not on the economic or social dimensions. Thun and Zülch (2023) conduct an analysis by investigating the impact of appointing a Chief Sustainability Officer (CSO). In addition to assessing the general influence of a CSO, they also explore whether ESG disclosure is affected when the CFO is responsible for sustainability, as well as when the CEO simultaneously serves as the CSO. These three variations are treated as separate board characteristics. Their results show that the presence of a CSO, as well as a CFO and CSO combination, has significant positive effect. However, when the CEO serves as a CSO at the same time, no significant influence is observed. Suttipun (2021) examines the establishment of an all-female committee and finds a positive relationship with ESG disclosure. Li et al. (2022) analyze the directors network and the strength of their external connections and can also report a strong positive correlation, suggesting that well-connected board members may increase ESG transparency. Michelon and Parbonetti (2012) take on a unique perspective as they investigate the presence of community influential board members, such as academics or retired politicians. Their study also finds a positive association with ESG reporting. In contrast, Almaiman et al. (2024) find that the financial education of the CEO does not significantly impact ESG disclosure, while Suttipun (2021) claims that CEO compensation on the other hand can have a negative influence. Finally, Mkadmi and Daafous (2025) are the only authors that take a closer look at the type of board structure. By comparing one-tier and two-tier systems, they conclude that a two-level structure is associated with reduced ESG disclosure.

To provide an overview and discover overall patterns, it is advised to group the board characteristics into categories based on their role in the context of corporate governance. This allows for interpretation of the results and enables comparison across studies. Therefore, the next part, along with Figure 16, introduces a clear framework that organizes the observed independent variables into groups and helps to show which categories of a board are relevant for influencing ESG disclosure.

Figure 16: Conceptual Framework: Board Characteristics Influencing ESG Disclosure



The 25 identified board characteristics are grouped into four categories based on their role in the context of corporate governance. The first category, Board Committees, includes all types of committees analyzed in the selected literature, as well as the total number of committees established within the company. The second category, board expertise and experience, refers to the skills, qualifications, and professional background of the directors. The third group, board composition, captures the structural and demographic aspects of the board, such as their independence, diversity and age. Finally, the fourth category, incentives and roles, describes the incentive system for the directors, as well as the CEO, and their strategic responsibilities within the organization. These four dimensions represent distinct categories that can influence ESG disclosure in various ways, which are elaborated in section 3.4.

3.6 Core Findings from Qualitative Analysis

The final analysis of this review contains a qualitative approach and is dedicated to the core findings presented in the 55 selected studies. This analysis aims to capture not only the expected outcomes identified by scholars but also to inspect the contradictory results. By examining how researchers interpret their own findings, this section provides a deeper understanding of contextual factors and limitations that may influence the relationship between board attributes and ESG disclosure.

Board independence emerges as one of the most critical factors influencing ESG disclosure through the composition of a board. Across the reviewed sample, there is a clear trend supporting the assumption that a higher proportion of independent directors leads to improved ESG disclosure (Aliani et al., 2024; Bataineh et al., 2025; Jizi, 2017; Shahab & Ye, 2018). This positive relationship stretches from regional to a global context. For example, Arayssi et al. (2020) find support for board independence across countries in the Gulf Cooperation Council (GCC) such as Bahrain, Kuwait and the United Emirate States, enhancing that stronger corporate governance regulations would lead to an increase in the importance of non-executive directors. Similarly, Gallego-Alvarez and Pucheta-Martinez (2020) observe a significant positive correlation in both developed and emerging markets. On the other side, several studies report contradictory findings and imply that board independence can actually hinder the disclosure of sustainability information (Abu Qa'dan & Suwaidan, 2019; Rao & Tilt, 2016). Pucheta-Martinez and Gallego-Alvarez (2019) found in a cross-country analysis, that independent directors may reduce the extent of disclosure, because such directors often fail to take on the role as a supervisor in the matter of sustainability, but rather focus on the protection of minority shareholders. Garcia-Sanchez and Martinez-Ferrero (2017, 2019) come up with a different explanation in the context of European and U.S. firms. They argue that independent directors may not favor ESG disclosure when it comes to uncertainty or a lack of clear information, as they seek to avoid professional or reputational damage. In these cases, independent directors may prefer to remain cautious and avoid publishing reports that lack clarity or assurance, rather than promoting transparency. A more diversified picture is provided by Bhat et al. (2024), who find mixed results. In their study of emerging markets, the independence of a board only had a positive impact on the environmental dimension, while their influence on social and economic disclosure was restricted. The authors argue that this could be due to the limited power of independent directors, who are “being influenced by the majority of investors, shareholders and powerful CEOs” (Bhat et al., 2024, p. 2726). Finally, several studies report no or no significant relationship between board independence and ESG disclosure, particularly in countries such as Saudi Arabia, China and Malaysia. These findings are attributed to the symbolic appointment of non-executive directors or the cultural norms that hinder their effectiveness (Almaiman et al., 2024; Liao et al., 2018; Mohd-Said et al., 2018).

When it comes to the size of the board, the reviewed literature also shows a tendency to assume a positive relationship with ESG disclosure. A larger board is often associated with a greater capacity and resources for monitoring the management, as well as enhanced diversity of expertise and perspectives (Bataineh et al. 2025; Almaiman et al., 2024; Abu Qa’dan & Suwaidan, 2019; Zaid et al., 2019; Zhou, 2019). In line with this, Garcia-Torea et al. (2016), drawing on earlier work provided by Newell and Wilson (2002), not only confirm a positive relationship but also introduce an optimal number of directors, recommending a board size between five to nine members for maximizing efficiency. However, other scholars argue that a smaller board can be more efficient (Zhu et al., 2024). This view is shared in studies where the average board size exceeds ten members, suggesting that a smaller board may perform better (Hamrouni et al., 2022; Nicolo & Andrades-Pena, 2024; Mohy-ud-Din, 2023; Mkadmi & Daafous, 2025). This conclusion is in line with Garcia-Torea et al. (2016) idea of an optimal board size. Some scholars report mixed findings (Aliani et al., 2024; Bhat et al., 2024). Nguyen and Nguyen (2023) present an interesting insight by identifying a substitution effect between board size and gender diversity on the extent of ESG reporting. They argue that “having more female board members can replace a large board to enhance ESG disclosure, which can be explained through the monitoring role and stakeholder approach that female directors bring to the board” (Nguyen & Nguyen, 2023, p. 4).

Gender diversity is also recognized as a positive driver of ESG disclosure across several dimensions (Aliani et al., 2024; Nuhu & Alam, 2024). For example, Miloud (2024) finds that a higher proportion of female executives increases the adoption of GRI standards, while Liu et al. (2024) goes a step beyond, showing that gender diversity is associated with a higher overall value of reporting. Dobija et al. (2023) analyze the intersection between gender diversity and international orientation and come to the conclusion that women with diverse backgrounds and international experience are particularly interested in supporting non-financial disclosure. Similarly, Grassa et al. (2025) report that a higher representation of female directors increases the likelihood of adopting SDGs in the sustainability report. However, not all studies confirm a positive effect. Gallego-Alvarez and Pucheta-Martinez (2020) and Zhu et al. (2024) observe that gender diversity can mitigate the extent of ESG reporting, especially in countries where influence of female directors is limited due to cultural reasons. Husted and Sousa-Filho (2019) offer another possible explanation for these mixed results, suggesting that the impact of female board members depends on reaching a critical mass of female executives on the board. This means reaching a threshold at which female directors begin to exert meaningful influence on board decisions. This argument is confirmed by Liao et al. (2018), who also emphasize the importance of reaching a critical mass to drive change, but come to find a positive relationship between gender diversity and CSR assurance.

As already mentioned, CEO duality is seen as the only board attribute in the sample that is primarily seen as a negative aspect with regard to ESG disclosure (Zhu et al., 2024; Abu Qa’dan & Suwaidan, 2019; Campanella et al., 2021; Muttakin & Subramaniam, 2015; Mohy-ud-Din, 2023; Martinez-Ferrero & Garcia-Meca, 2020; Dwekat et al., 2020). The reasons for this is consistent across the selected studies: CEO duality combines two influential roles, which can lead to reduced board oversight, a concentration of power, and therefore lead to lower transparency or prioritization of shareholder interests (Zhou, 2019; Nicolo & Andrades-Pena, 2024). However, also in this case the selected literature fails to present a universally consistent view. Some studies identify positive associations under certain conditions. For example, some studies find that the combination of CEO and the chief of the board “facilitates the preparation of reports on CSR with the aim of appeasing the pressure of powerful stakeholders and reducing supervision" (Pucheta-Martinez & Gallego-Alvarez, 2019, p. 621; Haniffa & Cooke, 2005; Jizi et al., 2014; Bhatia & Marwaha, 2022). Furthermore, Nguyen and Nguyen (2023) argue that CEO duality can enhance the extent of sustainability reporting when it is combined with a high board diversity or experienced and independent directors.

When it comes to the frequency of meetings and the establishment of a CSR committee, scholars tend to find more consistent findings. While the majority of studies imply that the number of meetings has no significant influence on ESG disclosure (Wang et al., 2022; Aliani et al., 2024; Almaiman et al., 2024), other researchers show positive evidence. For example, Nicolo and Andrades-Pena (2024, p. 4728) argue that more frequent meetings allow "directors to share more information and competencies, supervise managers' conduct more efficiently and timely, and ensure better workload distribution", which in turn leads to stronger stakeholder engagement and positively affects the extent of non-financial disclosure (Mohy-ud-Din, 2023; Naseem et al., 2017; Campanella et al., 2021). Additionally, Garcia-Torea et al. (2016) find a positive link between the activity of a board and the adoption of GRI standards and external assurance. In contrast, there is a clear consensus regarding the positive impact of CSR committees. Researchers agree that the presence of such a committee enhances the oversight and implementation of CSR practices (Pucheta-Martinez & Gallego-Alvarez, 2019; Campanella et al., 2021; Nicolo & Andrades-Pena, 2024; Mkadmi and Daafous, 2025). However, Michelon and Parbonetti (2012) report weak evidence for the committee's effectiveness and offer two possible explanations: The impact of a CSR committee is linked to the duration of such a committee, or, the limited effectiveness is attributed to the low presence of these committees in the sample. Only 20% of the companies in the study have established a CSR committee and only 6% appointed a Chief Sustainability Officer.

While the majority of scholars see the presence of an audit committee as a positive driver of ESG disclosure, arguing that it reduces information asymmetry (Alruwaili, 2025), there are studies that present mixed findings. For instance, Desoky (2025) and Dwekat et al. (2020) investigate different characteristics within the audit committee and conclude that it is not only the sole presence of such a committee that influences ESG reporting, but rather the number of independent directors within the audit committee. In contrast, Suttipun (2021, p. 399) finds a negative correlation, suggesting that such committees may focus too much on “the quality of financial information and statements as well as managerial accounting and auditing”. The role of cultural diversity on board also leads to contradictory findings. While most researchers identify a positive connection, arguing that directors with diverse backgrounds enhance ESG disclosure and the adoption of SDGs in these reports (Grassa et al., 2025; Aliani et al., 2024), others come to different conclusions. Nguyen and Nguyen (2023) state that cultural diversity alone is not responsible for enhanced ESG disclosure, rather it is important how it interacts with other beneficial board characteristics, such as gender diversity, board size, and the independence of directors. Only Liao et al. (2018) finds that greater internationalization of the board leads to reduced assurance regarding ESG reports.

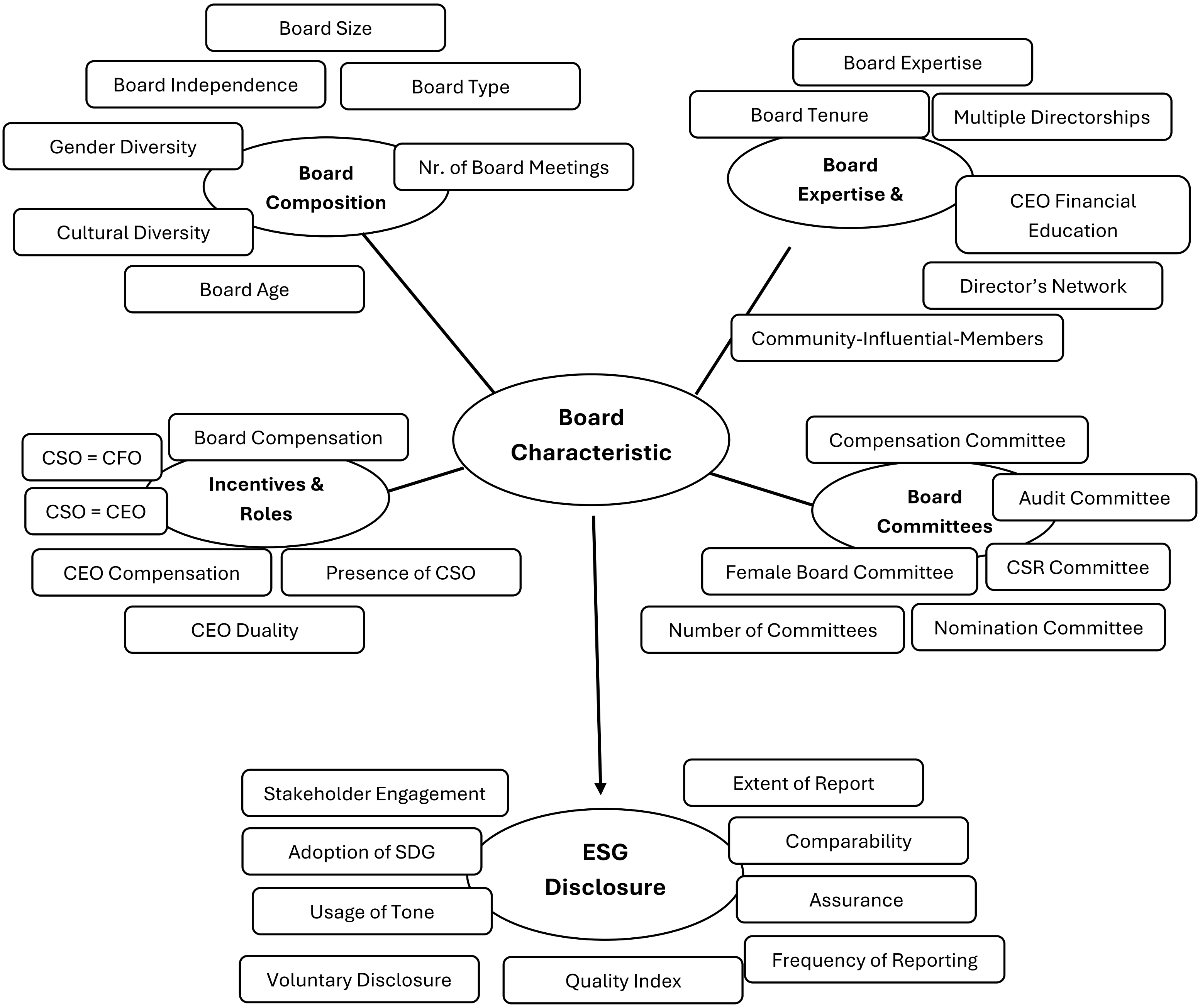
For the analysis of the expertise among directors, scholars reach a unified conclusion in the reviewed sample. Directors with financial or industry-specific expertise tend to boost ESG disclosure in several ways, such as the extent of the report or the alignment with GRI standards. A similar rational applies to directors who hold multiple board positions and those with a longer board tenure and therefore more experience. Directors with multiple directorships are more often exposed to sustainability practices and their reporting, which improves their understanding and oversight of ESG disclosure (Rao & Tilt, 2016; Liu et al., 2024; Ong & Djajadikerta, 2020). Likewise, the experience, which is measured through the length of serving on a board is seen as contributing factor when it comes to ESG disclosure, especially when combined with other board attributes such as independence or gender diversity (Nguyen & Nguyen, 2023; Almaiman et al., 2024). However, not all findings are fully positive. Rao and Tilt (2016) reminds that extensive tenure, here defined with a duration above ten years, may reduce the effectiveness of board members in promoting transparency. They recommend a balanced mix of short- and long-term serving directors to maintain experience and innovation at the same time.

Board compensation can also play a vital role in shaping ESG disclosure. Suttipun (2021) argues that the incentives of top managers are often aligned with the goal of exceeding voluntary ESG reporting. Other scholars emphasize that remuneration alone is not sufficient, it must be linked to other board attributes to be effective in influencing ESG outcomes (Nguyen & Nguyen, 2023; Mkadmi & Daafous, 2025). With regard to the average age of board members, Abu Qa’dan and Suwaidan (2019) observe a decline in the extent of ESG disclosure as directors become older, recommending a younger board composition to promote ESG practices and their disclosure. This finding is supported by Zhu et al. (2024), who are also able to identify a positive connection between younger directors and ESG disclosure, advising a balance between younger and older directors.

This review includes two studies that examine the influence of nomination and compensation committees on ESG disclosure. Suttipun (2021) finds significant positive evidence for the compensation committee, but not for the nomination committee. In contrast, Monowar and Nurlan (2017) take a broader view, concluding that the presence of committees in general enhances ESG transparency, as these structures contribute to better governance and oversight.

Thun and Zülch (2023) dedicate their work to focus on the influence of CSOs on ESG disclosure in terms of the length, external assurance and the alignment with GRI guidelines. They compare the impact of a dedicated CSO with scenarios where the CFO or the CEO functions as a CSO, presenting varying outcomes. Their findings suggest that the presence of a CSO can enhance the extent, as well as the external assurance of an ESG report, but only if the appointment carries real influence and is not just a symbolic action. This positive effect diminishes when the CEO or another board member functions as a CSO. Only when the CFO holds the responsibility on sustainability, positive outcomes can be expected. Suttipun (2021) investigates the influence of establishing a sole female board committee. The findings are aligned with the reviewed literature on gender diversity supporting a positive impact. Suttipun (2021, p. 399) notes that "women have better multitasking skills, risk management, and communicating abilities as compared to male counterparts" (Schubert, 2006). Li et al. (2022) take an unique analytical approach by examining the directors network and comparing them with a quality index for ESG reports provided by Rankins. In their study, a director is considered connected to another if they serve on the same board in a given year. The total number of such connections is defined as a directors network. The authors find a positive relationship between the size of a directors network and the quality of ESG reporting, suggesting that larger boards tend to have more well-connected directors and therefore achieving a higher score on ESG quality. Michelon and Parbonetti (2012) explore the impact of community influential members on ESG disclosure, distinguishing them from independent directors in general. Their findings imply that the appointment of independent directors does not automatically result in increased ESG reporting, unless those directors hold recognized positions within the community. These influential members offer legitimacy and serve as a link between a firm and its broader environment, thereby encouraging greater disclosure on social and environmental dimensions (Michelon & Parbonetti, 2012). As the only study that examines the type of board, Mkadmi and Daafous (2025) find that companies with a two-level or mixed board structure tend to show lower levels of ESG reporting compared to those with a single-level-structure. This suggests that more complex governance structures may hinder the length of sustainability reporting. Figure 17 shows a mind map that provides a visual summary of all identified board characteristics alongside with all dimensions of how ESG reports can be influenced.

Figure 17: Mind Map of Board Characteristics and Related ESG Disclosure Dimensions



4. Discussion

The following subsections provide a detailed discussion of the findings from the descriptive analysis. Section 4.1 addresses the publication outlets and corresponding journal quality, while section 4.2 discusses the general insights gained from the selected sample. Section 4.3 critically reflects the methodological approaches used in the reviewed literature, followed by a discussion of the identified dimensions of how ESG disclosure can be influenced in section 4.4. Finally, section 4.5 focuses on the findings derived from the analysis regarding the board characteristics that influence sustainability reporting including a discussion of the corresponding core findings from qualitative analysis of the sample.

4.1 Journal Quality and Publication Outlets

Even though the two ranking systems differ in how they assess journal quality, their evaluation still allows for interpretation. The AJG 2024 ranks twelve journals with the lowest grade 1 and only three with a grade of 3, while the VHB 2024 classifies only one journal with the lowest level of D and twelve journals as a B. This discrepancy leaves only limited room for an exact interpretation of journal quality. However, the number of journals ranked with a mid-level of quality, AJG 2 and VHB C, show substantial overlap, suggesting a shared view of moderate quality for much of the sample. Importantly, 21 out of 32 journals are listed in both rankings, indicating that the majority of articles are published in journals with an international standing and therefore provide a reasonable standard of academic quality. Although, it has to be mentioned that despite the overall credibility of journals, top-tier listed journals with a rating above AJG 3 or VHB B are absent, suggesting that while the topic is well researched, the reviewed body of literature has been published in mid-ranked journals, rather than elite journals.

A similar issue appears when comparing the categorical classification of the journals across the two ranking systems. While the AJG 2024, as well as the VHB 2024 identify sustainability-related fields as the most represented categories in the selected sample, the overlap of specific categorization of the single journals differ substantially, as it can be seen in table 2 of the appendix. Despite these differences, meaningful insights can still be drawn. Despite the field of sustainability, there is a noteworthy representation of journals in the categories of “Accounting”, “Finance” and “Strategic Management” on the side of the VHB classification. This distribution suggests that ESG disclosure in connection to board characteristics is not treated solely from a sustainability perspective, but rather as a topic of interdisciplinary relevance. Scholars do not only approach it only from an ethical or environmental standpoint, but also from an angle of corporate strategy and financial performance, highlighting its importance for a diverse set of stakeholders and academic disciplines.

4.2 General Insights of the Sample

Since the general insights are structured in three parts, the discussion follows the same construction. As shown in Figure 2, a growing interest in the relationship between board characteristics and ESG disclosure can be observed since 2012. Since the sample was taken in the mid of April in 2025, it is likely that the number of relevant literature on this topic will exceed the number of publications for the year 2024. This ongoing trend is expected to continue in upcoming years (Khamisu & Paluri, 2024) since regulatory requirements such as the EU's Corporate Sustainability Reporting Directive (CSRD), which expands mandatory reporting includes more and more companies (Gallego-Alvarez & Pucheta-Martinez, 2020; Hamrouni et al., 2022).

The observations per year on the other side, require that the results of analysis in this study needs to be interpreted with caution. The drop in the years of observations after 2018 are likely due to the fact that the availability of data was limited in relation to the publication timing of the analyzed articles. This implies that many of the reviewed findings do not reflect the newest regulatory changes in ESG reporting practices.

Lastly, the analysis of the observed countries within the sample confirms the observation by Zaid et al. (2019) stating that existing research tends to concentrate on rather developed countries, those that are classified as high-income countries by the World Bank. The strong representation of economically powerful nations such as China, France, the United Kingdom, Germany and the United states in the reviewed literature confirm this statement. Moreover, the strong regional focus on Europe and Central Asia, as shown in Figure 7, is another indicator for this tendency. In contrast, countries of lower income remain rather underrepresented so that insights of this study into how board characteristics and ESG disclosure is connected is can be rather attributed to countries which show strong governance systems and financial robustness.

4.3 Methodological Approaches in ESG Research

With regard to the methodological approaches the obvious has to be mentioned first: the selected sample is entirely based on quantitative research designs, reflecting a strong tendency that scholars prefer numerical data and statistical modeling over qualitative interpretation. On the on hand, the use of quantitative methods grant a high degree of objectivity and replicability, allowing studies to analyze large sets of data across multiple countries and therefore the possibility to draw generalizable conclusions. On the other hand, studies in this sample rely heavily on the availability and measurability of data. With the sole presence of quantitative designs, the reviewed literature leaves out the opportunity to gain deeper insights into how board characteristics influence ESG disclosure with a qualitative interpretation.

Within the methodological approaches, regression-based methods dominate the sample and account for approximately 91%. Linear regression models is by far the most used design, indicating a strong preference for analyzing direct effects with linear assumptions. Their consistent usage across years and countries call for a high level of standardization, which supports comparability across the studies in the sample but also leads to a one sided perspective. The emergence of non-linear and hierarchical regression based methods highlights increased awareness that not all board attributes follow linear relationships in connection to ESG disclosure. Despite their limited application, these models, alongside with the structural equation model employed by Garcia-Torea et al. (2016), allow for a more layered analysis of these relationships. The two studies that apply a comparative-based method stand out as an exception and demonstrate small diversity in the field of ESG literature and give valuable insights into how different board characteristics interact with each other. Overall, the methodological diversity within the sample remains more than limited and leaves room for more exploratory and qualitative research designs.

4.4 The Influence of Board Characteristics on ESG Disclosure

This section discusses the findings of analysis on the different dimensions of how ESG disclosure can be affected through various board characteristics. The extent of ESG reporting is the most commonly observed variable and refers not explicitly to the length of reporting, but rather to the breadth of topics covered in the annual or sustainability reports. The dominance of this dimension, as shown in Figure 9, points out that the academic focus remains on the quantity of ESG disclosure and not the corresponding quality. To measure the extent, scholars rely either on external scores provided by Bloomberg or Thomson Reuter, or calculate their own indices based on content analysis. External ratings have the advantage to be widely accepted, allow for a standardization and facilitate comparisons across time and companies thanks to industry-adjusted weighted indicators (Buallay, 2018; Manita et al., 2018; Arayssi et al., 2020). However, these scores are not aligned with the specific research focus of the studies and show limited flexibility regarding their calculation. In contrast, custom-built indices allow for greater flexibility so that researchers can fit their calculation based on the needs of research. Scholars can select relevant ESG indicators and steer their analysis accordingly. Yet, this flexibility comes with a trade-off: the lack of generalization and standardization limits the comparability to other studies, across time or to other companies. The variability regarding self-constructed ESG scores reflect different perceptions to what is actually important on ESG information and leads to inconsistent depth across studies. Another point worth noting is that the extent of ESG reporting offers the most diverse set of methodological approaches in the reviewed literature. While there is a clear preference for linear regression based models, applied in 28 out of 42 studies, it also includes non-linear regression designs, as well as exploratory and comparative-case based methods. This explains on the one side the overall dominance of linear regression models in the sample, but also suggests that the extent of ESG disclosure is a well-established thematic focus in the current literature.

While at first it may seem like the quality of ESG reporting receives limited attention, given that only the work by Li et al. (2022) links board characteristics to an external score that specifically captures the quality of ESG reports, a broader view suggests otherwise. Several dimension, such as the comparability, which is mostly proxied through the alignment with GRI guidelines, external assurance, SDG adoption, as well as the tone of disclosure reflect the quality of ESG disclosure indirectly. These dimensions contribute to how clear, consistent and reliable the information of ESG reports are. While the quantity is solely measured using an external or self-calculated score, the quality-related dimension provides a more diverse set of measurement, yet still remains underexplored in their depth and frequency of analysis. A key concern is that the comparability, the adoption of SDGs and the external assurance mostly rely on binary scoring methods which only allow for the determination of presence or absence, without accounting for their depth or credibility. This may not only oversimplify corporate behavior, but also limits the analytical insights of the research. One exception is found in the work by Garcia-Sanchez and Martinez-Ferrero (2017, 2018, 2019), who apply a method of measurement that goes beyond binary scoring systems and allow for an interpretation to which degree a report is aligned to GRI standards.

Furthermore, other dimensions such as stakeholder engagement, voluntary disclosure or the frequency of reporting are addressed in only one study each. While they reflect a more nuanced attempt to understand how ESG disclosure can be influenced, they remain underrepresented and are rather seen as a niche category. Besides the work provided by Garcia-Torea et al. (2016), who employ a structural equation model to examine the comparability, frequency of reporting and the assurance of ESG reports, the variety of methodological approaches remains limited and rely mostly on linear and non-linear regression models, limiting the analytical perspective of the field.

In summary, it can be said that with nine distinct dimensions of how ESG disclosure can be influenced through board characteristics, the breadth of dimensions seems promising, even though the selected sample is strongly skewed toward the quantity of disclosure for both, the research frequency, as well as the methodological variety. Quality-related aspects are often studied in an indirect way and are measured using basic scoring methods, calling for more sophisticated approaches to fully understand the impact of board characteristics on ESG disclosure.

4.5 Key Board Characteristics and Core Findings from Qualitative Analysis

The reviewed literature identifies 25 distinct independent variables, offering a broad range of board-related attributes that may influence ESG disclosure. Despite this variety, scholars often find evidence for inconsistent or even contradictory findings regarding the direction and strength of these relationships. For this reason, the next part offers a discussion about those characteristics analyzed in section 3.5 together with the corresponding findings of qualitative analysis in section 3.6.

At first, attention is directed to the most frequently studied characteristic, the proportion of independent directors on a board. The majority of reviewed studies find a positive relationship between board independence and ESG disclosure, especially when governance structures are strong and regulatory requirements are well established (Arayssi et al., 2020). However, scholars do not come to a fully consistent conclusion as eight studies report no significant influence and five studies find evidence for a negative correlation. Importantly, these findings are not left unexplained. In addition to the argument that non-executive directors may hold limited influence due to their symbolic appointment in certain cultural or institutional settings (Almaiman et al., 2024; Liao et al., 2018; Mohd-Said et al., 2018; Bhat et al., 2024), the work by Garcia-Sanchez and Martinez-Ferrero (2017, 2019) offers another interesting explanation. They suggest that independent directors may not promote ESG disclosure when the available information are unreliable or lack certainty. In such cases, unclear or vague data hinders non-executive directors to push for disclosure out of concern for reputational or professional damage. By pointing out to this limiting factor, their work introduces external assurance as one possible solution as this could strengthen the confidence in available data regarding ESG disclosure. This suggests an interesting connection: External assurance does not only function as a variable which may be influenced by various board characteristics, but also serves as an explanation for contradictory findings regarding the independence of a board. This is the only instance in the reviewed sample where a dimension of ESG disclosure may act as a solution for inconsistent findings of a board characteristic. Overall, it can be said that board independence is a well-established characteristic, with a broad range of studies analyzing its effect across various geographical contexts. Especially in European and Central Asian settings there is consistent evidence that a higher proportion of independent directors work in favor of ESG disclosure.

In comparison to other board characteristics, the discussion around the size of the board offers more consistent results. The contradictory findings in the sample can largely be seen as a trade of between two perspectives: On the one side, several scholars argue that larger boards offer more capacity, resources and a diverse set of skills and expertise, which can create an advantage in terms of ESG disclosure (Bataineh et al. 2025; Almaiman et al., 2024; Abu Qa’dan & Suwaidan, 2019; Zaid et al., 2019; Zhou, 2019). On the other side, some studies imply that smaller boards can operate more efficiently through a more effective way of communication among less board members and therefore enhanced decision- making processes (Zhu et al., 2024; Hamrouni et al., 2022). With a closer examination of the average board size of studies which recommend a smaller board size, it becomes evident that these often examine board sizes exceeding ten members (Hamrouni et al., 2022; Nicolo & Andrades-Pena, 2024; Mohy-ud-Din, 2023; Mkadmi & Daafous, 2025). This is in line with Garcia-Torea et al. (2016), building on the work by Newell and Wilson (2002), who recommend a board size between five to nine members to maximize the effectiveness and coordination. Taken together, even though there may be contradictions in the findings of scholars, these reflect differences on the average board size of analyzed companies, rather than show fundamental disagreements. This said, both too small and two large boards may result in inefficiencies, promoting to find a balance within an optimal range. It should also be noted that board size is inherently connected to other board characteristics. This does not only apply to the substitution effect to gender diversity highlighted by Nguyen and Nguyen (2023), but also automatically connects to various other attributes such as the expertise, experience and cultural diversity of the board.

Also gender diversity reveals a positive trend related to ESG disclosure. While not all scholars come consistent results, the few conflicting findings can mainly be explained using two arguments: First, the benefits of female executives on the board can be undermined, when the critical mass of female board members is not met. This is crucial when it comes to generate meaningful influence through gender diversity. (Husted and Sousa-Filho, 2019; Liao et al., 2018). Second, cultural norms may also play a critical factor regarding positive influence of female directors (Gallego-Alvarez & Pucheta-Martinez, 2020 and Zhu et al., 2024). Since similar arguments have been addressed regarding limited impact of independent directors, it seems clear that the cultural and institutional setting in which a company operates, plays an important role in determining the direction of influence regarding several board characteristics. Once these two hurdles are considered and overcome, there is broad consensus in the reviewed literature that increased gender diversity tends to support ESG disclosure in various ways.

As CEO duality is seen as a weakening factor in terms of the governance structure. It becomes evident that companies that combine the role of the CEO und the chief of the board have to make careful considerations about the composition and interaction of diverse other board attributes, such as the independence or gender diversity of a board (Nguyen & Nguyen, 2023). These factors may help to reintroduce balance into the governance system and enables the possibility of a positive effect that comes with CEO duality.

Considering that eight scholars found no direct link between the number of board meetings and enhanced ESG disclosure, while six studies identified a positive effect, it can be concluded that the frequency of meetings does not appear to be the most relevant board attribute, but also does not seem to be harmful either. As Dwekat et al. (2020) point out, the impact of this variable largely depends on the configuration regarding other board attributes, especially the composition. In some configurations, more frequent meetings may result in enhanced oversight and faster decision-making processes. In other configurations, similar efficiency might be accomplished with fewer meetings, depending on the overall structure, effectiveness and skills of a board.

In summary, each of these five board attributes are analyzed in at least 15 studies each, highlighting their relevance in the selected literature and therefore their overall importance. This in mind, these five board characteristics should be the core part of any analysis that aims at understanding how ESG disclosure can be influenced. Notably, four out of five attributes are categorized as "board composition" outlined in the framework visualized in Figure 11 in section 3.5 of this review. This underlines that the composition of a board plays a central role in shaping the quantity and quality of ESG reporting according to the reviewed academic literature. The second part of this discussion is dedicated to the board characteristics that are examined less frequently, representing rather niche areas of research. Nevertheless, those too offer valuable insights and should be considered when evaluating the optimal board structure to maximize ESG disclosure and transparency.

The findings regarding board committees reveals interesting patterns. The establishment of a CSR committee is associated with positive influence on ESG disclosure, which is shared across all 9 studies that examine it. This result seems logical, as such a committee specifically deals with sustainability topics and is naturally expected to support ESG disclosure and transparency. In contrast, the outcomes regarding the presence of audit committees are more mixed, yet are also understandable having in mind their focal points heavily rely on the reporting of financial numbers, rather than non-financial disclosures (Suttipun, 2021). Interestingly, Desoky (2025) and Dweka et al. (2020) suggest that the influence of an audit committee relies on the internal composition of such an committee, similar to the overall configuration of a board. Other board committees, such as the nomination committee, compensation committee, or even a sole female board committee, are observed less frequently. Yet, the available studies do not suggest that these working groups negatively affect ESG disclosure. While their exact influence may vary across studies and companies, no evidence has been found that concludes that their presence hinders firms from disclosing sustainability matters.

When taking a closer look at the category of board expertise and experience depicted in Section 3.5, it becomes evident that the included board attributes are mainly associated with positive influence on ESG disclosure. None of the selected studies find evidence that any of these characteristics harm ESG transparency. Only one study presents mixed findings, as Rao and Tilt (2016) emphasize that directors with longer board tenure can contribute to stability and accumulated knowledge, even though excessively long periods of serving may mitigate this advantage, thus calling for a balanced mix of long-serving and newer directors. While all other studies highlight the benefits of a longer board tenure, this appears contradictory to findings that recommend a board of young age (Abu Qa'dan & Suwaidan, 2019; Zhu et al., 2024), suggesting that experience and age may influence ESG disclosure through different mechanisms. Bataineh et al. (2025) cannot find any advantages regarding directors that hold multiple directorships, yet the study also fails to provide evidence of potential disadvantages, suggesting that the effect of multiple directorships might be dependent on the specific context of a firm. All other attributes in this category, such as the specific expertise of directors, the financial education of the CEO, the external networks of directors, and community influential members, inherently deliver positive findings. These factors indicate enhanced oversight and quality of ESG disclosure. As expertise and well-connected board members bring industry specific knowledge to the table and provide legitimacy, an improvement of ESG reports seems logical. Yet these findings have to be interpreted with caution, as all board characteristics in this category are far less analyzed than attributes like board independence or the size of a board. Concluding, this means that even though the evidence on expertise or experience seems promising, the limited focus suggests that further analysis is needed to explore contextual nuances in different settings, such as industry differences or cultural settings.

Lastly, examining the category of incentives and strategic roles within the board, the findings offer a more differentiated picture. While aligned incentives for directors are seen as a positive factor of ESG disclosure (Nguyen & Nguyen, 2023; Mkadmi & Daafous, 2025), this does not apply for executives roles, especially the CEO. Suttipun (2021) suggests that CEO compensation structures may mitigate ESG transparency, possibly due to conflicting priorities between financial goals and long-term sustainability goals. Thus the efficiency of incentives in regard to ESG disclosure is role-dependent. Even though it may work for directors and other managers, it does not necessarily work for CEOs. This highlights that incentives structures must be tailored according to the specific governance roles to be effective in enhancing sustainability disclosure. Similarly, the assumption that establishing the position of a CSO automatically leads to improved ESG disclosure is not always accurate. Thun and Zülch (2023) state that the presence of a CSO only has a positive influence if it is held by individuals or the CFO, but not the CEO or other members of the board. This implies that the sole appointment of a CSO does not result in enhanced ESG disclosure and shows that it is not the title alone, but rather the authority and expertise to determine the influence on ESG reporting. This underlines that structural board attributes are the first step, but their real impact depends on how they are implemented and interact with other governance factors.

In conclusion, the discussion highlights that the sole pre- or absence of board attributes does not necessarily determine their influence. It is rather shaped by context, such as interaction with other board attributes, cultural settings, depth of implementation, role clarity, and the alignment of incentives. Board composition, especially board independence, board size, gender diversity and CEO duality emerge as a central topic, yet all perspectives have to be considered to fully understand their influence on ESG disclosure.

5. Recommendations for Further Research

This section addresses the third research question and aims at identifying future research paths that emerged during this systematic literature review.

First, the most apparent has to be mentioned: all 55 studies rely primarily on quantitative research designs, with the majority employing regression based models. This dominance in methodologies result in a rather one-sided perspective. Future research should therefore focus on qualitative approaches, such as interviews with experts, focus groups with all kinds of stakeholders, and case studies. This could offer valuable insights into internal decision-making processes, ethical considerations, or cultural influences that shape ESG disclosure and are not observable through traditional quantitative research approaches. However, the methodological gap goes beyond the lack of qualitative research designs. The selected literature also reveals a underrepresentation of mixed-method approaches, as only two studies adopt comparative case-based methods, as Nguyen and Nguyen (2023) and Dweka et al. (2020) combine quantitative analysis with qualitative interpretation. As many scholars emphasize that the combination of board attributes decides the actual influence on ESG disclosure (Nguyen & Nguyen, 2023; Grassa et al., 2025; Aliani et al., 2024), a focus on mixed-approaches seems inevitable to uncover configurational patterns. These linkages between different characteristics are often overlooked by pure quantitative approaches, but can be explored using fuzzy-set qualitative analysis or other mixed-methods. Finally, since quantitative designs are still justified in their existence, especially for analyzing structural factors such as the extent of ESG reporting, there is room for adopting more advanced quantitative models. As shown in Figure 8 in Section 3.3, the reviewed literature shows a strong tendency on adapting traditional regression based models. This limits the ability to capture non-linear relationships, indirect effects, or the interaction of different attributes. Future research should therefore consider using machine learning techniques, structural equation models, as done by Garcia-Torea et al. (2016), or latent class analysis to get a better picture of interdependencies between board characteristics and ESG disclosure.

Another major gap in the literature is the lack of geographical diversity in the analyzed studies. Even though the sample comprises 65 different countries, it becomes evident that a majority of countries are analyzed only a few times each, as depicted in Table 2 of the Appendix. As visualized in Figure 7 in Section 3.2, most scholars focus on the examination of ESG disclosure in Europe and Central Asia. As these regions consist mostly of high-income countries, economies that are classified as middle- or low-income, remain rather underrepresented. This fact leaves out the possibility to draw generalizable conclusions that include countries with different economic or political backgrounds. Therefore, future work should focus more on regions such as Latin America, the Middle East or South Asia. As these areas exhibit different corporate governance systems and ESG standards, this could help to enrich the understanding of how ESG disclosure is influenced in places with different rules, priorities, and challenges. In addition, most of the inconsistent results, especially in regard to board independence and gender diversity (Almaiman et al., 2024; Liao et al., 2018; Mohd-Said et al., 2018; Gallego-Alvarez & Pucheta Martinez, 2020; Zhu et al., 2024), come from cultural differences or symbolic appointments. Having this in mind, future research should therefore take into account how cultural or institutional backgrounds may influence the relationship between board characteristics and ESG disclosure. A direct comparison between developed and developing countries can show how these factors work in different settings. This could help to shed light into the understanding of why certain board traits are more effective in some countries than in others.

Finally, attention is directed toward the less examined board traits and underexplored dimensions of ESG disclosure. As already mentioned, the five most frequently observed board characteristics account for approximately 75% of all observed variables, which means that other board characteristics, such as the board age, the presence of a CSO, or whether a firm operates under a one-tier or two-tier-system are significantly underrepresented in the literature, despite their potential relevance. This highlights an opportunity for future research to explore emerging roles and structures in more detail. For instance, Michelon and Parbonetti (2012) state that in their sample only 20% of the companies established a CSR committee yet, and only 6% appointed a CSO. As ESG topics gain importance and such roles will become more prevalent (Bhatia & Marwaha, 2020), it will be relevant to fully understand how to maximize their impact on ESG disclosure. Also, it can be assumed that not all factors influencing ESG disclosure are identified yet. The emergence of new variables could help to explain variations in ESG outcomes that are not captured by the traditional governance mechanisms.

A similar argumentation exists in relation to the dimensions of ESG disclosure. Since the current literature shows a strong tendency to focus on the extent or quantity of ESG reporting, the analysis of the quality-related dimensions are rarely investigated in depth and often measured using a binary scoring system. However, for stakeholders, it is often not only important whether companies report on certain ESG topics, but rather these disclosures are credible, consistent, and verifiable. On the one side, future studies should place their focus on external score that capture the quality of ESG reports. While 42 studies in the reviewed sample used external scores to measure the extent of ESG reporting, only Li et al. (2022) used an external rating for the quality of disclosed information of sustainability. On the other side, dimensions such as the adoption of SDGs, the alignment of GRI guidelines, and the existence of external assurance should move beyond binary coding. Some scholars, such as Garcia-Sanchez and Martinez-Ferrero (2017, 2018, 2019), adopt a more detailed approach by assessing the level of GRI alignment. Similarly, the study by Shabab and Ye (2018) differentiate on the level of adoption in regard to the SDGs, showing a difference between a company that only mentions them, report on them on a qualitative basis or even brings quantitative measurements to support their efforts on sustainability goals. These approaches offer a richer picture of understanding and should be adopted more widely. Despite deepening the analysis and perception of existing disclosure dimensions, future research could also focus on the impact of emerging regulatory frameworks. New guidelines like the Corporate Sustainability Reporting Directive (CSRD) in an European context or the Task Force on Climate-related Financial Disclosures (TCFD) will most likely have an impact on current ESG practices in the near future. Examining how board attributes influence the compliance on these new guidelines will enrich future research in several respects, as this can be a contribution to policymakers and practitioners.

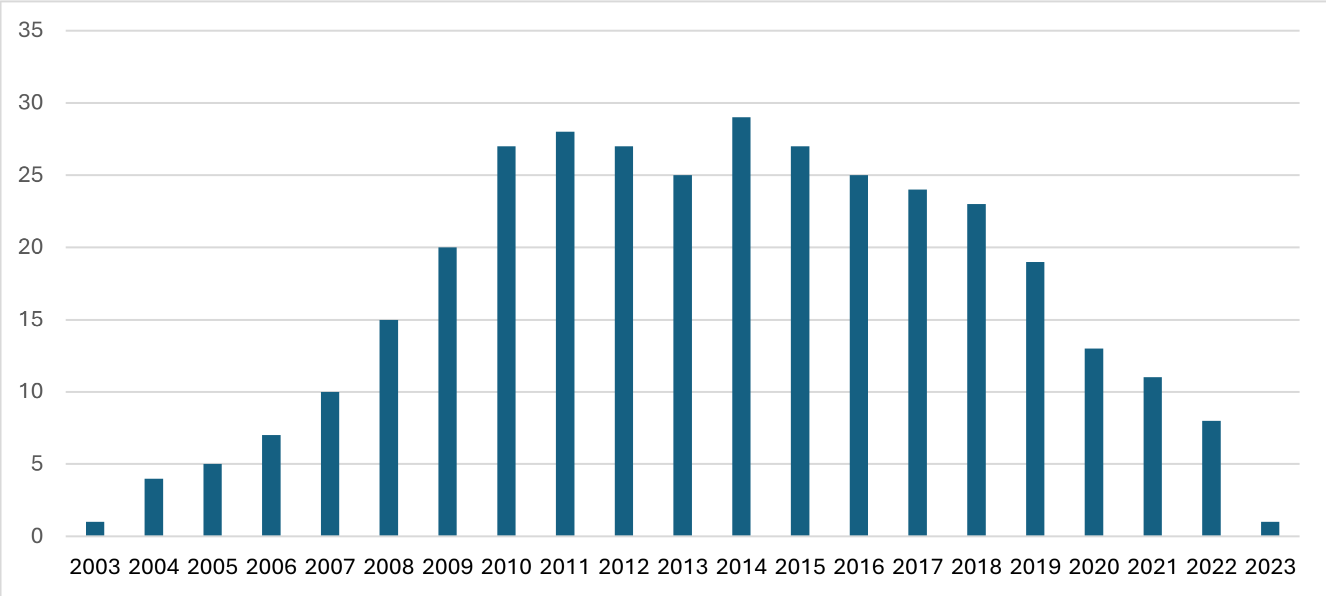
In summary, although the relationship between board characteristics and ESG disclosure is studied extensively in recent years (Popov & Makeeva, 2022), the current literature reveals gaps in understanding its outcomes. Focusing on a more diverse set of research approaches, overcoming geographical limitations, address underexplored governance variables, enriching the examination of ESG dimensions, and addressing emerging regulatory frameworks will be the key to fully understand of how to effectively guide and enhance ESG transparency at the board level.

6. Limitations

This section of the literature review deals with the limitations of this study. Even though a systematic approach has been chosen to mitigate subjective perspectives and ensure reliability, validity and objectivity, no study comes without boundaries. Several limitations emerged during the process of research affecting the applicability and generalizability of the results. Recognizing and disclosing these limitations is essential for accurately interpreting the results.

The first and most important limitation addresses the time frame of observations. Even though there are no exclusions made on disbarring recently published articles, the time span of observations in the selected literature spans from 2003 to 2023, with the core of empirical data focusing on the period between 2009 and 2019, as shown in Figure 18. No data later than 2023 has been captured in this review. This temporal limitation has important relevance for the applicability and generalizability of the findings. As guidelines and standards regarding ESG disclosure are rapidly evolving in recent years (Bhatia & Marwaha, 2020), due to growing regulatory pressure and investor scrutiny, the results of this review may primary reflect early and current disclosure practices rather than long-term implications for future ESG reporting. In this sense, this review offers a snapshot of the field during a time of transition and may become outdated as ESG frameworks mature and become globally incorporated.

Figure 18: Distribution of Observation Years Across the Reviewed Sample



The second limitation is in regard to the selection of databases and the definition of research criteria. In this systematic literature review, the search was limited to two databases, namely Scopus and the Web of Science. While both of them are known for their high quality and academic relevance (Seow, 2024), the usage of additional databases may have uncovered other relevant publications. Expanding the selection of databases could have led to additional studies that are found through the established keywords and meet the exclusion criteria at the same time, expanding the sample without compromising its relevance or quality. Additionally, even though the selection of keywords were carefully considered and chosen to capture the most used terms of board characteristics and ESG disclosure, the wide range of synonyms and different terminologies used in academic research holds a challenge. It can not be fully assured that all relevant studies are captured and included, as there is a wide variety of phrasings that scholars use to describe the terms of "board characteristics" and "ESG disclosure". This limitations highlights the complexity of capturing a full picture of all relevant studies in a field with inconsistent terminologies.

Attention must also be paid when it comes to the interpretation of the results of this study, especially in terms of the geographical focus. The majority of the analyzed studies observe countries which are classified as high-income by the World Bank, as shown in Figure 6 in Section 3.2. This is closely related to the fact that most scholars focus on countries in Europe and Central Asia as visualized in Figure 7 in the same Section. As these regions tend to have a high proportion of developed countries with stronger economies and matured governance systems, the observation of Zaid et al. (2019), who noted that the ESG research is mostly examined in rather developed countries, is confirmed. With this another limitation of this systematic literature review is introduced. The results of this study are more applicable to high-income countries, because of their dominance in the sample, and can be less accurately attributed to developing countries, where frameworks and guidelines, regulatory environments, and board practices can differ significantly. Moreover, even those developing countries that are included in the sample, the depth of coverage is often low, as shown in Table 3 of the Appendix. While China represents the most overall studied country in the selected literature with 17 observations in total and is categorized as a upper-middle-income country, most other middle- and low-income countries are observed only a few times. This restricts the possibility of drawing detailed and context-specific insights of those regions. As already mentioned, it is important to consider cultural factors of countries, which can significantly impact the direction of influence of certain board characteristics. Attributes such as the independence of a board or the gender diversity operate differently in countries with divergent cultural and institutional settings, legal systems, or governance expectations (Gallego-Alvarez and Pucheta-Martinez, 2020; Zhu et al., 2024; Bhat et al., 2024). Therefore, the significant underrepresentation of developing countries in the chosen sample not only limits the global generalizability of the findings but also makes it difficult to explore how these contextual factors influence the board-ESG relationship in different parts of the world.

Lastly, a couple of smaller but still relevant limitations are acknowledged. As the literature search was applied to articles in English language only, it seems possible that this led to an exclusion of relevant articles published in a different language. Particular in the field of developing countries, where articles might appear in regional or local journals, it appears that this could have contributed to the underrepresentation middle- and low income countries. In addition, the entire review process was conducted by a single researcher, which always leaves the risk of subjective bias in interpreting the findings. Without a second researcher there is a possibility for inconsistent perceptions on applying the correct exclusion criteria, the interpretation of qualitative analysis of the core findings in Section 3.6 or the categorization of the board characteristics showed in Figure 11 in Section 3.5. Finally, the extraction of the data, as well as the coding of this data was done manually in an Excel spreadsheet, which carries a higher risk of human error compared to automated tools and programs.

In summary, while all of these limitations to not undermine the overall quality and validity of this study, they should be acknowledged and considered when assessing the generalizability and robustness of this systematic literature review.

7. Conclusion

Finally, a conclusion closes this study with a summarization of the findings and key takeaways of this literature review.

In total, 55 high-quality articles were analyzed to understand how different board characteristics influence ESG disclosure. This review focused on identifying which specific characteristics of a board play a role, which dimensions of ESG disclosure can be affected, and which research approaches are used to analyze this relationship in existing research. It considered whether the influence of those board attributes are tendential seen as positive, negative or mixed, and identified the key strengths and gaps in understanding these outcomes. Emerging factors that deserve more attention are recognized and future research paths are provided based on these insights.

Overall, this review identified 9 dimensions of how ESG disclosure can be influenced, as well as 25 board characteristics that are able to do so. These 25 distinct attributes can be categorized into four groups that need to be considered when a company aims at improving ESG disclosure: the composition of a board, the experience and expertise of directors, the establishment of committees within a firm, and the roles and incentive structures in place. Four of the most studied board attributes, namely the board independence, board size, gender diversity, and the meeting frequency, fall under the category of “board composition”. This makes the composition of a board not only the most observed category, but also highlights its importance when it comes to influencing ESG disclosure.

Within this, a closer examination of the selected studies reveals several explanations for inconsistent findings. As board independence generally improves ESG disclosure in various ways, its impact is limited for two main reasons: the cultural setting in which a firm operates can restrict the actual influence of non-executive directors, and the accuracy and verifiability of ESG information decides whether these directors promote disclosure regarding sustainability. While the literature on the board size seems ambiguous at first, a closer look reveals that most scholars agree on the recommendation by Garcia-Torea and Fernandez-Feijoo (2016) that the optimal board size lies between five to nine members. Gender diversity is also primarily seen as a positive driver, especially when a critical mass of female executives is reached (Husted & Sousa-Filho, 2019; Liao et al., 2018) and when no cultural barriers undermine their influence (Gallego-Alvarez & Pucheta-Martinez, 2020). The frequency of meetings offers mixed results, with positive effects when meetings are used for strategic oversight (Mohy-ud-Din, 2023;Nicolos & Andrades-Pena, 2024), but often showing no significant relationship (Wang et al., 2022; Bini et al., 2023; Liao et al., 2018). CEO duality stands out as one of the most observed characteristic in the selected sample and is primarily connected to negative outcomes, however, Nguyen and Nguyen (2023) state that this effect can be turned into a positive one, when combined with other strong board attributes. Cultural diversity tends to work in favor of ESG disclosure, but only when its paired with complementary traits such as gender diversity, board independence, or an effective board size (Grassa et al., 2025; Aliani et al., 2024; Nguyen & Nguyen, 2023). Overall, it can be concluded that the contradictory results can mainly be attributed to two factors: the cultural and institutional environment in which a firm operates, and the combination and interaction of different board characteristics matter to shape and understand their overall influence (Nguyen & Nguyen, 2023; Aliani et al., 2024; Gallego-Alvarez & Pucheta-Martinez, 2020; Zhu et al., 2024).

This study has several practical implications for a wide set of stakeholders. First, it provides companies and the corresponding practitioners with a clearer understanding of which board characteristics should be considered when aiming to improve ESG transparency. The findings also contributes to the comprehension of policymakers and regulators, as they need to understand which governance guidelines could be optimized or refined to encourage board structures that enhance ESG disclosure. For instance, guidelines could support initiatives to increase the proportion of female or independent directors. Also investors can benefit from the insights of this literature review, as it identifies which board characteristics are linked to transparent reporting. This can help them assess which companies are more likely to provide ESG disclosures that are reliable and trustworthy and adjust their investment decision-making accordingly.

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9. Appendix

Table 1: Final Sample of Articles

Nr.	Publication	Year of Publication
1	Arayssi, M., Jizi, M. & Tabaja, H. H. (2020). The impact of board composition on the level of ESG disclosure in GCC countries. Sustainability Accounting, Management and Policy Journal, 11(1), 137-161.	2020
2	Martinez-Ferrero, J. & Garcia-Meca, E. (2020). Internal corporate governance strength as a mechanism for achieving sustainable development goals. Sustainable Development, 28 (5), 1189-1198.	2020
3	Suttipun, M. (2021). The influence of board composition on environmental, social and governance (ESG) disclosure of Thai listed companies. International Journal of Disclosure and Governance, 18 (4), 391-402.	2021
4	Dwekat, A., Segui-Mas, E., Tormo-Carbo, G. & Carmona, P. (2020). Corporate Governance Configurations and Corporate Social Responsibility Disclosure: Qualitative Comparative Analysis of Audit Committee and Board characteristics. Corporate Social Responsibility and Environmental Management, 27 (6), 2879-2892.	2020
5	Ong, T. & Djajadikerta, H. G. (2020). Corporate governance and sustainability reporting in the Australian resources industry: an empirical analysis. Social Responsibility Journal, 16 (1), 1-14.	2020
6	Gallego-Alvarez, I. & Pucheta-Martinez, M. C. (2020). Corporate social responsibility reporting and corporate governance mechanisms: An international outlook from emerging countries. Business Strategy and Development, 3 (1), 77-97.	2020
7	Ramon-Llorens, M. C., Garcia-Meca, E. & Pucheta-Mbartinez, M. C. (2021). Female directors on boards. The impact of faultlines on CSR reporting. Sustainability Accounting, Management and Policy Journal, 12 (1), 156-183.	2021
8	Nuhu, Y. & Alam, A. (2024). Board characteristics and ESG disclosure in energy industry: evidence from emerging economies. Journal of Financial Reporting and Accounting, 22 (1), 7-28.	2024

9	Hamrouni, A., Bouattour, M., Ben Farhat Toumi, N. & Boussaada, R. (2022). Corporate social responsibility disclosure and information asymmetry: does boardroom attributes matter? Journal of Applied Accounting Research, 23 (5), 897-920.	2022
10	Bhatia, S. & Marwaha, D. (2022). The Influence of Board Factors and Gender Diversity on the ESG Disclosure Score: A Study on Indian Companies. Global Business Review, 23 (6), 1544-1557.	2022
11	Dobija, D., Arnea, C., Kozlowski, L., Krasodomska, J. & Godawska, J. Towards sustainable development: The role of directors' international orientation and their diversity for non-financial disclosure. Corporate Social Responsibility and Environmental Management, 30 (1), 66-90.	2023
12	Thun, T. W. & Zülch, H. (2023). The effect of chief sustainability officers on sustainability reporting—A management perspective. Business Strategy and the Environment, 32 (4), 2093-2110.	2023
13	Nguyen, L. T. M. & Nguyen P. T. (2023). The board profiles that promote environmental, social, and governance disclosure–Evidence from S&P 500 firms. Finance Research Letters, 55, 1-7.	2023
14	Wang, Y., Yekini, K., Babajide, B. & Keyy, M. (2022). Antecedents of corporate social responsibility disclosure: evidence from the UK extractive and retail sector. International Journal of Accounting and Information Management, 30, (2), 161-188.	2022
15	Nicolo, G. & Andrades-Pena, F. J. (2024). Does corporate governance influence environmental, social and governance disclosure practices of state-owned enterprises? An international study. Corporate Social Responsibility and Environmental Management, 31, (5), 4715-4731.	2024
16	Zhu, N., Osei, A. & Agyemang, A. O. (2024). Do board attributes influence environmental sustainability disclosure in manufacturing firms? Evidence from sub-Saharan Africa. Corporate Social Responsibility and Environmental Management, 31 (5), 4759-4771.	2024
17	Aliani, K., Hamza, F., Alessa, N., Borgi, H. & Albitar, K. (2024). ESG disclosure in G7 countries: Do board cultural diversity and structure policy matter? Corporate Social Responsibility and Environmental Management, 31 (4), 3031-3042.	2024

18	Bataineh, H., Alkurdi, A., Abuhommous, A. A. & Abdel Latif, M. The role of ownership structure, board, and audit committee in corporate social responsibility disclosure: Jordanian evidence. Journal of Islamic Accounting and Business Research, 16 (3), 608-632.	2025
19	Hamza, S. & Jarboui, A. (2024). ESG performance and disclosure quality: does a well-balanced board of directors matter when impression management occurs? EuroMed Journal of Business, 1-23.	2024
20	Bhat, B. A., Makkar, M. K. & Gupta, N. (2024). Corporate governance for sustainability: Connecting environmental, social and economic goals. Sustainable Development, 32 (3), 2754-2765.	2024
21	Mohy-ud-Din, K (2023). Role of Board Composition Index in Corporate Social Responsibility (CSR) Disclosure: Evidence From United States. Global Business Review, 1-19.	2023
22	Bini, L., Giunta, F., Miccini, R. & Simoni, L. (2023). Corporate governance quality and non-financial KPI disclosure comparability: UK evidence. Journal of Management and Governance, 27 (1), 43-74.	2023
23	Alruwaili, W. S. (2025). ESG, CSR Strategy, and Board-Specific Skills: Further Evaluation Across the GCC Region. Corporate Social Responsibility and Environmental Management, 1-16.	2025
24	Desoky, A. M. (2025). The influence of board and audit committee characteristics on CSR reporting in Bahrain: the legitimacy perspective. Journal of Financial Reporting and Accounting, 23 (1), 417-435.	2025
25	Almaiman, M., Salloum, C., Ramadani, V., Ezzeddine, B. M. & Dana, L. P. (2024). Institutional dynamics and governance structures in shaping CSR, social entrepreneurship, and private equity investment. Journal of Small Business and Entrepreneurship, 1-20.	2024
26	Mkadmi, J. E. &Daafous, W. (2025). Does corporate governance affect the environmental, social and governance disclosure? A cross-country study. Central European Management Journal, 1-21.	2025
27	Grassa, R., Elhout, R., Rafeea, R., Hassan, O. Y. & Humaid Al Suwaidi, S. (2025). Sustainable development goals: investigation of the driving forces underlying the narratives in integrated reports. Society and Business Review, 1-26.	2025
28	Abu Qa'dan, M. B. & Suwaidan, M. S. (2019). Board composition, ownership structure and corporate social responsibility disclosure: the case of Jordan. Social Responsibility Journal, 15 (1), 28-46.	2019

29	Pucheta-Martinez, M. C. & Gallego-Alvarez, I. (2019). An international approach of the relationship between board attributes and the disclosure of corporate social responsibility issues. Corporate Social Responsibility and Environmental Management, 26 (3), 612-627.	2019
30	Zaid, M. A. A., Wang. M. & Abuhijleh, S. T. F. (2019). The effect of corporate governance practices on corporate social responsibility disclosure: Evidence from Palestine. Journal of Global Responsibility, 10 (2), 134-160.	2019
31	Husted, B. W. & Sousa-Filho, J.M. (2019). Board structure and environmental, social, and governance disclosure in Latin America. Journal of Business Research, 102, 220-227.	2019
32	Zhou, C. (2019). Effects of corporate governance on the decision to voluntarily disclose corporate social responsibility reports: evidence from China. Applied Economics, 51 (55), 5900-5910.	2019
33	Michelon, G. & Parbonetti, A. (2012). The effect of corporate governance on sustainability disclosure. Journal of Management and Governance, 16 (3), 477-509.	2012
34	Jizi, M. (2017). The Influence of Board Composition on Sustainable Development Disclosure. Business Strategy and the Environment, 26 (5), 640-655.	2017
35	Liao, L., Lin, T. P. & Zhang Y. (2018). Corporate Board and Corporate Social Responsibility Assurance: Evidence from China. Journal of Business Ethics, 150 (1), 211-225.	2018
36	Rao, K. & Tilt, C. (2016). Board diversity and CSR reporting: An Australian study. Meditari Accountancy Research, 24 (2), 182-210.	2016
37	Giannarakis, G. (2014). Corporate governance and financial characteristic effects on the extent of corporate social responsibility disclosure. Social Responsibility Journal, 10 (4), 569-590.	2014
38	Habbash, M. (2016). Corporate governance and corporate social responsibility disclosure: Evidence from Saudi Arabia. Social Responsibility Journal, 12 (4), 740-754.	2016
39	Muttakin, M. B. & Subramaniam, N. (2015). Firm ownership and board characteristics: Do they matter for corporate social responsibility disclosure of Indian Companies? Sustainability Accounting, Management and Policy Journal, 6 (2), 138-165.	2015
40	Monowar, M. & Nurlan, O. (2017). Green governance and sustainability reporting in Kazakhstan's oil, gas, and mining sector: Evidence from a former USSR emerging	2017

	economy. Journal of Cleaner Production, 164 (15), 389-397.	
41	Garcia-Torea, N., Fernandez-Feijoo, B. & de la Cuesta, M. (2016). Board of director's effectiveness and the stakeholder perspective of corporate governance: Do effective boards promote the interests of shareholders and stakeholders? BRQ Business Research Quarterly, 19 (4), 246-260.	2016
42	Shahab, Y. & Ye, C. (2018). Corporate social responsibility disclosure and corporate governance: Empirical insights on neo-institutional framework from China. International Journal of Disclosure and Governance, 15 (2), 87-103.	2018
43	Naseem, M. A., Riaz, S., Rehman, R. U., Ikram, A. & Malik, F. (2017). Impact of board characteristics on corporate social responsibility disclosure. Journal of Applied Business Research, 33 (4), 799-808.	2017
44	Mohd-Said, R., Shen, L. T., Nahar, H. S. & Senik, R. (2018). Board compositions and social reporting: Evidence from Malaysia. International Journal of Managerial and Financial Accounting, 10 (2), 128-143.	2018
45	Nicolo, G., Zampone, G., Sannino, G. & Tiron-Tudor, A. (2023). Worldwide evidence of corporate governance influence on ESG disclosure in the utilities sector. Utilities Policy, 82, 1-14.	2023
46	Giannarakis, G., Konteos, G. & Saiannidis, N. (2014). Financial, governance and environmental determinants of corporate social responsible disclosure. Management Decision, 52 (10), 1.928-1.951.	2014
47	Li, W., Zhang, J. Z. & Ding, R. (2022). Impact of Directors' Network on Corporate Social Responsibility Disclosure: Evidence from China. Journal of Business Ethics, 183 (2), 551-583.	2022
48	Fernandez-Gago, R., Cabeza-Garcia, L. & Nieto, M. (2018). Independent directors' background and CSR disclosure. Corporate Social Responsibility and Environmental Management, 25 (5), 991-1001.	2018
49	Garcia-Sanchez, I. M. & Martinez-Ferrero, J. (2019). The relevance of assurance statements on CSR information to independent directors. European Journal of International Management, 13 (1), 1-24.	2019

50	Campanella, F., Serina, L., Crisci, A. & D'Ambra, A. (2021). The role of corporate governance in environmental policy disclosure and sustainable development. Coporate Social Responsibility and Environmental Management, 28, 474-484.	2021
51	Garcia-Sanchez, I. M. & Martinez-Ferrero, J. (2017). Independent Directors and CSR Disclosures: The moderating effects of proprietary costs. Coporate Social Responsibility and Environmental Management, 24 (1), 28-43.	2017
52	Garcia-Sanchez, I. M. & Martinez-Ferrero, J. (2018). How do Independent Directors Behave with Respect to Sustainability Disclosure? Coporate Social Responsibility and Environmental Management, 25 (4), 609-627.	2018
53	Miloud, T. (2024). Corporate governance and CSR disclosure: Evidence from French listed companies. Global Finance Journal, 59, 1-15.	2024
54	Liu, Z., Abhayawansa, S. & Jubb, C. (2024). The impact of board capital on total value reporting: evidence from the Australian health care sector. Journal of Intellectual Capital, 25 (2/3), 559-587.	2024
55	Ng, A.W., Leung, T. C. H., Yu, T. W., Cho, C. H. & Wut, T. M. (2023). Disparities in ESG reporting by emerging Chinese enterprises: evidence froma global financial center. Sustainability Accounting, Management and Policy Journal, 14 (2), 343-368.	2023

Table 2: Distribution of Journals and their Rankings

Publication	Journal	Classification of AJG 2024	Classification of VHB 2024
Abu Qa'dan, M. B. & Suwaidan, M. S. (2019)	Social Responsibility Journal	Ethics-CSR-Management (1)	Sustainability Management (C)
Aliani, K. et al. (2024)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Almaiman, M. et al. (2024)	Journal of Small Business and Entrepreneurship	Entrepreneurship and Small Business Management (1)	Not listed
Alruwaili, W. S. (2025)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)

Arayssi, M.et al. (2020)	Sustainability Accounting, Management and Policy Journal	Accounting (2)	Sustainability Management (B)
Bataineh, H. et al. (2025)	Journal of Islamic Accounting and Business Research	Accounting (1)	Not listed
Bhat, B. A. et al. (2024)	Sustainable Development	Not listed	Sustainability Management (B)
Bhatia, S. & Marwaha, D. (2022)	Global Business Review	Ethics-CSR-Management (1)	Not listed
Bini, L. et al. (2023)	Journal of Management and Governance	Ethics-CSR-Management (1)	Strategic Management (C)
Campanella, F. et al. (2021)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Desoky, A. M. (2025)	Journal of Financial Reporting and Accounting	Finance (1)	Accounting (C)
Dobija, D. et al. (2023)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Dwekat, A. et al. (2020)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Fernandez-Gago, R. et al. (2018)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Gallego-Alvarez, I. & Pucheta-Martinez, M. C. (2020)	Business Strategy and Development	Not listed	Sustainability Management (B)
Garcia-Sanchez, I. M. & Martinez-Ferrero, J. (2017)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Garcia-Sanchez, I. M. & Martinez-Ferrero, J. (2018)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Garcia-Sanchez, I. M. & Martinez-Ferrero, J. (2019)	European Journal of International Management	International Business and Area Studies (2)	Strategic Management (B)

Garcia-Torea, N. et al. (2016)	BRQ Business Research Quarterly	Ethics-CSR-Management (2)	Strategic Management (C)
Giannarakis, G. (2014)	Social Responsibility Journal	Ethics-CSR-Management (1)	Sustainability Management (C)
Giannarakis, G. et al. (2014)	Management Decision	Ethics-CSR-Management (2)	Strategic Management (B)
Grassa, R. et al. (2025)	Society and Business Review	Social Science (2)	Philosophy of Science and Ethics in Economics (B)
Habbash, M. (2016)	Social Responsibility Journal	Ethics-CSR-Management (1)	Sustainability Management (C)
Hamrouni, A.et al. (2022)	Journal of Applied Accounting Research	Accounting (2)	Accounting (C)
Hamza, S. & Jarboui, A. (2024)	EuroMed Journal of Business	International Business and Area Studies (2)	Not listed
Husted, B. W. & Sousa-Filho, J.M. (2019)	Journal of Business Research	Ethics-CSR-Management (3)	Sustainability Management (B)
Jizi, M. (2017)	Business Strategy and the Environment	Social Science (3)	Sustainability Management (B)
Li, W., Zhang, J. Z. & Ding, R. (2022)	Journal of Business Ethics	Ethics-CSR-Management (3)	International Management (B)
Liao, L. et al. (2018)	Journal of Business Ethics	Ethics-CSR-Management (3)	Sustainability Management (B)
Liu, Z. et al. (2024)	Journal of Intellectual Capital	Ethics-CSR-Management (2)	Strategic Management (C)
Martinez-Ferrero, J. & Garcia-Meca, E. (2020)	Sustainable Development	Not listed	Sustainability Management (B)
Michelon, G. & Parbonetti, A. (2012)	Journal of Management and Governance	Ethics-CSR-Management (1)	Strategic Management (C)
Miloud, T. (2024)	Global Finance Journal	Finance (2)	Banking and Finance (C)
Mkadmi, J. E. &Daafous, W. (2025)	Central European Management Journal	Strategy (1)	Not listed
Mohd-Said, R. et al. (2018)	International Journal of Managerial and Financial Accounting	Accounting (2)	Accounting (C)
Mohy-ud-Din, K (2023)	Global Business Review	Ethics-CSR-Management (1)	Not listed
Monowar, M. & Nurlan, O. (2017)	Journal of Cleaner Production	Sports, Leisure, Tourism and Sector Studies (1)	Sustainability Management (B)
Muttakin, M. B. & Subramaniam, N. (2015)	Sustainability Accounting, Management and Policy Journal	Accounting (2)	Sustainability Management (B)

Naseem, M. A. et al. (2017)	Journal of Applied Business Research	Not listed	Service Management (D)
Ng, A.W. et al. (2023)	Sustainability Accounting, Management and Policy Journal	Accounting (2)	Sustainability Management (B)
Nguyen, L. T. M. & Nguyen P. T. (2023)	Finance Research Letters	Finance (2)	Banking and Finance (B)
Nicolo, G. & Andrades-Pena, F. J. (2024)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Nicolo, G. et al. (2023)	Utilities Policy	Sports, Leisure, Tourism and Sector Studies (1)	Not listed
Nuhu, Y. & Alam, A. (2024)	Journal of Financial Reporting and Accounting	Finance (1)	Accounting (C)
Ong, T. & Djajadikerta, H. G. (2020)	Social Responsibility Journal	Ethics-CSR-Management (1)	Sustainability Management (C)
Pucheta-Martinez, M. C. & Gallego-Alvarez, I. (2019)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)
Ramon-Llorens, M. C. (2021)	Sustainability Accounting, Management and Policy Journal	Accounting (2)	Sustainability Management (B)
Rao, K. & Tilt, C. (2016)	Meditari Accountancy Research	Accounting (1)	Accounting (C)
Shahab, Y. & Ye, C. (2018)	International Journal of Disclosure and Governance	Accounting (2)	Accounting (C)
Suttipun, M. (2021)	International Journal of Disclosure and Governance	Accounting (2)	Accounting (C)
Thun, T. W. & Zülch, H. (2023)	Business Strategy and the Environment	Social Science (3)	Sustainability Management (B)
Wang, Y. et al. (2022)	International Journal of Accounting and Information Management	Accounting (2)	Accounting (C)
Zaid, M. A. A. et al. (2019)	Journal of Global Responsibility	Ethics-CSR-Management (1)	Sustainability Management (C)
Zhou, C. (2019)	Applied Economics	Economics, Econometrics and Statistics (2)	Business Taxation (C)

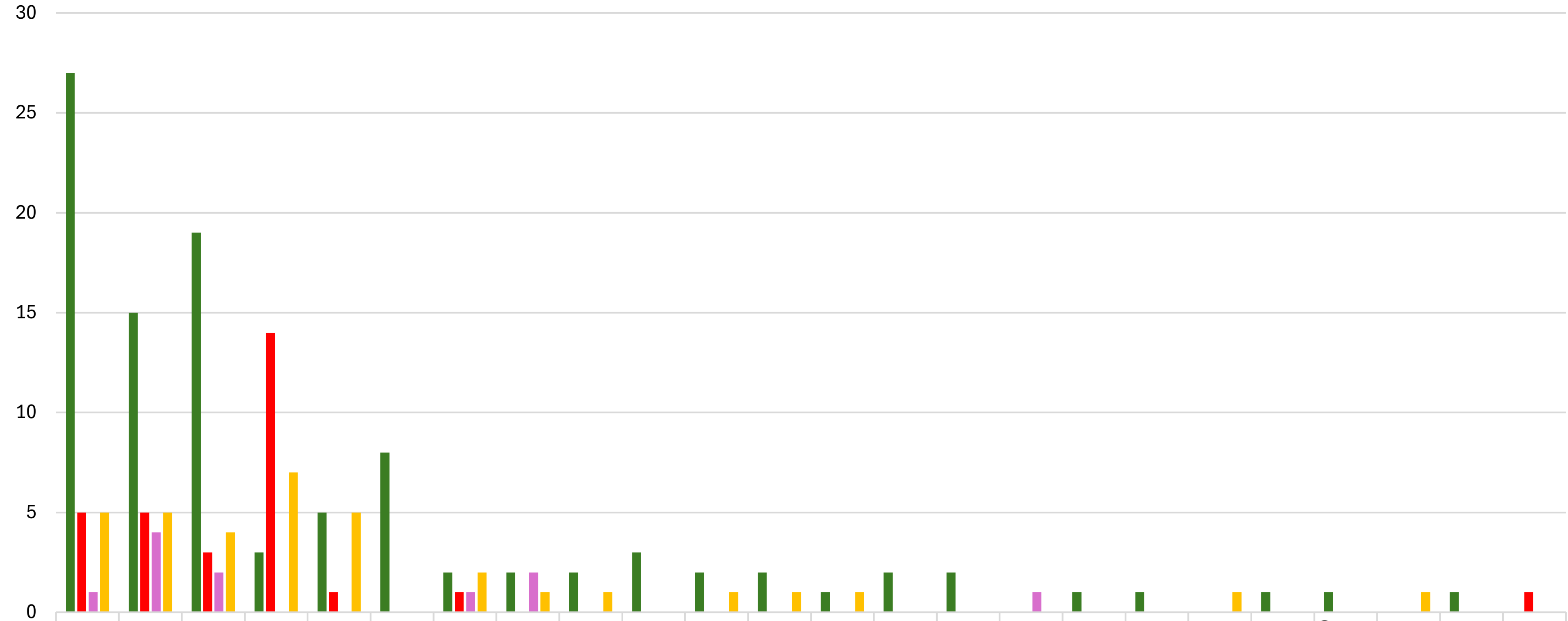
Zhu, N. et al. (2024)	Corporate Social Responsibility and Environmental Management	Regional Studies, Planning and Environment (1)	Sustainability Management (B)

Table 3: Distribution of Countries, Income Classification and Corresponding Region

Nr.	Country	Number of observations	Income classification	Region
1	China	17	Upper middle income	East Asia & Pacific
2	United Kingdom	16	High income	Europe & Central Asia
3	France	16	High income	Europe & Central Asia
4	United States of America	14	High income	North America
5	Spain	13	High income	Europe & Central Asia
6	Germany	13	High income	Europe & Central Asia
7	Italy	12	High income	Europe & Central Asia
8	Finland	11	High income	Europe & Central Asia
9	Denmark	11	High income	Europe & Central Asia
10	Norway	10	High income	Europe & Central Asia
11	Netherlands	10	High income	Europe & Central Asia
12	Canada	10	High income	North America
13	Sweden	9	High income	Europe & Central Asia
14	India	9	Lower middle income	South Asia
15	Belgium	9	High income	Europe & Central Asia
16	Switzerland	8	High income	Europe & Central Asia
17	Japan	8	High income	East Asia & Pacific
18	Austria	7	High income	Europe & Central Asia
19	Australia	7	High income	East Asia & Pacific
20	Thailand	6	Upper middle income	East Asia & Pacific
21	Saudi Arabia	6	High income	Middle East & North Africa
22	Russia	6	High income	Europe & Central Asia
23	Czech Republic	6	High income	Europe & Central Asia
24	Brazil	6	Upper middle income	Latin America & Caribbean
25	United Arab Emirates	5	High income	Middle East & North Africa
26	Republic of Ireland	5	High income	Europe & Central Asia
27	Portugal	5	High income	Europe & Central Asia
28	New Zealand	5	High income	East Asia & Pacific
29	Hong Kong	5	High income	East Asia & Pacific
30	South Africa	4	Upper middle income	Sub-Sahara Africa
31	Singapore	4	High income	East Asia & Pacific
32	Qatar	4	High income	Middle East & North Africa
33	Poland	4	High income	Europe & Central Asia
34	Mexico	4	Upper middle income	Latin America & Caribbean
35	Malaysia	4	Upper middle income	East Asia & Pacific
36	Luxembourg	4	High income	Europe & Central Asia
37	Greece	4	High income	Europe & Central Asia
38	Chile	4	High income	Latin America & Caribbean

39	Bermuda	4	High income	North America
40	South Korea	3	High income	East Asia & Pacific
41	Pakistan	3	Lower middle income	South Asia
42	Oman	3	High income	Middle East & North Africa
43	Kuweit	3	High income	Middle East & North Africa
44	Jordan	3	Lower middle income	Middle East & North Africa
45	Indonesia	3	Upper middle income	East Asia & Pacific
46	Egypt	3	Lower middle income	Middle East & North Africa
47	Colombia	3	Upper middle income	Latin America & Caribbean
48	Bahrain	3	High income	Middle East & North Africa
49	Turkey	2	Upper middle income	Europe & Central Asia
50	Sri-Lanka	2	Lower middle income	South Asia
51	Papua New Guinea	2	Lower middle income	East Asia & Pacific
52	Kazakhstan	2	Upper middle income	Europe & Central Asia
53	Sub-Sahara Africa	1	Mixed	Sub-Sahara Africa
54	Philippines	1	Lower middle income	East Asia & Pacific
55	Peru	1	Upper middle income	Latin America & Caribbean
56	Palestine	1	Lower middle income	Middle East & North Africa
57	Malta	1	High income	Europe & Central Asia
58	Jersey	1	High income	Europe & Central Asia
59	Israel	1	High income	Middle East & North Africa
60	Isle of Man	1	High income	Europe & Central Asia
61	Hungary	1	High income	Europe & Central Asia
62	Cyprus	1	High income	Europe & Central Asia
63	Cayman Island	1	High income	Latin America & Caribbean
64	Bangladesh	1	Lower middle income	South Asia
65	Argentina	1	Upper middle income	Latin America & Caribbean

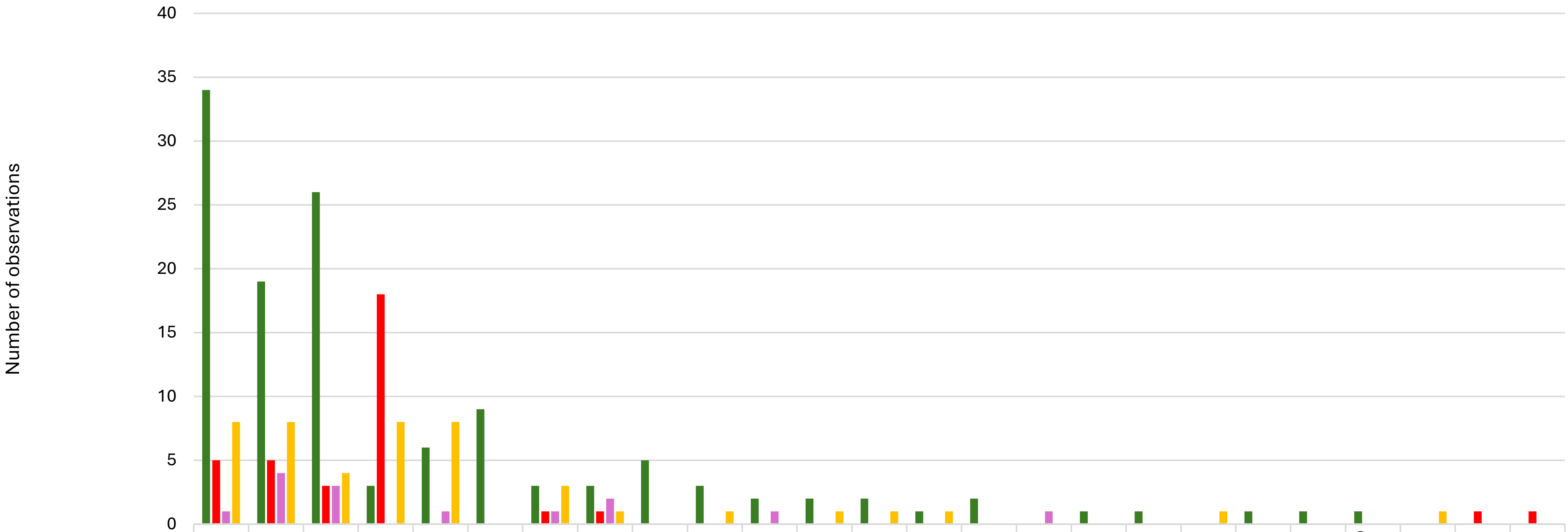
Figure 10: Findings on Board Characteristics Influencing the Extent of ESG Disclosure



	Board ind.	Board size	Gender div.	CEO duality	Nr. of meetings	CSR committee	Audit committee	Cult. diversity	Mult. directorships	Board tenure	Board compensation	Young board age	Nom. committee	Comp. committee	Board expertise	Nr. of board committees	Presence of CSO	CSO = CFO	CSO = CEO	Female board committee	Community influential members	CEO fin. ed.	CEO compensation	Board type
Significant positive	27	15	19	3	5	8	2	2	2	3	2	2	1	2	2	0	1	1	0	1	1	0	1	0
Significant negative	5	5	3	14	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed findings	1	4	2	0	0	0	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
No influence	5	5	4	7	5	0	2	1	1	0	1	1	1	0	0	0	0	0	1	0	0	1	0	0

Significant positive   Significant negative   Mixed findings   No influence

Figure 15: Overview of Observed Relationships Between Board Characteristics and ESG Disclosure



	Board ind.	Board size	Gender div.	CEO duality	Nr. of mee-tings	CSR committee	Audit committee	Cult. diver-sity	Board exper-tise	Mult. directorships	Board tenure	Board com-pensation	Young board age	Nom. committee	Comp. committee	Nr. of board committees	Pre-sence of CSO	CSO = CFO	CSO = CEO	Female board committee	Direc-tors network	Community influential members	CEO fin. ed.	CEO com-pensation	Board type
Significant positive	34	19	26	3	6	9	3	3	5	3	2	2	2	1	2	0	1	1	0	1	1	1	0	0	0
Significant negative	5	5	3	18	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Mixed findings	1	4	3	0	1	0	1	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
No influence	8	8	4	8	8	0	3	1	0	1	0	1	1	1	0	0	0	0	1	0	0	0	1	0	0