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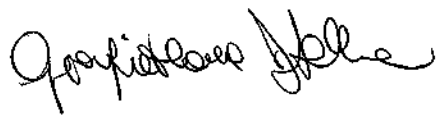
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2. Literature review
 - 2.1 | The Relationship Between Board Diversity and ESG Performance is attributable to Chiara Leggerini
 - 2.2 | The Family as a Social Actor of Inclusion is attributable to Federica Romano
- 3 | Hypothesis Development is attributable to Giorgia Maria D’Allura
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- 8 | Conclusions and Contributions is attributable to Giorgia Maria D’Allura
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 - 8.2 | Limitations and Future Development is attributable to Mariasole Bannò and Chiara Leggerini

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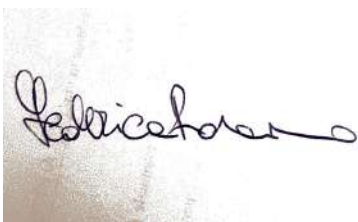
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RESEARCH ARTICLE OPEN ACCESS

When Diversity Meets Family Owners: ESG Performance in European Publicly Listed Firms

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ABSTRACT

This study investigates how the interaction between board diversity and family as owners shapes firms' ESG performance. Prior research has established that board diversity fosters more informed, ethical, and stakeholder-oriented decision-making, thereby enhancing corporate legitimacy and responsiveness to diverse stakeholder expectations. Building upon this foundation, the present study advances the literature by incorporating the role of family ownership and involvement into this relationship. Drawing on Functionalist Theory and the socioemotional wealth (SEW) perspective, we conceptualize the family as a normative and institutional actor that embeds long-term orientation, intergenerational responsibility, and prosocial values into corporate governance structures and decision-making processes. Using a panel dataset of 1199 publicly listed European firms over a 10-year period, we confirm prior literature and find that greater board diversity is consistently associated with improved ESG performance. While family business status alone does not directly affect ESG performance, it significantly enhances the positive impact of board diversity, positioning families as institutional enablers. Furthermore, succession planning shows a positive relationship with ESG performance, indicating that structured intergenerational transitions promote ethical consistency and reinforce long-term strategic commitment. In general, our results show that family involvement in the ownership can make the link between diversity and sustainability stronger.

1 | Introduction

ESG performance is defined as a multidimensional construct reflecting a firm's ability to manage environmental, social, and governance responsibilities to create long-term value and stakeholder trust. It represents an integrated measurement connecting responsible corporate behavior with firm value and profitability (Aydoğmuş et al. 2022). ESG performance captures how ethical, sustainable, and developmental practices translate into increased financial and market outcomes (Velte 2017; Zhou et al. 2022).

Beyond voluntary engagement, firms are increasingly required by regulatory frameworks, such as the EU Corporate Sustainability Reporting Directive and the Sustainable Finance Disclosure Regulation, to integrate ESG principles into their strategic and reporting practices. This growing institutional pressure has made ESG performance a critical concern not only for investors but also for regulators, employees, and communities.

Despite the growing consolidation of ESG frameworks and reporting practices (Aguilera et al. 2021; Aragón-Correa and Sharma 2003), the literature remains fragmented regarding their

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actual effectiveness and underlying governance drivers for ESG performance. While several studies document a positive association between ESG performance and firm legitimacy, stakeholder trust, and long-term value creation (Benlemlih and Bitar 2018; Hichri and Ltfi 2021; Jang et al. 2019), others highlight the risk of symbolic adoption, where ESG practices are implemented for reputational or compliance purposes rather than producing substantive change (Liao et al. 2019; Prior et al. 2008). This ongoing debate underscores the need to move beyond the question of whether firms engage in ESG and instead explore how internal governance mechanisms shape ESG performance. In this regard, board diversity has emerged as a critical but still contested determinant. Although prior research suggests that diverse boards enhance ethical deliberation, creativity, and responsiveness to stakeholder expectations (Rao and Tilt 2016; Velte 2017), evidence remains inconsistent and context-dependent, pointing to the existence of unobserved moderating factors and also, most studies examine a single attribute of diversity in isolation (Zhou et al. 2022; Aydoğmuş et al. 2022). One such factor that has received limited attention is family business status. Family firms are characterized by distinct governance logics, long-term orientation, and socioemotional goals that may either amplify or constrain the effectiveness of board diversity in promoting ESG performance (Bettinelli et al. 2025).

Building on this premise, the present study examines the interplay between board diversity and family business status in shaping firms' ESG performance. At the upper echelon, boards of directors are responsible for overseeing management, allocating resources, and ensuring ethical and strategic alignment (Walls and Berrone 2017; Yousaf et al. 2022; El-Kassar et al. 2015; Issa and Bensalem 2023). A growing body of research highlights that diversity in gender, age, nationality, and educational background enhances decision quality, creativity, and responsiveness to stakeholder expectations (Rao and Tilt 2016; Yakubu and Oumarou 2023; Bannò et al. 2023; Khan et al. 2024; Talavera et al. 2018). However, the effectiveness of board diversity may depend on the board characteristics. Specifically, Upper Echelons Theory (Hambrick and Mason 1984; Hambrick 2007) highlights the role of directors' demographic and cognitive characteristics in influencing strategic decisions and ethical orientations. Stakeholder Theory (Freeman 1994; Donaldson and Preston 1995) provides the normative rationale for ESG performance, framing it as a response to the expectations of multiple stakeholder groups. Family business status introduces distinctive governance dynamics (Parada et al. 2020; Villalonga et al. 2015). When family plays a role inside a firm, it is not only a shareholder, but also a bearer of values such as long-term orientation, social embeddedness, and intergenerational responsibility, all of which are conducive to social cohesion. Drawing on Functionalist and socioemotional wealth (SEW) perspectives, family owners can act as institutional anchors that foster cohesive, sustainable, and ethically orientated firm behavior (Gomez-Mejia et al. 2007; Berrone et al. 2012) depending on the alignment between family values and managerial incentives (Sacristán-Navarro and Gómez-Ansón 2007). Accordingly, this study investigates how family involvement in the ownership moderates the relationship between board diversity and ESG performance (Vurro and Perrini 2011). Together, these frameworks provide complementary theoretical and empirical evidence that supports the study's focus on the interplay between

board diversity, family business status, and ESG performance (Bettinelli et al. 2025).

The research addresses two main gaps. First, while numerous studies have examined the independent effects of board diversity and family business status on firm outcomes, few have analyzed their joint influence on ESG performance. Moreover, existing studies on board diversity typically focus on a single dimension (such as gender, nationality, or age) rather than adopting a multi-dimensional approach that simultaneously captures the variety of attributes shaping ESG performance. Second, existing evidence is largely cross-sectional or country-specific, limiting the understanding of these dynamics in a European, multi-country context characterized by diverse institutional pressures.

Utilizing a longitudinal dataset of 1199 publicly traded European companies from 2013 to 2022, this research offers a comprehensive empirical evaluation of the influence of governance heterogeneity on ESG performance over time. Family business status was identified following standard criteria in the family business literature: a firm was classified as a family business when family members held at least 20% of the equity and at least one family representative sat on the board of directors.

The contribution is twofold. Theoretically, this paper positions itself within the ongoing conversation on how ownership and governance mechanisms jointly shape firms' ESG performance, contributing to the emerging debate on the conditions under which board diversity translates into substantive, rather than symbolic, ESG performance. In addition, by explicitly examining family involvement in the ownership within publicly listed firms, the study extends current knowledge in the family business literature, which has primarily focused on private firms or small and medium-sized enterprises.

Our findings indicate that board diversity is positively associated with ESG performance and that this relationship is further strengthened in family-controlled firms. By contrast, succession planning (as a strategic and institutionalized tool that transmits values, knowledge, and long-term orientation across generations) shows a positive direct effect on ESG performance, reflecting the role of intergenerational continuity in reinforcing ethical orientation, but it does not significantly moderate the diversity-ESG relationship. These results indicate that family ownership can act as normative anchors that enhance the effectiveness of diverse boards in promoting socially responsible corporate behavior.

Accordingly, the study contributes to both the corporate governance and the family business literature by identifying how board diversity and family as owners jointly foster ESG performance. It offers substantial empirical evidence regarding the influence of family as owners on the relationship between diversity and ESG performance, yielding insights for both regulators and practitioners seeking to enhance ESG governance.

2 | Theoretical Framework

Figure 1 illustrates the conceptual framework guiding this study. The model posits that board diversity enhances firms'

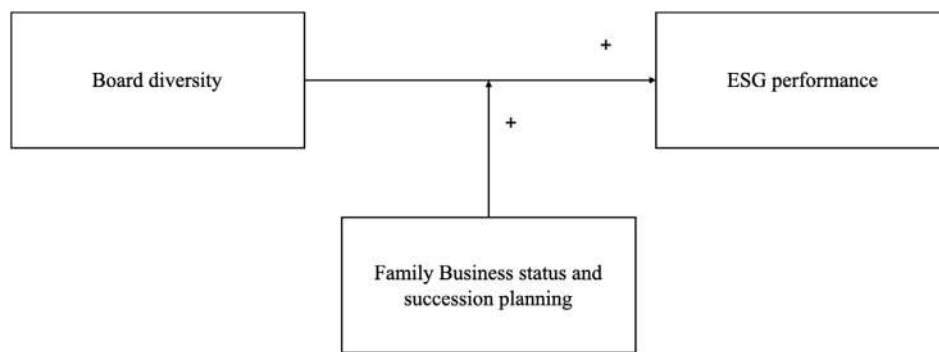


FIGURE 1 | Conceptual framework of the study.

ESG performance by broadening cognitive perspectives, improving strategic decisions, and fostering responsiveness to multiple stakeholder expectations (Hambrick and Mason 1984; Freeman 1994; Rao and Tilt 2016). This relationship is not solely structural; it is also dependent on family business status. Drawing on Functionalist Theory and the SEW perspective, family as owners moderates factors that strengthen the diversity–ESG link (Parsons 1955; Gomez-Mejia et al. 2007; Berrone et al. 2012). Families act as normative anchors that transmit long-term orientation, intergenerational responsibility, and prosocial values, thereby reinforcing the board’s capacity to translate diversity into genuine sustainability engagement (Blodgett et al. 2011; Hadjielias et al. 2025).

2.1 | The Relationship Between Board Diversity and ESG Performance

If ESG is to be a genuine lever for sustainability and social cohesion, then the call for inclusion must begin at the highest level of firm power: the board of directors. A firm cannot credibly advocate for inclusion, equity, or environmental responsibility while maintaining homogeneity where strategic decisions are made. In this regard, board diversity is not merely a compliance box to tick; it serves as a litmus test for whether ESG principles are embedded into the firm’s governance DNA (Menicucci and Paolucci 2022; Grau-Grau et al. 2025). Prior research drawing on Upper Echelons Theory and Stakeholder Theory provides the theoretical foundations for understanding the link between board diversity and ESG performance. These perspectives clarify why diverse boards, through cognitive heterogeneity and social representativeness, are more capable of identifying emerging sustainability issues, reconciling multiple stakeholder expectations, translating ethical awareness into strategic action, and ultimately enhancing firms’ ESG outcomes.

Upper echelon theory states that the demographic characteristics of board members serve as proxies for the knowledge base, interpretations, and priorities they bring to strategic deliberations (Hambrick and Mason 1984; Hambrick 2007). Diversity in gender, age, nationality, and level of education increases the variety of perspectives within the boardroom, enhancing its ability to recognize and respond to ESG-related risks and opportunities (Bannò et al. 2023; Reimer et al. 2018; Talavera et al. 2018). When directors come from heterogeneous backgrounds, they

tend to engage in more robust discussions, question dominant assumptions, and incorporate a wider set of criteria into strategic decisions (Kammerlander et al. 2018; Fernández-Gago et al. 2018). This not only enhances the board’s ability to assess complex ESG issues but also promotes more inclusive, long-term thinking that aligns with stakeholder needs and sustainability objectives. In this sense, board diversity becomes a key mechanism through which firms internalize ESG principles at the highest levels of governance.

Firms are embedded in a network of interdependent relationships, not only with shareholders but also with employees, customers, regulators, communities, and the environment (Freeman 1994). A diverse board, composed of individuals who bring different cultural, social, and professional experiences, is more likely to understand and integrate these multiple perspectives into decision-making (Mshana et al. 2025). Diversity expands the interpretive capacity of the board, enabling it to detect and respond to stakeholder expectations that may otherwise go unrecognized in homogeneous groups (Dodd and Zheng 2022; Jeyhunov et al. 2025). It challenges managerial vision and fosters an expanded notion of accountability, one that extends beyond financial performance (Hampl and Vágnerová Linnertová 2025).

Building on these established insights, we extend the analysis by exploring how family as owners shapes or conditions the effectiveness of board diversity in fostering ESG performance.

2.2 | The Family as a Social Actor of Inclusion

While ESG practices are often analyzed through frameworks of corporate governance, regulatory compliance, or stakeholder engagement, their normative basis is firmly established in broader institutional structures. Among these, the family represents a foundational social institution that shapes both individual moral development and collective ethical orientations (Su et al. 2022; Curado and Mota 2021; Hadjielias et al. 2025). In this regard, we propose viewing the family as a social actor of inclusion, an entity that not only transmits ethical norms but also fosters civic and prosocial values within and beyond the firm’s level. This interpretation is grounded in the functionalist tradition in sociology, particularly the work of Parsons (1951, 1955) and The Division of Labor in Society (1893), which conceptualizes society as a complex

system composed of interdependent parts. Within this system, the family serves as a core mechanism for social integration, cohesion, and normative continuity. As a site of primary socialization, the family instills shared values and supports the formation of identity, which in turn influences individuals' behavior within institutional and organizational settings (Parsons 1955).

Further interpretations of Functionalist Theory expand this view by positioning the family as a bio-psychological and cultural mediator (Parsons 1949; Boss et al. 2009), through which individual development and social integration are simultaneously realized. The family not only supports psychological growth and identity formation but also serves as a "bridge" between the individual and society (Goode 1963), transmitting values such as trust, cooperation, and responsibility, key ingredients in socially responsible business conduct.

Extending this framework to the corporate domain, families, when involved in governance, may continue to exert influence as value-bearing institutions. In publicly listed firms, where family shareholders often hold equity positions or controlling stakes, their embeddedness in social networks and long-term orientation can influence the ethical climate of the firm. Through their historical commitment to continuity and community ties, families may act as normative anchors that reinforce inclusive governance practices and socially attuned decision-making (Blodgett et al. 2011; Coleman 1988; Lim and Jeong 2024).

This interpretation aligns closely with the family business literature, which conceptualizes the family firm as a unique governance form combining economic goals with non-economic goals such as reputation, identity, and intergenerational continuity (Gomez-Mejia et al. 2007; Berrone et al. 2012). From the SEW perspective, families derive value not only from financial performance but also from the preservation of family control and legacy, leading to stronger commitments to social legitimacy and stakeholder trust (Deephouse and Jaskiewicz 2013).

An integral component of this long-term and intergenerational orientation is the presence of formal succession planning, which represents a core governance mechanism through which family owners institutionalize continuity across generations. Succession planning reflects the family's strategic intent to preserve both control and values over time, ensuring the transmission of SEW through stable leadership and value continuity (Le Breton-Miller et al. 2004; Bennedson et al. 2015; Schell et al. 2020). From this perspective, succession is not a natural event but an organizational process that embeds normative orientations (such as responsibility, legacy, and trust) into the firm's governance structure (Reif et al. 2025; Heo et al. 2025). The existence of formal succession mechanisms can therefore reinforce the family's influence on ESG engagement by sustaining long-term strategic consistency, moral legitimacy, and intergenerational accountability (Leitão et al. 2023; Bettinelli et al. 2025). This conceptualization aligns with SEW perspectives, which emphasize that families prioritize non-economic goals and enduring relationships that extend beyond immediate financial

outcomes. These orientations often translate into higher levels of ethical conduct, philanthropy, and ESG performance (Cennamo et al. 2012; Berrone et al. 2010).

Family business research, increasingly highlighting the role of ethical determinants rooted in family dynamics, supports this view. Scholars have identified four categories of influence at the individual level: ethical values, personal identity, ethical conduct, and community commitment, which together shape the moral character of the family firm (Hadjielias et al. 2025). Particularly, the values of leading family members are found to be crucial in defining the ethical climate and social engagement of the organization (Kastanakis et al. 2025; Chaudhary et al. 2025; Chin et al. 2025; Skorodzyevskiy et al. 2023).

Building on this integration, our study bridges the sociological and family business literatures by conceptualizing the family as both a socializing institution and a governance actor. In doing so, we extend prior work by examining how family as owner moderates the relationship between board diversity and ESG performance, revealing when and how these two forces, social cohesion and structural heterogeneity, jointly enhance corporate sustainability.

Functionalism thus provides a robust framework for explaining how family-influenced firms can serve as a tool of inclusion. By embedding values that are socially integrative and normatively consistent, the family enhances the firm's capacity to engage meaningfully with ESG principles, particularly the "S" dimension, which often depends on relational trust, community ties, and long-term orientation (Espinosa-Méndez et al. 2023).

In complex organizations, such as the listed firms, where goals are multidimensional and often vaguely defined (e.g., "doing good" or "being sustainable"), the family's role becomes even more essential. It provides normative direction, grounding organizational activities in societal needs and values (Waldau 2024). In this way, the family functions not only as a productive or financial unit but also as a social integrator, linking private interests with public responsibility.

This institutional presence becomes particularly relevant when considering how board-level diversity affects ESG performance. Prior studies have shown that heterogeneous boards are better equipped to address stakeholder concerns, integrate diverse perspectives, and respond to social and environmental challenges (Post et al. 2011; Zaman et al. 2024; Carter et al. 2003). We contend that the efficacy of board diversity in promoting ESG objectives may depend on the existence of family shareholders.

In this paper, we focus on publicly listed family firms, identified by family ownership and board representation, as well as on the presence of a formal succession plan as a mechanism ensuring intergenerational continuity. These two dimensions (family business status and succession planning) capture both the extent and the persistence of family influence on governance and sustainability orientation.

3 | Hypothesis Development

Based on the theoretical foundations described above, we develop hypotheses that link board diversity to ESG performance and explore how family may moderate this relationship.

3.1 | Board Diversity and ESG Performance

Board diversity is increasingly recognized as a key determinant of ESG performance. Boards composed of members with varied demographic and professional characteristics, such as gender, age, nationality, and qualification, are more likely to integrate diverse viewpoints into strategic decision-making, leading to better sustainability outcomes (Issa and Bensalem 2023; Rodan and Galunic 2004; Talavera et al. 2018). Gender-diverse boards, for instance, are often more attuned to ethical and social concerns and are associated with stronger ESG disclosure practices (Bannò et al. 2023; Farza et al. 2022; Miller and Del Carmen Triana 2009). Age diversity combines different generational perspectives that contribute to a balanced approach between innovation and risk management (Mothe and Nguyen-Thi 2021), while board nationality diversity introduces broader cultural awareness and international experience that strengthens responses to global ESG pressures (Rao and Tilt 2016; Harjoto et al. 2019). In parallel, various educational and professional backgrounds allow boards to draw from a wider range of technical knowledge and sectoral expertise, increasing their capacity to address complex sustainability issues (Beji et al. 2021; Chen et al. 2023).

Summarizing, recent studies confirm that firms with diverse boards are better positioned to adopt sustainability strategies, comply with stakeholder expectations, and meet ESG-related standards (Nadeem et al. 2020; García-Meca et al. 2023; Carter et al. 2010). These boards are more likely to implement effective ESG policies and ensure stronger environmental and social performance (Konadu et al. 2022; Haniffa and Cooke 2002; Hafsi and Turgut 2013).

While prior research has examined the impact of individual dimensions of board diversity on ESG outcomes, the literature to date has rarely considered these dimensions simultaneously. It is conceivable that each dimension of diversity (gender, age, nationality, and qualification) contributes distinctly and collectively to the improvement of ESG performance (Issa and Bensalem 2023; Beji et al. 2021; Konadu et al. 2022). Taken together, these dimensions create a more dynamic, knowledgeable, and socially responsive board, ultimately strengthening the firm's overall sustainability orientation and performance.

Based on these insights, we formulate the following hypothesis:

H1. *Board diversity (across gender, age, nationality and qualification) is positively associated with ESG performance.*

3.2 | Moderating Role of Family Firm Status and Succession Planning

According to our framework, families serve as moderating forces that can enhance the link between board diversity and

ESG performance. Drawing from Functionalist Theory and the SEW perspective (Gomez-Mejia et al. 2007; Berrone et al. 2012), we view the family not merely as a financial actor but as a social and emotional institution that combines economic goals with affective, identity-based, and reputational objectives. Thus, ESG performance in diverse boards may not emerge solely from internal governance practices but may be amplified in firms where families reinforce inclusive values and stakeholder responsiveness (Cennamo et al. 2012; Berrone et al. 2010). The family, through its institutional function, facilitates the translation of board-level heterogeneity into socially responsible action. In addition to board composition, the presence of family may profoundly influence the conversion of diversity into ESG value. Family firms are frequently characterized by long-term orientation, community embeddedness, and a deeper set of values, traits that may amplify the effectiveness of diverse boards in embedding ESG principles into strategic decisions (Gomez-Mejia et al. 2007; Miller and Le Breton-Miller 2006; Deephouse and Jaskiewicz 2013).

Based on these insights, we formulate the following hypothesis:

H2a. *Family firm status positively moderates the relationship between board diversity and ESG performance.*

According to Functionalist Theory, mechanisms that ensure social integration and value continuity across generations reinforce the family's institutional role (Parsons 1955). One of the most salient of these mechanisms is succession planning, which transforms intergenerational solidarity into a formalized process of governance (Sison et al. 2020; Astrachan et al. 2020). From this perspective, succession is not merely an administrative or managerial tool but a symbolic and structural expression of the family's long-term orientation, ensuring the persistence of shared norms, ethical standards, and prosocial intentions (Astrachan et al. 2020).

Within the SEW perspective (Gomez-Mejia et al. 2007; Berrone et al. 2012), succession planning embodies the family's desire to preserve its legacy, reputation, and relational capital, which are deeply intertwined with ESG principles such as continuity, accountability, and trust. Such continuity is central to ESG, which requires long-term commitment and stable value systems. The idea of family legacy (the transmission of values, norms, and behaviors over time) has been linked to sustained involvement in CSR and ethical initiatives (Dyer and Whetten 2006; Radu-Lefebvre et al. 2024). In this sense, succession planning provides the institutional infrastructure through which family values are transmitted and embedded in the firm's strategic behavior, reinforcing the family's role as a social actor of inclusion both internally and externally to its boundaries. The family's role in ensuring social stability and transmitting norms becomes especially salient when succession is planned: a clear intergenerational transition reinforces the family's influence as a moderating force, shaping how board diversity translates into more ESG performance.

We therefore expect that in publicly listed firms with planned generational succession, the family's presence will more strongly amplify the relationship between board diversity and ESG performance.

TABLE 1 | Variable definitions and sources.

Variable	Definition	Source
Dependent variables		
ESG performance	Score from 0 to 100 represents the ESG performance of a firm.	Thomson Reuters
Environmental performance	Score from 0 to 100 represents the environmental performance of a firm.	Thomson Reuters
Social performance	Score from 0 to 100 represents the social performance of a firm.	Thomson Reuters
Independent variables		
Board diversity	Index that accounts for the proportion of people in each category of diversity, this index is calculated as follows: $\text{Blau Index} = 1 - \sum_{i=1}^n P_i^2$ where P_i is the percentage of each category on the board, and $i = (1, 2, n)$ is the number of categories.	BoardEX
FB status	Dummy variable is equal to 1 if family members hold at least 20% of the property and at least one family member is on the board; otherwise, 0.	Financial, non-financial reporting and governance disclosure
FB succession plan	Dummy variable is equal to 1 if there is a succession plan; otherwise, 0.	Financial, non-financial reporting and governance disclosure
Governance sustainability structures	Dummy variable is equal to 1 if the firm has a CSR committee or team; otherwise, 0.	Thomson Reuters
Profitability	Income on total assets.	ORBIS
Organizational capacity	Number of employees.	ORBIS
Organizational maturity	Number of years since firm foundation.	ORBIS
Industry	Categorical control variable, classified using NACE Rev. 2 codes.	ORBIS

Based on these insights, we formulate the following hypothesis:

H2b. *The presence of succession planning in a firm positively moderates the relationship between board diversity and ESG performance: the diversity–ESG performance effect is stronger in family firms that have planned for generational succession than in those that have not.*

4 | Sources and Variables

4.1 | Data

The sample for the study includes 1119 firms studied from 2013 to 2022. The sample consists of listed firms from European Union states. Data were gathered by merging three databases: BoardEX, Thomson Reuters, and Orbis (Bureau Van Dijk), as well as firms' financial reports, non-financial disclosures, and governance statements. The BoardEx platform features comprehensive profiles for over 2.2 million companies, encompassing data on more than 1.7 million executives and board members. It provides rich biographical insights, including age,

gender, current roles, academic history, compensation, equity ownership, and professional affiliations. We relied on BoardEX to extract detailed demographic data regarding board composition. For environmental, social, and governance insights, we utilized the Thomson Reuters ESG database, which is one of the most expansive ESG datasets globally. Covering over 6000 listed firms, it includes more than 400 ESG-related metrics dating back to 2002. The Orbis database developed by Bureau Van Dijk comprises detailed financial records for approximately 45 million entities and provides access to a vast network of around 450 million global companies and institutions. This platform was used as the primary source for collecting firm-level financial information. The datasets ensure accuracy and standardization through meticulous manual verification conducted by dedicated analysts. We obtained the ESG-related attributes of firms from this source. The information on succession planning and other family-related variables was derived from firms' financial reports, non-financial disclosures, and governance statements.

Table 1 outlines the sources used to obtain data on ESG performance, board attributes, and family business structure. It also

provides detailed definitions for control variables employed in the analysis.

4.2 | Dependent Variable

Our dependent variable is *ESG performance*, which reflects the overall evaluation of a firm's environmental, social, and governance engagement (Gregory 2024). Higher values indicate stronger ESG practices and a greater alignment with stakeholder expectations. We complement this measure with alternative specifications to strengthen the robustness of our findings, consistent with prior studies (Priem and Gabbellone 2024; Fandella et al. 2023). First, we employ the *ESG combined score*, which incorporates ESG controversies and therefore provides a more stringent and comprehensive assessment of firms' ESG performance. Second, we disaggregate the analysis by considering the environmental and social pillars separately, allowing us to explore whether board diversity and family structure exert differential effects across these dimensions. By contrast, we deliberately exclude the governance pillar from our dependent variables. Since our key explanatory constructs (board diversity and family structure) are themselves integral components of corporate governance, including governance scores as outcomes would raise issues of conceptual overlap and endogeneity. This strategy ensures that our analysis captures the substantive effects of diversity and family involvement on sustainability while avoiding circularity in measurement.

4.3 | Independent Variables

To measure board diversity and test Hypotheses 1, 2a, and 2b, we adopted the Blau index, a widely used heterogeneity metric, across four key dimensions: gender, age, nationality, and qualification. Following prior literature (Abad et al. 2017), we used the Collins and Blau (1979) index to capture heterogeneity within each dimension. The Blau index is defined as:

$$\text{Blau Index} = 1 - \sum_{i=1}^n p_i^2$$

where p_i is the percentage of each category on the board, and $i=(1, 2, n)$ is the number of categories. This indicator can have values between 0 and $(n - 1)/n$, representing one category on the board and equal representation of the categories.

For operationalisation, each director was assigned to a specific category within each dimension: (1) Gender: woman, man; (2) Nationality: foreign vs. domestic (based on whether the director's nationality matches the firm's country of headquarters); Age: under 30, 30–50, over 50; Qualification: none, low (1), medium (2–6), high (> 7) (educational background based on the number of academic degrees held).

We then calculated the Blau index separately for each type of diversity. From these individual indices, we constructed two composite indicators using different aggregation methods (Ararat et al. 2010; Mohy-ud-Din 2023). *Board diversity*, used in the main models, is the average of the four Blau indices, capturing overall

diversity in a balanced manner across dimensions. *Board diversity sum*, used in robustness tests, is the sum of the four indices, following prior work, and reflects the cumulative heterogeneity across board characteristics.

Consistent with our theoretical framework, we operationalize *FB status* by combining two conditions: (i) a minimum threshold of 20% of ownership held by family members and (ii) the presence of at least one family member on the board of directors (Cascino et al. 2010). We adopt this dual criterion to ensure that family influence is both financial and strategic. The 20% threshold is widely used in the family business literature as the minimum level of equity required to exert significant control and to safeguard long-term interests (Sacristán-Navarro and Gómez-Ansón 2007; Beyer et al. 2012). Meanwhile, requiring board participation captures the family's direct involvement in governance and decision-making processes. By combining ownership and board representation, our definition extends beyond nominal shareholding and focuses on situations where families can effectively influence a firm's orientation and strategic choices, including those related to ESG performance.

The presence of a succession plan operationalized as a binary variable, taking the value of 1 when the firm explicitly disclosed a structured succession plan and 0 otherwise. To ensure reliability, we relied exclusively on official and verifiable sources of information. Specifically, the data were gathered from firms' non-financial reports, corporate governance statements, and official press releases (Mokhber et al. 2017). Importantly, we coded the variable as 1 only when the succession plan was explicitly reported in these documents, thereby reducing the risk of subjectivity or misclassification.

4.4 | Control Variables

To control for firm-specific characteristics that may influence the capacity to deliver on ESG performance, we include several variables grounded in prior research. Return on Assets (ROA) is used to capture firm *profitability*, based on the rationale that more profitable firms are generally better positioned to invest in ESG initiatives to enhance ESG performance (Pan et al. 2021). ROA is calculated as the ratio of operating income to total assets.

Firm age is included as a proxy for *Organizational maturity*, which can shape a firm's strategic focus and responsiveness to ESG concerns (Srivastava and Gnyawali 2011). However, older firms may also experience greater structural inertia, requiring more effort to adapt to evolving ESG expectations. Thus, we measure firm age as the number of years since incorporation (Pan et al. 2021).

Organizational capacity is captured through firm size, as larger firms typically possess more extensive resources, infrastructure, and managerial capabilities to support ESG initiatives and reporting. A greater scale often facilitates the integration of sustainability practices into operations and enhances stakeholder engagement. Firm size is thus used as a proxy for organizational capacity. It is measured by the natural logarithm of total

assets, following standard practice in the literature (Cambrea et al. 2024; Heubeck 2024).

We also account for *governance sustainability structures*, such as the presence of a CSR or sustainability committee, which has been identified as a key element in promoting ESG-related oversight and outcomes (Haque 2017; Hussain et al. 2018). The formation of such committees has been linked to improved governance practices and enhanced social and environmental performance (Dixon-Fowler et al. 2017).

Lastly, we include *Industry* as a categorical control variable, classified using NACE Rev. 2 codes at the broadest level. This is important, as ESG engagement levels can vary significantly across sectors, with some industries more inclined to adopt sustainability strategies than others.

5 | Models

Since observations span multiple periods for the same firms, the structure reflects a classic panel design (Wooldridge 2019). In light of the dependent variable's nature and the characteristics of the dataset, panel regression techniques were applied to estimate ESG performance (Greene 2011).

Prior literature examining the interplay between corporate governance and firm performance has often recommended fixed effects (within) or first-difference estimators as effective strategies to address endogeneity concerns (Andres and Vallelado 2008). However, the composition of corporate boards is typically endogenously determined (Weisbach and Hermalin 2000), complicating the use of these standard estimators. When the assumption of strict exogeneity is violated, both fixed effects and first-difference estimators may yield biased results. In the specific context of board structure, fixed effects models can underestimate the dynamic interaction between governance and firm outcomes, as they overlook the possibility that firm performance influences board composition (Wintoki et al. 2012).

Moreover, there is often a temporal delay between governance decisions and observable performance, which requires a dynamic modeling perspective (Haniffa and Cooke 2005). To mitigate this potential source of endogeneity, we lagged all independent variables by 1 year (Ashwin et al. 2015; Liang et al. 2013).

Finally, as random effects models are known to be more efficient when the data involve a large number of panels or when observations are drawn from a broader population, we opted for this estimator in our analysis (Hilbe 2011). The Hausman test confirms this choice.

We test Hypothesis 1, considering the impact of *Board diversity* (comprising the dimensions of gender, age, nationality, and qualification) on *ESG performance*.

Model 1a $ESG\ performance = fn(\text{board diversity} + FB\ status + \text{control variables})$.

Model 1b $ESG\ performance = fn(\text{board diversity} + FB\ succession\ plan + \text{control variables})$.

We test Hypotheses 2a and 2b, considering the interaction between *Board diversity* and *FB status* and *FB succession plan* on *ESG performance*.

Model 2a $ESG\ performance = fn(\text{board diversity} + FB\ status + \text{board diversity} * FB\ status + \text{Control variables})$.

Model 2b $ESG\ performance = fn(\text{board diversity} + FB\ succession\ plan + \text{board diversity} * FB\ succession\ plan + \text{control variables})$.

To test the robustness of our results, we performed multiple checks. First, we adopted an alternative operationalisation of board diversity by calculating the *Board diversity sum*, following Ararat et al. (2010) and Mohy-ud-Din (2023). This measure aggregates the four Blau indices instead of averaging them, thereby capturing cumulative heterogeneity across board characteristics. Second, we employed alternative dependent variables. In addition to our measure of ESG performance, we used (i) the ESG combined performance score, which integrates ESG controversies and thus provides a more stringent assessment of ESG engagement and (ii) the disaggregated environmental and social scores, which allow us to test the robustness of results across the different pillars of ESG.

6 | Results

The value of variance inflation factors is 9; potential multicollinearity is not an issue (Shrestha 2020). Table 2 presents overall descriptive statistics for the entire sample.

Table 3 reports the results of the panel regression analyses for the *FB status* (Hypotheses 1 and 2a).

Board diversity is associated with an increase in the overall ESG score in Models 1a and 2a (coeff. = 11.45 and 10.02, respectively, $p < 0.001$), in environmental performance in Models 3 and 4 (coeff. = 13.19 and 12.67, $p < 0.001$) and social performance in Models 5 and 6 (coeff. = 12.13 and 10.44, $p < 0.001$). This suggests that greater diversity within the board of directors is systematically associated with better environmental, social, and overall ESG performance.

Conversely, *FB status* is never significantly associated with ESG performance, either in its environmental or social components.

Of particular interest are the interaction effects between board diversity and family status, which are significant in two out of three models. The interaction is positive and significant in Model 2a (coeff. = 10.11, $p < 0.1$, Figure 2) for overall *ESG performance* and in Model 6 (coeff. = 11.96, $p < 0.1$, Figure 4) for *social performance*. This result suggests that, in family-owned firms, the positive effect of board diversity is even more pronounced. In other words, the combination of family governance and greater board diversity can have a more significant impact on ESG performance, particularly in its social aspects, rather than its environmental aspects (Figure 3).

TABLE 2 | Descriptive statistics.

Variable	Mean	SD	Min	Max
Dependent variables				
ESG performance	51.96	19.94	0.69	98.99
Environmental performance	45.22	27.43	0.00	100.00
Social performance	55.15	22.92	0.00	100.00
Independent variables				
Board diversity	0.33	0.08	0.00	0.50
FB status	0.16	0.36	0.00	1.00
FB succession plan	0.02	0.15	0.00	1.00
Governance sustainability structures	0.80	0.40	0.00	1.00
Profitability	3.85	12.98	−98.33	98.71
Organizational capacity	19,096.79	54,255.77	10.00	709,720.00
Organizational maturity	52.92	51.27	0.00	548.00

Table 4 reports the results of the panel regression analyses for the FB succession plan (Hypotheses 1 and 2b).

Even in Model 1b and Models 7–11, *Board diversity* maintains a positive, consistent and highly significant effect on all ESG performance dimensions. The coefficient ranges from 11.10 to 12.93 with p -values < 0.001 , confirming that greater diversity on the board of directors is systematically associated with better environmental, social and overall sustainability performance, replicating what was observed in previous models.

FB succession plan, which captures the presence of a formalized succession plan in family businesses, shows a positive and significant impact in several models. In particular, it is associated with better ESG performance in Model 1b (coeff. = 5.904, $p < 0.001$) and Model 8 (coeff. = 7.914, $p < 0.01$), as well as better environmental performance in Model 9 (coeff. = 3.838, $p < 0.001$).

This suggests that formalizing a family succession plan can strengthen the firm's commitment to ESG issues, particularly environmental ones, but the effect is not uniform across all dimensions.

As regards the interaction between *Board diversity* and *FB succession plan*, the results do not show a systematically significant relationship (Figures 5–7). The simultaneous presence of a succession plan and greater board diversity does not consistently generate statistically robust synergistic effects on ESG performance.

6.1 | Robustness Tests

We test the robustness of findings by a different measure of the ESG score, the *ESG combined performance*, which considers the ESG controversies (Appendix A). Using *ESG combined performance* the results remain coherent and robust. As an additional robustness check, we include an alternative measure

of board diversity (Appendices B and C). Specifically, the variable *Board diversity sum* is constructed as the sum of the four Blau indices calculated separately for each dimension of diversity (i.e., gender, age, nationality, and qualification), following the approach of Ararat et al. (2010) and Mohy-ud-Din (2023). This composite indicator captures a more comprehensive view of diversity within the board of directors. When adopting a composite indicator of board diversity (Board diversity sum), results are consistent with previous findings across all ESG dimensions.

7 | Discussion

The study offers both theoretical and empirical contributions to the understanding of how governance diversity shapes corporate sustainability outcomes.

From a theoretical standpoint, we advance the literature by incorporating the role of family ownership into the analysis of the diversity–ESG nexus. Building on Functionalist and SEW perspectives, we conceptualize the family as a normative and institutional actor that transmits long-term orientation, prosocial values, and ethical stewardship into corporate governance. This perspective refines existing theories by highlighting how the presence of family as owners may amplify or constrain the effectiveness of diverse boards in promoting ESG engagement.

Crucially, our results refine the current understanding of how family structure interacts with board diversity. Turning to FB status, the results show that FB status alone does not exert a direct effect on ESG performance, but its presence significantly amplifies the positive influence of board diversity. This interaction underscores that families act as institutional enablers that transform board diversity from a structural feature into a normative force. Drawing on Functionalist Theory (Parsons 1955; The Division of Labor in Society 1893), the family is conceptualized as a social institution that ensures

TABLE 3 | Regression results.

	Model 1a		Model 2a		Model 3		Model 4		Model 5		Model 6	
	ESG performance	ESG performance	ESG performance	ESG performance	Environmental performance	Environmental performance	Environmental performance	Environmental performance	Social performance	Social performance	Social performance	Social performance
Board diversity	11.45*** (2.183)	10.02*** (2.299)	13.19*** (2.699)	12.67*** (2.805)					12.13*** (2.779)	10.44*** (2.953)		
FB status	1.268 (0.828)	-2.105 (2.039)	0.242 (0.910)	-0.989 (2.649)					0.117 (1.030)	-3.873 (2.542)		
Board diversity* FB status		10.11* (5.752)		3.685 (7.499)						11.96* (7.213)		
Governance sustainability structures	-1.284*** (0.371)	-1.284*** (0.371)	1.340*** (0.440)	1.340*** (0.441)					1.901*** (0.415)	1.901*** (0.416)		
Profitability	-0.0207** (0.00927)	-0.0208** (0.00926)	-0.0272** (0.0118)	-0.0272** (0.0118)					-0.0181 (0.0132)	-0.0182 (0.0131)		
Organizational capacity	7.93e-05*** (9.95e-06)	7.94e-05*** (9.90e-06)	9.27e-05*** (1.31e-05)	9.28e-05*** (1.31e-05)					8.38e-05*** (1.09e-05)	8.39e-05*** (1.08e-05)		
Organizational maturity	0.153*** (0.0151)	0.153*** (0.0151)	0.148*** (0.0148)	0.148*** (0.0148)					0.137*** (0.0142)	0.137*** (0.0142)		
Industry	YES	YES	YES	YES					YES	YES		
Constant	49.20*** (7.083)	49.61*** (7.101)	52.91*** (7.732)	53.06*** (7.732)					55.46*** (5.506)	55.95*** (5.525)		
R ²	0.1497	0.1500	0.2269	0.2272					0.1605	0.1610		
Observations	9592	9592	9592	9592					9592	9592		
Number of firms	1199	1199	1199	1199					1199	1199		

*** $p < 0.01$, ** $p < 0.05$ *, * $p < 0.1$.

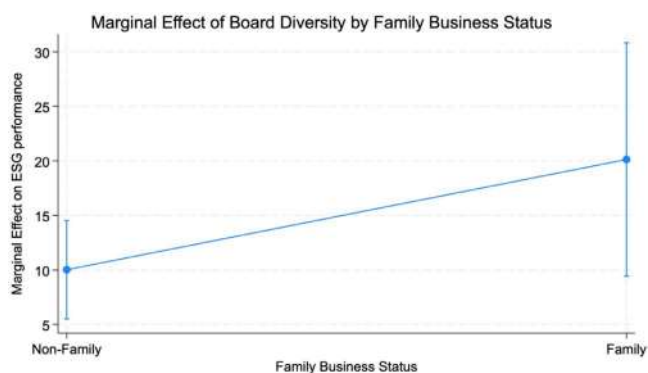


FIGURE 2 | Marginal effect of board diversity by family business status on ESG performance.

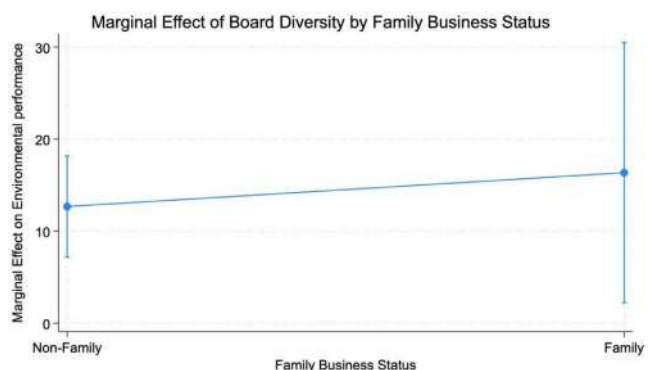


FIGURE 3 | Marginal effect of board diversity by family business status on environmental performance.

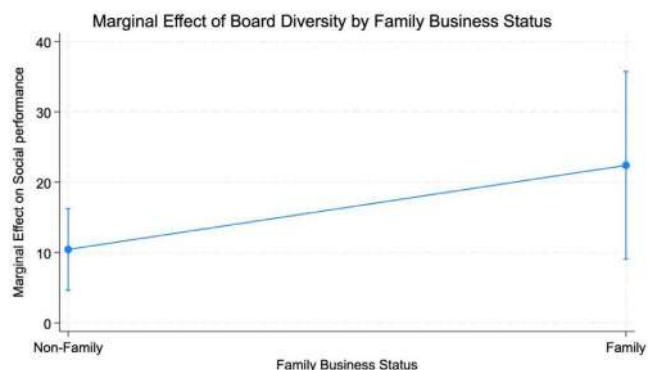


FIGURE 4 | Marginal effect of board diversity by family business status on social performance.

cohesion, value continuity, and moral integration. Within firms, these integrative functions are manifested in the family's emphasis on long-term orientation, trust, and intergenerational accountability (Blodgett et al. 2011; Waldau 2024). Families bring to the firm a distinctive set of non-economic goals (reputation, identity, and social legitimacy) that form the moral infrastructure supporting ESG performance (Gomez-Mejia et al. 2007; Berrone et al. 2012; Cennamo et al. 2012). This moderating effect aligns with the SEW perspective, which posits that family owners value the preservation of socioemotional capital over short-term gains. Family-controlled

firms therefore provide a cultural and ethical context in which diverse boards can translate pluralistic deliberation into concrete ESG performance. In this sense, family functions not as a direct driver of ESG performance but as a catalyst that amplifies the effectiveness of board heterogeneity.

The results on the succession plan reveal a different yet complementary mechanism. We find that the presence of a formal succession plan is positively associated with ESG performance, suggesting that structured intergenerational transitions strengthen ethical consistency and reinforce long-term strategic commitment. This supports the SEW frameworks, which associate succession with the transmission of values and SEW across generations (Gomez-Mejia et al. 2007; Berrone et al. 2012). However, the interaction between succession planning and board diversity is not significant, indicating that succession contributes to ESG performance through continuity.

This result can be interpreted through the lens of Functionalist Theory: succession ensures social integration and temporal stability but may also institutionalize existing cultural patterns. While it preserves the family's legacy and ethical orientation (Astrachan et al. 2020; Bettinelli et al. 2025), it may simultaneously limit the openness and adaptability required for diverse boards to fully influence ESG performance. In other words, succession planning reinforces the preservation function of the family system but does not necessarily activate the adaptive mechanisms that diversity requires to generate transformative ESG change.

Taken together, these findings highlight a tension between continuity and adaptability in family governance. Family structure strengthens the diversity–ESG relationship when guided by stewardship and SEW logics that promote openness, legitimacy, and stakeholder orientation. Conversely, succession mechanisms (while essential for intergenerational continuity) may reinforce stability at the expense of cognitive pluralism.

Further, from an empirical perspective, our results confirm and extend prior findings based on Upper Echelons and Stakeholder Theory. Board diversity exerts a strong and positive influence on ESG performance, indicating that firms with heterogeneous boards are better equipped to address complex environmental and social challenges. By integrating multiple dimensions of diversity simultaneously, our analysis provides a more holistic view of how governance heterogeneity functions as both a strategic and ethical capability. This multidimensional approach goes beyond single-attribute analyses and shows that combining various forms of diversity strengthens ESG performance through complementary mechanisms of cognitive variety, legitimacy, and stakeholder responsiveness (Beji et al. 2021; Rao and Tilt 2016). These findings reinforce Upper Echelons Theory (Hambrick and Mason 1984), according to which organizational outcomes reflect the cognitive frames and value orientations of top decision-makers, and are consistent with Stakeholder Theory (Freeman 1994; Donaldson and Preston 1995), which emphasizes that inclusive governance enhances firms' legitimacy and responsiveness to stakeholder claims.

TABLE 4 | Regression results.

	Model 1b		Model 2b		Model 8		Model 9		Model 10		Model 11	
	ESG performance	ESG performance	ESG performance	ESG performance	Environmental performance	Environmental performance	Environmental performance	Environmental performance	Social performance	Social performance	Social performance	Social performance
Board diversity	11.10*** (2.162)	11.25*** (2.191)	12.93*** (2.681)	12.92*** (2.698)	11.84*** (2.776)	11.47*** (2.776)						
FB succession plan	5.904*** (0.988)	7.914** (3.394)	3.838*** (1.220)	3.703 (4.581)	4.735*** (1.349)	-0.158 (4.349)						
Board diversity*FB status		-5.758 (9.477)		0.387 (13.41)		14.02 (12.93)						
Governance sustainability structures	-1.233*** (0.370)	-1.231*** (0.370)	1.369*** (0.439)	1.369*** (0.439)	1.940*** (0.415)	1.933*** (0.415)						
Profitability	-0.0189** (0.00919)	-0.0190** (0.00919)	-0.0263** (0.0118)	-0.0263** (0.0118)	-0.0170 (0.0131)	-0.0168 (0.0131)						
Organizational capacity	7.84e-05*** (9.92e-06)	7.84e-05*** (9.92e-06)	9.23e-05*** (1.31e-05)	9.23e-05*** (1.31e-05)	8.35e-05*** (1.08e-05)	8.34e-05*** (1.08e-05)						
Organizational maturity	0.152*** (0.0151)	0.152*** (0.0151)	0.146*** (0.0148)	0.146*** (0.0148)	0.135*** (0.0140)	0.135*** (0.0140)						
Industry	YES	YES	YES	YES	YES	YES						
Constant	49.27*** (7.088)	49.23*** (7.086)	52.89*** (7.749)	52.90*** (7.751)	55.38*** (5.488)	55.48*** (5.492)						
R ²	0.1538	0.1538	0.2272	0.2272	0.1623	0.1622						
Observations	9592	9592	9592	9592	9592	9592						
Number of firms	1199	1199	1199	1199	1199	1199						

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

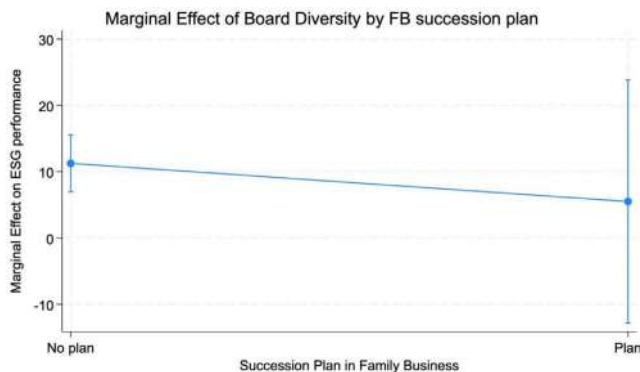


FIGURE 5 | Marginal effect of board diversity by FB succession plan on ESG performance.

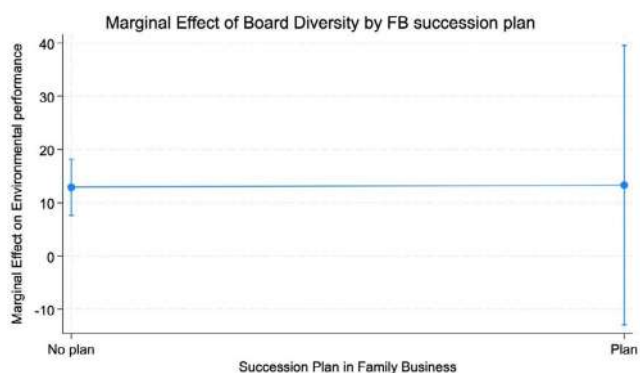


FIGURE 6 | Marginal effect of board diversity by FB succession plan on environmental performance.

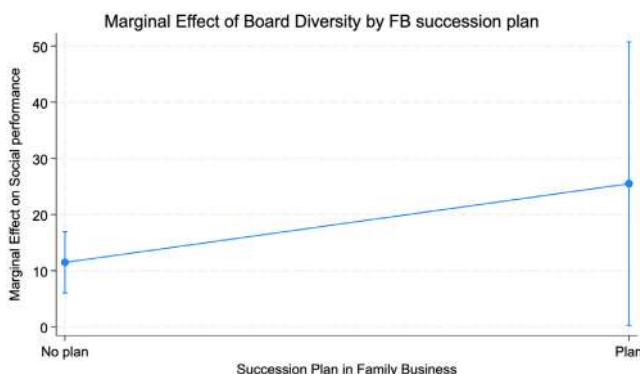


FIGURE 7 | Marginal effect of board diversity by FB succession plan on social performance.

8 | Conclusions and Contributions

These findings offer three main contributions to theory development.

First, the study contributes to the family business literature by integrating Functionalist Theory (Parsons 1955; The Division of Labor in Society 1893) and the SEW perspective (Gomez-Mejia et al. 2007; Berrone et al. 2012) to conceptualize family firm status as a normative amplifier of diversity rather than a structural constraint. From a functionalist standpoint, the family acts as a mechanism of social integration, transmitting shared values and

continuity across generations. From a SEW perspective, these values (reputation, identity, and intergenerational responsibility) motivate families to engage in prosocial, legitimacy-seeking behaviors aligned with ESG objectives. Our results empirically support this synthesis: being a family firm strengthens the effect of board diversity on ESG performance, indicating that family firms provide the moral and temporal anchoring that allows diverse boards to act cohesively toward sustainability goals.

At the same time, the positive but non-moderating role of succession planning refines current family business theory by revealing that mechanisms of continuity, while reinforcing ethical consistency, may privilege stability over adaptability. This nuance adds theoretical depth to the debate on whether intergenerational governance fosters or constrains innovation and inclusiveness, showing that succession promotes long-term orientation but does not necessarily enhance the transformative potential of diversity.

Second, they advance Upper Echelons Theory (Hambrick and Mason 1984; Hambrick 2007) by demonstrating that the benefits of board heterogeneity are not universal but contingent on the governance structure in which decision-making occurs. Our results confirm that diversity in gender, age, nationality, and educational background enhances ESG performance, consistent with the idea that cognitive and experiential variety improves ethical awareness and strategic adaptability. However, by revealing that these benefits are amplified in family firms, the study extends Upper Echelons Theory beyond individual-level cognitive mechanisms to incorporate institutional moderators, specifically, the values, norms, and temporal orientation embedded in family firms. This finding suggests that diversity's contribution to sustainable strategy is more fully realized when boards operate within governance systems that privilege long-term stewardship and moral cohesion, rather than short-term efficiency logics.

Third, the study enriches Stakeholder Theory (Freeman 1994; Donaldson and Preston 1995) by identifying being a family firm as a catalyst for translating board diversity into authentic stakeholder-oriented behavior. Family firms, motivated by relational trust, socioemotional goals, and reputational legitimacy, provide a normative environment in which heterogeneous boards can deliberate inclusively without undermining cohesion. This alignment between cognitive diversity and relational embeddedness explains why diverse boards in family firms achieve higher ESG performance (particularly on the social dimension) than those in non-family firms. It suggests that stakeholder responsiveness depends not only on who sits on the board but also on the relational and moral infrastructure that underpins board deliberation. Hence, family influence transforms board diversity from a structural characteristic into a substantive governance capability that supports long-term legitimacy and social accountability.

8.1 | Managerial and Policy Implications

The positive association between board diversity and ESG performance suggests that firms, especially family-owned ones, should proactively promote heterogeneity in board composition, not only in terms of gender but also in terms of age, nationality, and qualifications. However, the moderating role of formal succession plans does not imply that well-structured governance

mechanisms can enhance the effectiveness of diversity. This highlights how important it is for family businesses to formalize generational transitions. Since ESG performance is influenced by internal governance structures, managers and policymakers should view ESG not as a stand-alone objective but as a reflection of deeper organizational dynamics, including board design and ownership models. Regulators may consider incentives or guidelines that encourage multidimensional board diversity, beyond gender quotas, especially in contexts with a high prevalence of family firms. These implications are particularly relevant in institutional contexts dominated by family firms, such as continental Europe, but the underlying mechanisms, linking diversity, values transmission, and governance effectiveness, may hold broader generalizability for other ownership forms and institutional settings.

8.2 | Limitations and Future Development

This study has limitations, which also open specific avenues for future research.

First, although dynamic panel techniques and lagged variables were employed to mitigate endogeneity, causal inference remains limited. Future work could use instrumental-variable approaches or natural experiments to strengthen causal claims.

Second, the analysis focuses on publicly listed European firms, a context characterized by strong regulatory oversight and advanced ESG frameworks. Testing the model in privately held or SME family firms, where family presence and SEW are more salient, would help assess the robustness and generalizability of the results.

Third, while the study deliberately excludes the governance pillar to avoid conceptual overlap, future research could develop qualitative or mixed-method approaches (e.g., case studies or board-level interviews) to evaluate the impact on the governance pillar.

Finally, comparative cross-country analyses could examine the moderating effect of institutional environments, such as investor protection, cultural norms, or family capitalism traditions, on the diversity–ESG relationship. Such work would clarify the boundary conditions of our findings and enhance their theoretical reach.

Acknowledgments

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Appendix A

Robustness Tests, Different Measures of the ESG Score

	Model 13	Model 14	Model 15	Model 16
	ESG combined performance	ESG combined performance	ESG combined performance	ESG combined performance
Board diversity	12.31*** (2.274)	11.42*** (2.418)	11.93*** (2.257)	11.85*** (2.281)
FB status	-0.540 (0.781)	-2.627 (2.027)		
Board diversity*FB status		6.265 (5.780)		
FB succession plan			4.510*** (1.055)	3.451 (2.978)
Board diversity*FB succession plan				3.037 (9.046)
Control variables	YES	YES	YES	YES
R^2	0.1395	0.1397	0.1371	0.1371
Observations	9592	9592	9592	9592
Number of firms	1199	1199	1199	1199

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix B

Robustness Tests, Alternative Measure of Board Diversity

	Model 17	Model 18	Model 19	Model 20	Model 21	Model 22	Model 23	Model 24
Board diversity sum	2.864*** (0.546)	2.506*** (0.575)	3.297*** (0.675)	3.167*** (0.701)	3.033*** (0.695)	2.610*** (0.738)	3.078*** (0.569)	2.855*** (0.604)
FB status	1.268 (0.828)	-2.105 (2.039)	0.242 (0.910)	-0.989 (2.649)	0.117 (1.030)	-3.873 (2.542)	-0.540 (0.781)	-2.627 (2.027)
Board diversity sum*FB status		2.527* (1.438)		0.921 (1.875)		2.991* (1.803)		1.566 (1.445)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
R ²	0.1497	0.15	0.2269	0.2272	0.1605	0.161	0.1395	0.1397
Observations	9592	9592	9592	9592	9592	9592	9592	9592
Number of firms	1199	1199	1199	1199	1199	1199	1199	1199

**** $p < 0.01$, *** $p < 0.05$, * $p < 0.1$.

Appendix C

Robustness Tests, Alternative Measures of Board Diversity

	Model 25	Model 26	Model 27	Model 28	Model 29	Model 30	Model 31	Model 32
	ESG performance	ESG performance	Env. perform.	Env. perform.	Social perform.	Social perform.	ESG combined performance	ESG combined performance
Board diversity	2.776*** (0.541)	2.813*** (0.548)	3.233*** (0.670)	3.230*** (0.674)	2.960*** (0.690)	2.868*** (0.694)	2.984*** (0.564)	2.963*** (0.570)
FB succession plan	5.904*** (0.988)	7.914** (3.394)	3.838*** (1.220)	3.703 (4.581)	4.735*** (1.349)	-0.158 (4.349)	4.510*** (1.055)	3.451 (2.978)
Board diversity sum* FB succession plan		-1.439 (2.369)		0.0967 (3.353)		3.506 (3.232)		0.759 (2.261)
Control variables	YES	YES	YES	YES	YES	YES	YES	YES
R ²	0.1538	0.1538	0.2272	0.2272	0.1623	0.1622	0.1371	0.1371
Observations	9592	9592	9592	9592	9592	9592	9592	9592
Number of firms	1199	1199	1199	1199	1199	1199	1199	1199

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.