Journal of Management and Governance (2024) 28:237–263
https://doi.org/10.1007/s10997-022-09661-6

The link between CSR performance and CSR disclosure quality: does board diversity matter?

Denis Cormier[1] · **Luania Gutierrez**[2] · **Michel Magnan**[3]

Accepted: 12 October 2022 / Published online: 12 November 2022

Abstract

Prior research suggests that board diversity, especially in terms of gender, potentially enhances its effectiveness. However, as a construct, diversity extends beyond gender to encompass board members' other demographic attributes as well as cognitive features such as attitudes, values, beliefs, knowledge, skills and capabilities. We expect these two sides of diversity, which we label demographic and cognitive, to play a critical role in determining a firm's corporate social responsibility (CSR) disclosure. For our purpose, CSR performance and disclosure comprise environmental and social dimensions. Our results show that social performance exhibits a positive relation to a board's demographic and cognitive diversities, while environmental performance relates to cognitive diversity, but not demographic diversity. Moreover, both forms of diversity mediate the positive relationship between social performance and social disclosure quality, while only demographic diversity mediates the positive relationship between environmental performance and environmental disclosure quality.

Keywords Board diversity · Cognitive diversity · Demographic diversity · Environmental disclosure quality · Environmental performance · Social disclosure quality · Social performance · Corporate social responsibility (CSR)

✉ Denis Cormier
Cormier.denis@uqam.ca

[1] ESG-UQAM, Down Town Station, P.O. Box 8888, Montreal, QC H3C 3P8, Canada

[2] ESG-UQAM, Montreal, Canada, QC

[3] John Molson School of Business, Concordia University, Montreal, QC, Canada

1 Introduction

Stakeholders' concerns about corporate social responsibility (CSR), which encompasses the environmental and social incidence of corporate activities, lead many firms to revisit and enhance their strategies and actions in this regard (e.g. Aureli et al., 2020; Engert & Baumgartner, 2016; Rodrigue et al., 2013; Wijethilake, 2017). Firms are now widely expected to provide greater clarity as to how they contribute to address societal challenges such as global warming, human rights, women and minority rights, etc. The development of so-called Environmental, Social and Governance (ESG), CSR or sustainability reporting, as well as the announcement of the creation of a International Sustainability Standards Board by the International Financial Reporting Standards Foundation, illustrate these trends.[1] Moreover, with the advent of social responsibility investing, listed firms are being increasingly questioned about their CSR performance by large asset managers such as BlackRock.,[2][3]

In parallel, there is a growing expectation that firms' decision-making bodies, i.e. their boards of directors and top management teams, reflect the society in which they evolve. For instance, countries like France and Norway have imposed quotas for gender diversity at the board level while the United States and Canada require firms to explain how they aim to attain diversity within their board. In this regard, the government of Canada has recently made amendments to the Canada Business Corporations Act (CBCA) that, as of 1 January 2020, requires public companies to disclose, for every annual shareholders' meeting, diversity information relating to all "designated groups", which include not only women but also members of visible minorities, persons with disabilities and Aboriginal peoples.

Our study assesses if and how a firm`s diversity at the board level affects its CSR disclosure.[4] Most prior research on the implications arising from board diversity

[1] Retrieved on August 8, 2021, from: https://www.ifrs.org/news-and-events/news/2021/03/trustees-announce-working-group/.

[2] BlackRock's 2021 Letter to Clients by CEO Larry Fink. Retrieved on August 8, 2021, from: https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter.

[3] CSR, sustainability and ESG are three overlapping constructs, as illustrated by the fact that firms publish either Sustainability or CSR reports. For instance, the European Union defines CSR as "the responsibility of enterprises for their impacts on society" (European Commission, 2011, p. 6). The United Nations defines sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." (United Nations, 1987). The European Union explicitly relates ESG with the sustainable finance by defining it as "Sustainable finance refers to the process of taking environmental, social and governance (ESG) considerations into account when making investment decisions in the financial sector, leading to more long-term investments in sustainable economic activities and projects" (European Commission, 2021). Hence, one can say that firms investing according to ESG criteria enhance sustainability, thus fulfilling their responsibilities toward society. Since our paper focuses on environmental and social performance and its disclosure, we refer to CSR.

[4] Consistent with some prior research, we do not consider that CSR encompasses corporate governance. Corporate governance relates to the mechanisms, processes and relations used by shareholders, boards of directors and top management to control and to operate a corporation (Aoki et al., 2001). A critical corporate governance issue are the potentially conflicting interests of shareholders and managers, otherwise labeled as the agency problem. CSR reflects a firm's social and environmental objectives, especially with respect to stakeholders other than shareholders.

actually focuses on aspects of demographic diversity, i.e., directly observable demographic differentiating attributes which includes gender (e.g. Poletti-Hughes & Briano-Turrent, 2019), age (e.g. Xu et al., 2018.) or racial origins (e.g. Katmon et al., 2019). However, we contend that board diversity encompasses demographic as well as cognitive diversity, with both interacting in the determination of a board's CSR view and ultimately actions in this matter. In contrast to demographic diversity, cognitive diversity is not immediately observable and refers to the different knowledge and approaches used by the members of a team to solve problems and decision-making (Mello & Delise, 2015).

We postulate that a board's diversity determines how it apprehends a firm's CSR performance and how it portrays such performance to its stakeholders via its disclosure. Our perspective on the potential importance of cognitive diversity is consistent with an emerging realization by boards that directors' profiles need to evolve. In this regard, in a recent survey, directors "…see "cognitive diversity" (different ways of thinking) in the boardroom as a strategy to successfully navigate crisis and change." (Schindlinger et al., 2021, p. 4).

Aguilera et al. (2018) describe how corporate governance characteristic shape, together with external institutional forces, organizational practices. They propose that governance diversity determines a board's discretion, i.e. the number of choices that it considers to comply or not with the dominant institutional logic. Prior research, which is essentially based upon a neo-institutional theory perspective, mainly focuses on the effect of external institutions on board behaviour, neglecting the effect of internal institutional forces (Greenwood et al., 2014). To focus on internal corporate governance institutions, this study limits its analysis to a single country, Canada.

Canada constitutes an interesting research context, in which British common law and French civil law coexist. Accordingly, the Canadian institutional setting can be used as a "laboratory" to test the thesis of the neutrality of the legal system (Filip et al., 2015). An increasing number of Canadian firms deploy sustainability strategies and disclose ESG information, consistent with the rising number of investors who incorporate ESG factors into their investment analyses. According to the Responsible Investment Association of Canada, as of December 31, 2019, responsible investments comprised 61.8% of total Canadian assets under management, for a total exceeding $3 trillion. As for the global market, the latest Global Sustainable Investment Review showed that global responsible investment assets reached US$30.7 trillion at the start of 2018, a 34% increase from 2016.[5]

Our paper proposes that CSR performance affects CSR disclosure quality via board demographic and cognitive diversities, which thus serve as mediating variables. We test our hypotheses on a Canadian sample of listed firms from 2015 to 2019. Our focus on CSR is consistent with a firm's actions and practices with respect to environmental and social issues increasingly being viewed as a core within its business strategy (Lamberti & Lettieri, 2009; Szőcs & Schlegelmilch, 2020; Whelan & Fink, 2016). In that context, a board's role can be critical but is

[5] Retrieved August 8, 2021, from: https://www.riacanada.ca/responsible-investment/.

driven by directors' views and knowledge, an outcome of their underlying diversity (e.g. Olthuis & van den Oever, 2020).

Our results, based on structural equations, can be summarized as follows. As expected, there is a positive relation between demographic diversity and cognitive diversity. Second, the direct effect of social performance on social disclosure quality is positive. Third, we observe an indirect effect on this relationship (mediating) of cognitive diversity and demographic diversity. This suggests that the positive impact of social performance on social disclosure quality is enhanced by cognitive diversity as well as demographic diversity but to a lesser extent. Hence, both demographic diversity and cognitive diversity mediate the positive relationship between social performance and social disclosure quality. Results differ for environmental disclosure, with demographic diversity, but not cognitive diversity, mediating the positive relationship between environmental performance and environmental disclosure quality.

The paper has the following contributions. First, our findings suggest that prior governance research focusing on board diversity and on its implications may need to be revisited or expanded to take into account the two-sided nature of diversity. Prima facie demographic diversity, otherwise called surface-level diversity (Torchia et al., 2015), which rests on directly observable attributes held by board members, may not be in sync with embedded cognitive diversity, the latter being more likely to drive debates, discussions and resolution of corporate issues (Arora, 2021; Sarto et al., 2019). Their combined impact on CSR disclosure is thus largely unexplored. For instance, in their review of the board diversity literature, Baker et al. (2020) point out that there is a significant lack of research focusing on cognitive diversity, despite its potential to add significant insights into boards' decision-making. Their viewpoint echoes Filatotchev and Wright's (2017) call to devote greater recognition to the heterogeneity of governance factors such as the human and social capital of boards which may be important both for monitoring and adding value. Hillman (2015) makes a similar observation when stating that it is time to "unpeel the onion" of board diversity.

Second, our results suggest that board diversity, rather than being a driver of corporate behavior or outcomes may actually be an outcome of its strategy and performance. In other words, rather than board diversity begetting CSR performance, it may actually be that firms with better CSR performance are keen and able to attract more diverse boards. Much prior research explicitly or implicitly assumes that board diversity underpins several corporate outcomes (e.g. financial reporting quality, disclosure, performance, etc.). However, our results suggest that the interface between board diversity and corporate outcomes, such as CSR performance and disclosure, may be more complex than what is widely believed. In this regard, our paper sheds further light on the evidence provided by Shaukat et al. (2016) that suggests that strong CSR performance reinforces a board's CSR attributes and orientation.

Third, the paper revisits the relation between CSR performance and CSR disclosure, an issue that has attracted increasing attention over the years in several disciplines (e.g. Wang et al., 2018; Jeriji & Louhichi, 2021; Lu & Wang, 2021). Our results highlight that a potential vector for CSR performance to translate into higher

quality CSR disclosure may be the extent of its board diversity, either demographic or cognitive.

The rest of the paper is organized as follows. The next section reviews the literature on CSR performance, CSR disclosure quality and corporate governance diversity relationships. Section 3 explains the methods used to test our hypotheses. Section 4 presents the results and Sect. 5 concludes the study.

2 Literature review and hypothesis development

2.1 Board diversity and corporate outcomes

Diversity is a multi-faceted concept. Within the realm of corporate governance, prior research suggests that three aspects of diversity are especially critical and underlie its effectiveness: demographic diversity, cognitive diversity and the influence of a firm's external context, which is otherwise referred to as statutory diversity (Kang et al., 2006). In the context of a board of directors, demographic diversity refers to differences in the concrete individual attributes of members comprising the board. Hence, demographic diversity encompasses diversity of culture, gender, age, experience, and time spent on the board (Kang et al., 2006). In practice, these attributes are typically observable in an objective fashion by external parties.

However, upper echelon theory suggests that observable demographic diversity attributes allow to infer unobservable attributes such as knowledge and values (Hambrick & Mason, 1984). In other words, age, prior assignments, experience in other careers, education, socio-economic roots, and financial position can reveal underlying cognitive abilities. In other words, demographic diversity embeds cognitive diversity.

Simons et al. (1999) do point out that there is a dimension of cognitive diversity that is not explained by demographic diversity. They name it the diversity of perceptions about the uncertainty of the external environment. Demographic diversity can capture the acquisition of different knowledge, which is then used by managers to make decisions. However, there is an innate side to individual intelligence that allows for the design of new causal relationships to adapt to changes in the context. In this sense, cognitive diversity is the lack of consensus between the individual mental models (Knight et al., 1999). More precisely, cognitive diversity relates to differences in the less visible attributes of work teams, including attitudes, values, beliefs, knowledge, skills and abilities of members (Kang et al., 2006).

A third dimension of diversity is statutory diversity which represents the adequacy between a board of directors and regulated or recommended governance practices (Ben-Amar et al., 2013; Hafsi & Turgut, 2013).

Up until now, gender diversity has attracted the most attention, from regulatory, practical and research perspectives (Filatotchev & Wright, 2017). However, in their review of board diversity research, Baker et al. (2020) call for research on other types of demographic diversity such as age, professional background, education, nationality, etc. They underline that a board of directors' capital, both human and

social, results from the interaction of several attributes and that focus on one aspect only does not allow to gain a holistic view of how boards act and take decisions. Moreover, they also point out that cognitive diversity does affect strategic decision-making but that our understanding of how it does so is scant and limited to a few studies (Kilduff et al., 2000; Parayitam & Papenhausen, 2016).

There is extensive yet mixed evidence about the relation between board diversity and various corporate outcomes. A seminal paper by sets the tone by concluding that while board diversity negatively affects a firm's financial performance, it has a positive influence on its governance. Their conclusions about the positive influence of diversity on governance are further supported by evidence on its impact on earnings quality and share price informativeness. However, as Baker et al. (2020) point out, while there is some consensus on the view that diversity enhances governance, its potential impact on financial performance is rather ambiguous. Several studies report a positive link between board diversity and firm performance. By contrast, other studies find either a non-significant or a negative relation.

In light of these mixed results, there is an increasing focus on investigating vectors by which diversity may ultimately affect financial performance. For instance, it appears that board diversity has a significantly positive influence on firm innovation (Bernile et al., 2018), with an innovation strategy being a key conduit to enhance performance. Board diversity also appears to drive the adoption of strategic controls.

Along this line of enquiry, corporate outcomes that are attracting attention are CSR disclosure and CSR performance since they are increasingly viewed as being critical for a firm's long-term sustainability, especially in an era in which investors pay much attention to ESG criteria in their investment decisions and oversight. Board diversity has become a litmus test in this regard. The recent Securities & Exchange Commission (SEC) decision to uphold NASDAQ's requirement that boards include at least one woman and one other minority illustrates that trend.[6]

2.2 Board diversity and CSR performance

Overall, there is a consistent view that board diversity relates positively with CSR performance, albeit with some caveats. Hence, observe a position association between board diversity, corporate social responsibility, and firm reputation. find as well a positive relation between board diversity and environmental performance. Lu and Herremans (2019) show that board gender diversity is associated with better environmental performance, especially in environmentally impacting industries. The strength of that relation is nevertheless dependent upon cultural and institutional contexts. For instance, find that in an emerging country, corporate sustainability initiatives have a positive yet non-significant relation with nationality and gender diversity, an outcome they attribute to cultural factors.

[6] Retrieved on August 19, 2021, from: https://www.sec.gov/news/public-statement/statement-nasdaq-diversity-080621.

However, as stated earlier, diversity is a multi-dimensional construct and how it relates with CSR may be more subtle than it appears. Hence, find that while board diversity relates positively with CSR performance, that relation is nuanced with some aspects of diversity (e.g. gender and age) affecting specific dimensions of CSR performance more than others.

Two papers by Harjoto, Lankmana and Yang further explore the how the multi-dimensional nature of board diversity relates with CSR performance. Using seven different measures of board diversity across a sample of U.S. firms, Harjoto et al. (2015) find that board diversity has a positive relation with CSR performance. More specifically, they find that gender, tenure, and expertise diversities seem to be the driving factors of CSR activities. In a follow-up study, Harjoto et al. (2018) examine how board diversity relates with board performance in corporate investment oversight. They measure diversity along two distinct dimensions which they define as relation-oriented (i.e. gender, race, and age) and task-oriented (i.e. tenure and expertise). Relying on a large sample of U.S. firms, they find that task-oriented diversity has a negative relation with suboptimal investment. In other words, boards that are diverse in terms of firm specific experience and functional expertise seem to show greater effectiveness in their oversight of corporate investment activities than homogeneous boards. Relation-related diversity does not seem to matter.

Olthuis and van den Oever (2020) further illustrate the complex and subtle contour of diversity by showing that too much ideological diversity on Dutch municipal boards (as defined by observable political party affiliations) is actually detrimental to CSR performance. By contrast, lack of diversity in terms of the independence of directors undermines the positive influence that other dimensions of board diversity may have on sustainability performance (Naciti, 2019).

2.3 Board diversity and CSR disclosure

CSR disclosure about a firm's social and environmental plans, actions and initiatives provides a frame of discussion about its interests in sustainability (Brooks & Oikonomou, 2018). Moreover, social and environmental disclosure enhances the company's legitimacy through the implementation of standards that are recognized by legal organizations and government (Masud et al., 2018). In this regard, there is much evidence that CSR disclosure, especially its environmental component, has a positive economic impact (e.g. Blacconiere & Pattern, 1994; Cormier & Magnan, 2007).

More generally, firms engaging in behavior focused on social and environmental responsibility are known to avoid the adverse future impacts of non-disclosure (Aboud & Diab, 2018). For an environmentally responsive firm, CSR disclosure is a crucial and useful tool that strengthens its interactions with its stakeholders (Aboud & Diab, 2018). It allows efficient contracts and risk reductions, hence increasing the firm's reputation and corporate image as well as its potential for future growth. Hence, CSR disclosures can be viewed as a choice that can minimize conflicts among stakeholders while enhancing their perception of a firm's social and environmental actions (Aboud & Diab, 2018).

In a manner similar to CSR performance, most prior research documents a positive relation between board diversity and CSR disclosure, although some qualifiers do apply. For instance, Katmon et al. (2019) find a positive relation between board education level and board tenure diversity and CSR disclosure quality. They further show a positive association between gender diversity and CSR disclosure. Aboud and Diab (2018) also observe that board diversity affects voluntary environmental, societal, and governance (ESG) disclosure. In a similar vein, Jizi (2017) finds that board independence and gender diversity increase the firm's social and environmental engagement and reporting legitimacy.

3 Hypotheses

3.1 The link between demographic diversity and cognitive diversity

Demographic diversity within the context of board diversity entails gender, nationality, age, director education, ethnicity, and experience (Činčalová & Hedija, 2020). According to Bernile et al. (2018) a demographically diverse board is beneficial to an organization as it helps in the acquisition of critical resources needed for its advancement. Additionally, occupational diversity among board members is positively related to the organization's performance in the context of social obligation. Through diversity, various skills are at disposal, and firms need to maximize board members' talents. Furthermore, a heterogeneous board potentially enhances a firm's performance, implying that it is useful in its structured decision-making process.

Diversity ensures the infusion of individual attributes that are multifarious in the firm. Cognitive diversity impacts the types of sustainability initiatives that the firm undertakes, thus explaining the reason why some firms adopt shared value approach systems in their corporate strategy (Ciavarella, 2017). Cognitively diverse boards would recognize the importance of appointing directors who emanate from different streams of society (i.e. reflecting different genders, cultural communities, age brackets). The addition of such individuals increases a board's demographic diversity but, more importantly, will create value for the organization as they are more likely to bring different experiences, expertises and backgrounds with them. Statutory measures should not be viewed as a means of undermining the existing legal structures in the organization, but rather means of improving these policies to accommodate the diverse workforce's needs (Ciavarella, 2017).

Cognitively diverse boards acknowledge organizational culture as a driving force for an inclusive work environment that empowers teamwork, cohesiveness, and participation (Sharma, 2016). One challenge with diversity is that it requires policies and various documentations that would address eminent issues to the organization. Cognitive diversity ensures that such documents are developed prudently, thus avoiding legal issues as most corporate directors exhibit relatively long tenures, hence increasing experience (Ciavarella, 2017). Firms (i.e. boards and top managers) must be able to measure diversity and the existing corporate practices for diversity since diversity capabilities can be undermined when there is a lack of attention

in policies (Sharma, 2016). Measures in an organization should focus on organizational culture, employee perception, and workgroups that enable identifying barriers that could hinder equality in the workplace.

The links between demographic diversity and cognitive diversity can be viewed from the innovation and creativity that a given firm exhibits. Innovative and creative attitudes within a firm impact the quantity and nature of strategic initiatives that it implements. Underlying such a relation is the intuition that a diverse workforce empowers creativity and innovation due to the different cognitive capabilities of its members (Herko, 2018). An organization that exhibits cognitive diversity is more likely to be more resilient in the market due to high creativity and innovation as compared to the a non-diverse organization. Demographic differences inspire individuals to create products and services based on their cultural and intellectual experience, which is helpful for the organization.Hence, we put forward the following hypothesis:

H1 There is a positive association between a board's demographic diversity and its cognitive diversity.

3.2 Board diversity and CSR performance

Prior research suggests a board's CSR orientation, as measured by the board's independence, gender diversity, and financial expertise on the audit committee, translates into a more proactive and comprehensive CSR strategy and, ultimately, a higher CSR performance (Shaukat et al., 2016). However, Shaukat et al. (2016) also observe that the relation between CSR performance and board diversity is self-reinforcing, with firms with superior CSR performance tending to further strengthen their board CSR orientation. These views are broadly consistent with Resource Dependence Theory (Hillman et al., 2009; Pfeffer & Salancik, 2003), which suggests that having a board of directors exhibiting a diversity of attributes and qualities is conducive to positive value-added effects, either financial, environmental or social (e.g. Beji et al., 2021; Lu & Herremans, 2019; Rixom et al., 2022).

We revisit and extend that line of arguments by relying on a more comprehensive view of board diversity. The enactment of the 2002 Sarbanes–Oxley Act in the United States as well as regulatory and political pressures provide strong inducements for firms to increase the cognitive diversity of their directors, especially in terms of experiences and backgrounds while at the same time embracing existing demographic trends encompassing gender, race, nationality and age (Sharma, 2016). In this regard, a board's cognitive diversity becomes more crucial as our society evolves toward a knowledge-based economy with well-informed stakeholders (e.g. employees, clients, investors) who are alert about their rights and about a firm's legal and moral obligations (e.g. compensation and safety issues for employees, terms of trade and warranties for clients, disclosure requirements for investors). For instance, focusing on the workplace, Sharma (2016) observes that directors and top managers play an essential role in maintaining harmony through the cognitive structuring of workplace policies and measures. Hence, information sharing among directors

and top managers with diverse cognitive perspectives can be a strategic asset that enables directors to understand, adapt and innovate while meeting the sometimes-divergent requests for information from all their stakeholders.

Prior research suggests that a firm's CSR orientation is compatible with enhanced corporate performance (Friede et al., 2015). One vector by which CSR enhances firm performance is through the strengthening of relationships with their stakeholders, especially those who hold similar values and views (Ding et al., 2018). Consistent with resource dependence theory, a firm exhibiting greater diversity is more likely to adopt a CSR orientation and to ensure that it adheres to policies and engages in decision-making while following lines of action that are consistent with societal values and objectives (Ding et al., 2018). In that context, directors are at the frontline of responding to this challenge as they are ultimately accountable to stakeholders while overseeing management. However, their capacity to successfully resolve tensions between external stakeholder demands and internal resources and strategies, essential conditions for a successful CSR strategy, rests on their political and social awareness (Leighton & Thain, 1997). A diverse board is likely to possess such awareness and to be in tune with societal reality, thus facilitating building up links with a wide range of stakeholders (Fuente et al., 2017). Hence, the following hypotheses:

H2a There is a positive relation between CSR performance and board demographic diversity.

H2b There is a positive relation between CSR performance and board cognitive diversity.

However, we acknowledge that despite its potential advantages, cognitive diversity does present challenges to boards of directors. Channeling cognitive diversity into a cohesive course of action requires positive engagement by involved parties. Since individual directors bring different approaches and viewpoints, cognitively diverse boards are less likely to come to a consensus, concerning strategic actions to be adopted (Herko, 2018). Cognitive diversity is also likely to increase coordination costs both in terms of time and effort required to reach an agreement. Teams that are more diverse are also slower in acting upon a decision. Hence the innovative efforts may be slowed down, thus influencing the overall benefits. Under certain conditions, diversity can even be detrimental to an organization and its performance. For instance, too much cognitive diversity among decision makers may make it more difficult to reach a consensus (Knight et al., 1999; Miller et al., 1998). Thus, while some level of cognitive diversity can generate positive outcomes by bringing out new knowledge into decision-making, after a certain point the cognitive differences between decision-makers can undermine the achievement of a consensus. For these reasons, the relation between CSR performance and board diversity may diverge from our hypothesis and be neutral or non-linear. We consider this alternative view in sensitivity analyses.

3.3 Board diversity and CSR disclosure quality

The nature of the relation between CSR performance and CSR disclosure is the object of an intense debate that has been ongoing for several years. On the one hand, adopting an informational perspective, several studies find that there is a positive relation between CSR performance and CSR disclosure quality (e.g. Al-Tuwajiri et al., 2004; Clarkson et al., 2011; Wang et al., 2018; Jeriji & Louhichi, 2021). On the other hand, putting forward impression management or obfuscation arguments, a stream of research argues and provides evidence that is consistent with the existence of a negative relation between CSR performance and CSR disclosure, especially among poor performers (e.g. Cho & Patten, 2007; Guidry & Patten, 2012).

These divergent results raise a question as to whether there is mediating effect taking place which leads to filters and transforms the link between CSR performance and CSR disclosure. Considering the centrality of board diversity in underlying a CSR orientation and strategy, we put forward the view that it acts as a mediator between its performance and its disclosure. Our view rests on the following arguments. On the one hand, CSR performance reinforces board diversity, making a firm more attractive to potential director candidates who have a CSR inclination. On the other hand, through CSR reporting, the board can decide on CSR strategy and policies (Handajani et al., 2014). Moreover, board diversity, especially in terms of skills, backgrounds, knowledge, and expertise, is necessary for improving the quality of CSR decisions (Jouber, 2020). Board diversity is known to increase ethical and moral representation, thus reducing myopic decision-making while enhancing new ideas and improved problem-solving and corporate strategic planning and responsibility.

Board diversity has been shown to improve the quality of decisions related to existing interpretations, consequences, and the existing alternatives from a broader perspective. It leads to an increased level of competence in the process as well as value in discussions, thus improving quality concerning decision-making (Handajani et al., 2014). For example, more experienced directors are known to have a richer experience and would encourage policy implementation as strategies for CSR, and hence are highly likely to champion CSR disclosure, a decision that would also increase the firm's value and reinforce relations with stakeholders (Handajani et al., 2014). Hence, a more diverse board is more likely to ascertain and recognize the critical elements driving a firm's CSR performance and, consequently, will be better able to develop and oversee its CSR disclosure strategy. Therefore, the following hypothesis:

H3a A board's demographic diversity mediates the positive relationship between CSR performance and CSR disclosure quality.

H3b A board's cognitive diversity mediates the positive relationship between CSR performance and CSR disclosure quality.

Table 1 Sample characteristics by industry

Industry		*EDQ*	*SDQ*	*CD*	*DD*	*EP*	*SP*	*US-listed*
Materials	Mean	33.929	29.433	− 0.307	− 0.245	36.978	43.115	0.43
N = 186	Std. dev	19.205	17.370	0.891	0.783	25.285	22.770	0.49
Consumer Discretionary	Mean	14.523	20.615	− 0.015	− 0.095	21.896	35.752	0.43
N = 66	Std. dev	18.104	16.698	0.690	0.952	25.785	24.664	0.50
Health	Mean	4.4	11	0.298	0.522	4.694	34.906	0.55
N = 12	Std. dev	5.982	14.932	1.038	1.200	5.230	15.153	0.50
Utilities	Mean	36.44	32.986	0.699	0.304	30.895	34.656	0.44
N = 58	Std. dev	22.971	21.117	0.806	1.108	14.048	13.089	0.50
Financials	Mean	14.6	21.530	0.348	0.615	31.523	51.690	0.39
N = 192	Std. dev	13.939	15.384	1.106	1.097	31.818	20.888	0.48
Industrials	Mean	22.351	29.274	0.284	0.049	37.009	45.130	0.48
N = 75	Std. dev	22.447	22.068	1.026	0.901	30.363	21.232	0.50
Energy	Mean	33.275	25.775	− 0.387	− 0.347	37.412	35.180	0.42
N = 138	Std. dev	18.259	15.811	0.766	0.783	23.143	16.999	0.49
Consumer Staples	Mean	12.854	21.272	0.597	0.338	32.037	42.738	0.38
N = 48	Std. dev	12.770	15.68847	1.120	0.784	23.141	13.965	0.49
Technology	Mean	9.8182	20.6727	− 0.245	− 0.348	32.488	46.876	0.40
N = 49	Std. dev	10.94953	14.00272	0.888	0.825	29.643	23.135	0.49
Communication	Mean	30.3143	37.7429	0.619	0.717	56.509	55.777	0.49
N = 29	Std. dev	20.69494	22.95948	0.885	0.293	25.814	25.599	0.51
Total	Mean	23.605	25.200	0.064	0.069	33.755	43.233	0.43
N = 853	Std. dev	20.281	17.913	1.007	0.980	27.305	21.511	0.49

4 Methods

4.1 Sample

We initially scan the ASSET4 database from Refinitiv (Thomson Reuters) for all firms that are headquartered in Canada and listed on a Canadian stock market. The *Asset 4* database scores firms on a comprehensive set of environmental, social and governance criteria. The initial sample comprises 239 Canadian public firms between 2015 and 2019 that are contained in the database, resulting in 1195 CSR performance observations. However, CSR performance is not available for 342 firm-year observations, bringing the final sample to 853 firm-year observations. Table 1 shows the sample composition by industry, its mean and standard deviation. Most observations are from financial firms (192), followed by the materials industry (186), and the energy sector (138). The importance of these three sectors in the sample reflects the nature of the Canadian economy. Since our interest is for CSR performance and disclosure, we focus on the environmental and social scores assigned to firms.

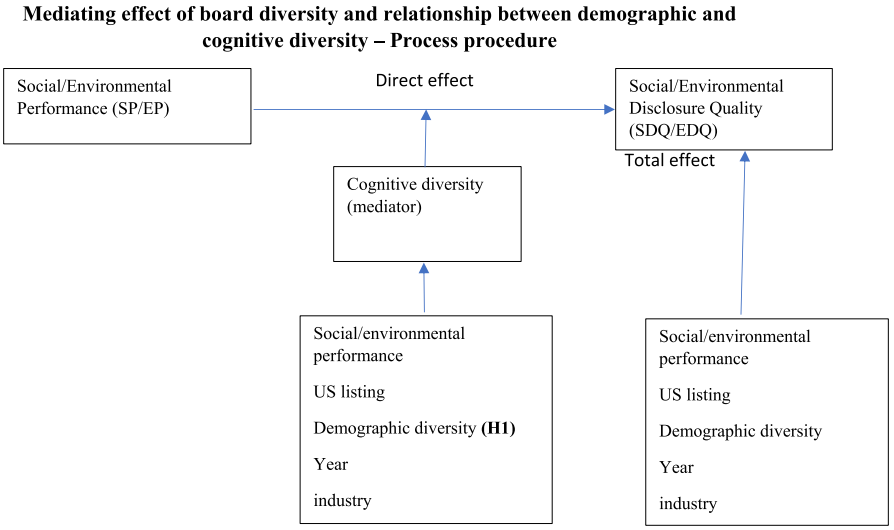

Fig. 1 Empirical model

4.2 Models

Prior research points out that social and environmental disclosure institutionalizes in different ways (e.g. Gomez-Gutierrez & Cormier, 2019). We test social and environmental disclosure quality separately using the same independent variables. Figure 1 shows the structural equation model on the mediating effect of board diversity and the relationship between demographic and cognitive diversity. The model allows for testing H1.

Figure 2 shows the structural equation model on the relation between social/environmental performance and social/environmental disclosure quality, taking into account the mediating (indirect) role played by cognitive diversity and demographic diversity. Tests of H2a and H2b rest on the model shown in Fig. 2.

4.2.1 Variable definitions

4.2.1.1 Dependent variables Social disclosure quality (*SDQ*) quality, and Environmental disclosure quality (*EDQ*) were measured based on a coding grid based on a score from 1 to 3. The starting point is the measurement of each firm's environmental and social disclosures, which are captured through two coding grids designed by Cormier and Magnan (2015) for environmental disclosure and Cormier et al. (2016) for social disclosure. The environmental disclosure coding grid comprises 44 items that are grouped into six categories: economic factors, laws and regulations, pollution abatement, sustainable development, land remediation and contamination (including spills) and environmental management. The social disclosure coding grid comprises 35 items grouped into four categories: Labour practices and decent work; Human

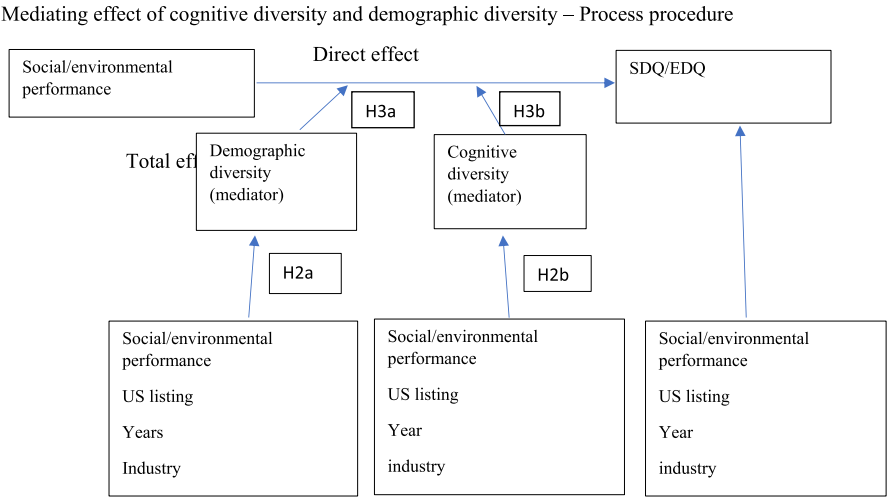

Fig. 2 Empirical model

rights; Society; and Consumer and product responsibility. Each element could be noted 3 if it is described in monetary or quantitative terms; 2 if it is described specifically in qualitative terms; 1 if it is described in general; or 0 if the firm doesn't disclose it. Consequently, the maximum possible environmental score is 132 points and the maximum possible social score is 108 points.

Environmental performance is measured by the environment pillar score from ASSET4. *Social performance* is measured by the social pillar score from ASSET4.[7]

Cognitive diversity. Reviewing the literature, Mello and Rentsch (2015) point out that there is a wide variety of conceptualizations and operationalizations for cognitive diversity. A major challenge is that the dimensions underlying cognitive diversity are typically not directly observable. Cognitive diversity can be conceptualized as a shared group construct (Van der Vegt & Janssen, 2003) for which the differences in decision makers' preferences, assumptions, and beliefs about strategic goals shape the group's strategic decisions (Meissner & Wulf, 2017). This can

[7] "Refinitiv ESG Scores (formerly Asset 4) are designed to transparently and objectively measure a company's relative ESG performance, commitment and effectiveness across 10 main themes (emissions, environmental product, innovation, human rights, shareholders, etc.) based on company-reported information" (Refinitiv, 2022, P. 18). *Refinitiv Eikon has over 700 content research analysts who process and analyze more than 630 ESG data points that are extracted and standardized from publicly available sources including a firm's own publications (e.g. annual report, CSR report, web site, regulatory filings) as well as other sources (e.g. news sources, NGO publications and web sites, etc.). These data points are then aggregated into 10 categories which ultimately underlie the three pillar scores (Environmental, Social and Governance) that comprise the ESG score. Each firm's ESG score is homogenized and compared within the peer group resulting in a score of the company relative ESG performance* (Refinitiv, 2022). *Refinitiv Eikon ESG scores have been widely used in the literature as measures for ESG performance* (e.g. Orazalin & Baydauletov, 2020) *with robust results and specification checks* [See, for example, Demers et al. (2020), Garcia and Orsato (2020), Garcia et al. (2017), and Miralles-Quirós et al. (2018)].

be measured through skills acquired by background, tenure, experience acquired by serving boards, etc. We estimate cognitive diversity with factor analyses on data collected from Bloomberg (see Table 2, Panel A).

Demographic diversity refers to key observable attributes as gender, age, and education. Those attributes influence director's cognition, behavior and decision making and, finally, firm-level outcomes (Kagzi & Guha, 2018). Accordingly, *Demographic diversity* reflects the firm's commitment and effectiveness towards following best practice in terms of corporate governance principles, including board independence, cultural and gender diversity, compensation policy, and Board functions (committees and members independence and expertise). We estimate demographic diversity with factor analyses from Bloomberg (see Table 2, Panel B).

Sample firms' average *Environmental performance* is 33.7556% and their average *Social performance* is 43.2338%. On average, environmental disclosure quality (*EDQ*) and social disclosure quality scores (*SDQ*) are very low with 23.6 (out a possible score of 132) and 25.2 (out of a possible score of 108 points). For diversity measures, the average principal component factor for cognitive diversity of the sample is 0.064 (variance explained 23%) while the average factor for demographic diversity is 0.069 (variance explained 28%). Cognitive diversity scores are higher for Utilities (0.699) Communications (0.619) and Consumer staples (0.597). The highest scores for demographic diversity are Communication (0.717), Financials (0.615) and Health (0.522). Measures of diversity show low levels of standard deviation indicating that Canadian firms' behaviour in terms of board diversity is somewhat homogeneous.

5 Results

5.1 Bivariate correlations

Table 3 presents the Pearson correlations between key test variables. Essentially, *Cognitive diversity*, *Demographic diversity*, *Social disclosure quality*, *Environmental disclosure quality*, *Social performance* and *Environmental performance* are all positively correlated, with the exception that demographic diversity does not have a statistically significant relation with social and environmental performance. The interrelations between the variables are consistent with the observation made by Shaukat et al. (2018) and justify the use of a structural equation modelling approach.

5.2 Multivariate results

5.2.1 Association between Demographic diversity and Cognitive diversity

Table 4 presents results for our first hypothesis, which tests the positive association between a board's demographic diversity and its cognitive diversity. As expected, consistent with H1, there is a positive relation between *Demographic diversity* and

Table 2 Panels A and B

% of variance explained = 23%	Factor 1
Panel A: Factor analysis Cognitive diversity variables—Bloomberg	
Number of directors on the board	0.52
Board duality	
Company has an executive chair	
CEO promoted within the company	
Youngest director age	
Board age range	
Board average age	0.71
Executive average tenure	
Board average tenure	0.79
Longest a board served for the company	0.72
Number of directors on compensation committee interlocks	
Board members serving over 5 years	0.78
Board members serving over 10 years	0.78
COE tenure	0.44
% of non executive directors on 3 more boards	
CEO age	0.42
Chair age	0.46
Chair tenure	0.48
Board size	0.52
Age of youngest director	
Age of the oldest director	0.63
% of variance explained = 28%	Factor 1
Panel B: Factor analysis Demographic diversity variables—Bloomberg	
Number of non-executive directors on the board	0.81
% of non-executive directors on the board	0.57
Number of executives	0.45
CEO a woman	
Chair a woman	
Number of women executives	0.58
% of women executives	0.44
Board meetings per year	
% women on the board	0.623
Number of executives on compensation committee	0.51
Number of women on the board	

Cognitive diversity as shown by the beta coefficient (0.310; $p < 0.01$) for the SDQ model. When estimated for the EDQ model (not tabulated), the relation between *Demographic diversity* and *Cognitive diversity* is also positive (beta coefficient of 0.085; $p < 0.01$ not tabulated). Finally, we observe a positive relation between *Demographic diversity* and *Social disclosure quality* (*SDQ*) (0.204; $p < 0.000$). For

Table 3 Bivariate correlations

	EDQ	*SDQ*	*CD*	*DD*	*EP*	*SP*	*US*
Environmental disclosure quality (EDQ)	–						
Social disclosure quality (SDQ)	0.789**	–					
Cognitive diversity (CD)	0.162**	0.310**	–				
Demographic diversity (DD)	0.253**	0.436**	0.471**	–			
Environmental performance (EP)	0.597**	0.680**	0.294**	0.419**	–		
Social performance (SP)	0.421**	0.595**	0.311**	0.512**	0.738**	–	
US	− 0.012	0.006	− 0.016	− 0.036	0.003	0.021	–

**Correlation is significant at the 0.01 level (2-tailed)

Table 4 The association between demographic diversity and cognitive diversity

N: 862 PROCESS Procedure SPSS—Model 4				
Y = *Social disclosure quality*; X = *Social performance*; M = *Cognitive diversity*				
Statistical Controls: *US listing*, *Demographic diversity*				
	R-Square	F	P	
	35.8%	28.42	0.000	
Cognitive diversity	Coefficient	T	P	Beta coefficient
Social performance	0.006	3.74	0.000	0.127
Demographic diversity	0.318	8.67	0.000	0.310 H1
US listing	− 0.063	− 1.09	0.277	− 0.031
Years/industry fixed effects	Yes			
	52.0%	52.1	0.000	
Social disclosure quality	Coefficient	T	P	Beta coefficient
Social performance	0.451	17.97	0.000	0.531
Cognitive diversity	1.735	3.15	0.001	0.095
Demographic diversity	3.812	6.31	0.000	0.204
US listing	0.563	0.62	0.538	0.015
Years/industry fixed effects	Yes			
	51.4%	54.1	0.000	
Total effect	Coefficient	T	P	Beta coefficient
Social performance	0.461	18.44	0.000	0.543
Demographic diversity	4.365	7.51	0.000	0.233
US listing	0.453	0.49	0.622	0.012
Years/Industry fixed effects	Yes			
Total effect	Coefficient	T	P	
X on Y	0.461	18.44	0.000	
Direct effect	Coefficient	T	P	
X on Y	0.451	17.97	0.000	
Indirect effect				
X on Y through *cognitive diversity*	0.010	2.42	0.015 (Sobel)	

the relation between *Demographic diversity* and *Environmental disclosure quality (EDQ)*, results (not tabulated) also show a significant relation (beta coefficient of 0.108; $p < 0.000$).

5.2.2 Incidence on Social disclosure quality (SDQ) considering the mediation effect of Cognitive diversity and Demographic diversity

To assess the incidence of social performance on social disclosure quality, we use PROCESS structural equation modelling (Process procedure for SPSS), with the objective of enhancing the interpretation of the relations. Given that two variables of interest are used as mediators, we show the direct effect, the indirect effect via mediation and the total effect.[89]

In Table 5, we present results on the incidence of *Social performance* on *Social disclosure quality* (*SDQ*), controlling for the mediating effect of *Cognitive diversity* and *Demographic diversity*. Figure 3 presents the relations between key variables. First, the direct effect of *Social performance* on *Social disclosure quality* (coefficient 0.545; $p < 0.000$) is positive. Second, consistent with hypotheses 3a and 3b, we observe an indirect effect on this relationship (mediating) of *Demographic diversity* (coefficient 0.085; $p < 0.000$, Sobel test), and *Cognitive diversity* (coefficient 0.005; $p < 0.098$ Sobel test). This suggests that the positive impact of *Social performance* on *Social disclosure quality* is enhanced by *Cognitive diversity* as well as by *Demographic diversity* but to a lesser extent in the latter case. These results are consistent with H2a and H2b. Hence, *Demographic diversity* (H3a) and *Cognitive diversity* (H3b) mediate the positive relationship between *Social performance* and *Social disclosure quality*.

In addition to serving as mediators on the relation between *Social performance* and *Social disclosure quality*, *Demographic diversity* (beta coefficient 0.215; $p < 0.000$) and *Cognitive diversity* (beta coefficient 0.050; $p < 0.070$) are direct determinants of *Social disclosure quality*. This is consistent with H2a and H2b.

We also control for the US-listed firms as most Canadian firms are cross-listed in the United States. SEC requirements may affect *Social disclosure quality* and *Environmental disclosure quality*. Results from Table 5 show that a firm's listing in the United States does not have a significant effect on disclosure quality.

[8] In mediation and conditional process analysis under PROCESS, many important statistics useful for testing hypotheses, such as conditional indirect effects and the index of moderated mediation, require the combination of parameter estimates across two or more equations in the model. Inference about these statistics is based on bootstrapping methods, given that many of these statistics have irregular sampling distributions. Then, making inferences using ordinary methods is problematic.

[9] According to Hayes (2013, p. 80), "for models that are based entirely on observed variables investigators can rest assured that it generally makes no difference which is used [SEM or PROCESS], as the results will be substantively identical. The choice, in that case, is inconsequential".

Table 5 The mediating role of cognitive diversity and demographic diversity in the relationship between social performance and social disclosure quality

N: 862 PROCESS Procedure SPSS (Hayes, 2013)—Model 4				
Y = *Social disclosure quality*; X = *Social performance*; M = *Cognitive diversity*, *Demographic diversity*				
Statistical Controls: *US listing*, Years, Industries				
	R-Square	F	P	
	11.5%	7.04	0.000	
Cognitive diversity	Coefficient	T	P	Beta coefficient
Social performance	0.005	3.48	0.000	0.121 H2a
US listing	0.020	0.32	0.750	0.012
Years/industry fixed effects	Yes			
	38.41%	33.96	0.000	
Demographic diversity	Coefficient	T	P	Beta coefficient
Social performance	0.021	16.03	0.000	0.464 H2b
US listing	− 0.045	− 0.81	0.418	− 0.023
Years/industry fixed effects	Yes			
	51.59%	51.10	0.000	
Social disclosure quality	Coefficient	T	P	Beta coefficient
Social performance	0.463	18.51	0.000	0.545
Cognitive diversity	0.997	1.81	0.070	0.050
Demographic diversity	4.027	6.60	0.000	0.215
US listing	0.419	0.46	0.647	0.011
Years/industry fixed effects	Yes			
	48.04%	50.36	0.000	
Total effect	Coefficient	T	P	Beta coefficient
Social performance	0.553	24.52	0.000	0.651
US listing	0.258	0.272	0.785	0.007
Years/industry fixed effects	Yes			
Total effect	Coefficient	T	P	
X on Y	0.553	24.52	0.000	
Direct effect	Coefficient	T	P	
X on Y	0.463	18.51	0.000	
Indirect effect				
X on Y through *Cognitive diversity*	0.005	1.62	0.098 (Sobel)	H3b
X on Y through *Demographic diversity*	0.085	6.11	0.000 (Sobel)	H3a

5.2.3 Incidence on Environmental disclosure quality considering the mediation effect of Cognitive diversity and Demographic diversity

Results are qualitatively similar for *Environmental disclosure quality* except that the coefficient for *Cognitive diversity* is not statistically significant (see Table 6 and Fig. 4). First, the direct effect of *Environmental performance* on *Environmental disclosure quality* (coefficient 0.379; $p < 0.000$) is positive. Second, consistent with

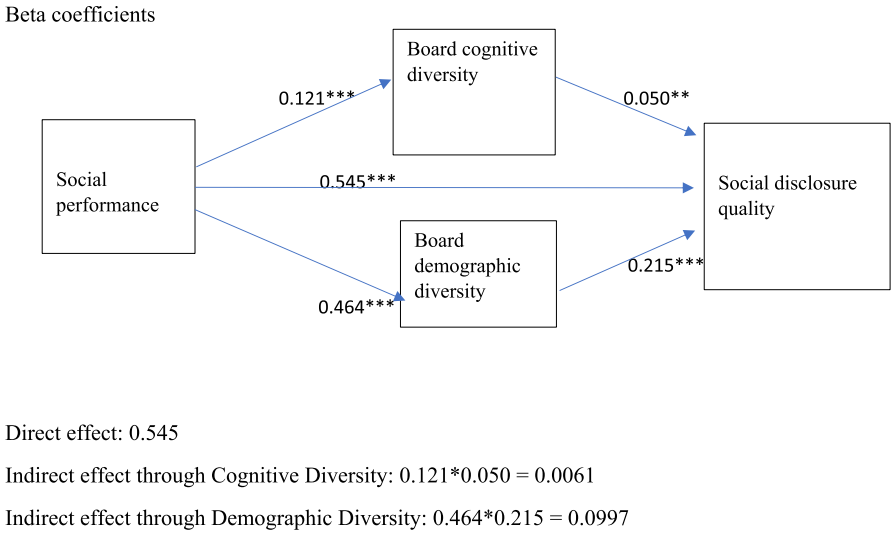

Fig. 3 Mediating effect of cognitive diversity and demographic diversity on the relation between social performance and social disclosure quality

hypothesis 2b, we observe an indirect enhancing effect on this relationship (mediating) via *Demographic diversity* (coefficient 0.044 $p < 0.000$ Sobel test). This is consistent with H3a. *Demographic diversity* mediates the positive relationship between *Environmental performance* and *Environmental disclosure quality*. However, hypothesis 3b is not confirmed since the coefficient on X on Y through demographic diversity is not statistically significant (coefficient 0.0013; $p < 0.738$, Sobel test).

In addition to serve as mediators on the relation between *Environmental performance* and *Environmental disclosure quality*, *Demographic diversity* (beta coefficient 0.032; $p < 0.000$) is a direct determinant of *Environmental disclosure quality*. This is consistent with H2b. However, there is no indirect effect via *Cognitive diversity* as its coefficient is not statistically significant (beta coefficient 0.009; $p < 0.739$).[10]

6 Discussion and conclusion

Overall, results show that a firm's social and environmental performance has a positive effect on its social and environmental disclosure quality. Such effect is both direct and indirect (mediating) via the diversity of a firm's board of directors. We conjecture that by promoting organizational culture and behavior, board diversity

[10] We further assess if the relation between *Environmental(Social) Performance* and *Environmental(Social) Disclosure Quality* is quadratic by adding a squared term to the regressions. Results (untabulated) indicate that the coefficients to the quadratic terms are not statistically significant.

Table 6 The mediating role of cognitive diversity and demographic diversity in the relationship between environmental performance and environmental disclosure quality

N: 862 PROCESS Procedure SPSS (Hayes, 2013)—Model 4				
Y = *Environmental disclosure quality*; X = *Environmental performance*; M = *Cognitive diversity, Demographic diversity*				
Statistical Controls: *US listing*, Years, Industries				
	R-Square	F	P	
	13.6%	8.576	0.000	
Cognitive diversity	Coefficient	T	P	Beta coefficient
Environmental performance	0.006	5.76	0.000	0.195 H2a
US listing	0.023	0.383	0.702	0.013
Years/industry fixed effects	Yes			
	37.0%	31.99	0.000	
Demographic diversity	Coefficient	T	P	Beta coefficient
Environmental performance	0.016	15.5	0.000	0.441 H2b
US listing	− 0.027	− 0.48	0.631	− 0.013
Years/industry fixed effects	Yes			
	57.6%	60.18	0.000	
Environmental disclosure quality	Coefficient	T	P	Beta coefficient
Environmental performance	0.379	18.41	0.000	0.506
Cognitive diversity	0.197	0.33	0.739	0.009
Demographic diversity	2.765	4.32	0.000	0.032
US listing	− 0.027	0.03	0.978	− 0.001
Years/industry fixed effects	Yes			
	54.5%	65.3	0.000	
Total effect	Coefficient	T	P	Beta coefficient
Environmental performance	0.424	23.11	0.000	0.566
US	− 0.095	− 0.096	0.807	− 0.002
Years/industry fixed effects	Yes			
Total effect	Coefficient	T	P	
X on Y	0.4244	23.12	0.000	
Direct effect	Coefficient	T	P	
X on Y	0.3795	18.40	0.000	
Indirect effect				
X on Y through *Cognitive diversity*	0.0013	0.28	0.738 (Sobel)	H3b
X on Y through *Demographic diversity*	0.0436	4.17	0.000 (Sobel)	H3a

enhances the relation between CSR performance and CSR disclosure quality (as proxied by its environmental and social dimensions. Highly diverse groups have better expertise and capacities to develop inclusive measures, which are crucial in improving the firm's performance, value, and corporate culture. Board diversity influences social and environmental disclosures as firms with diverse teams tend to voluntarily disclose their social and environmental status, hence improving their

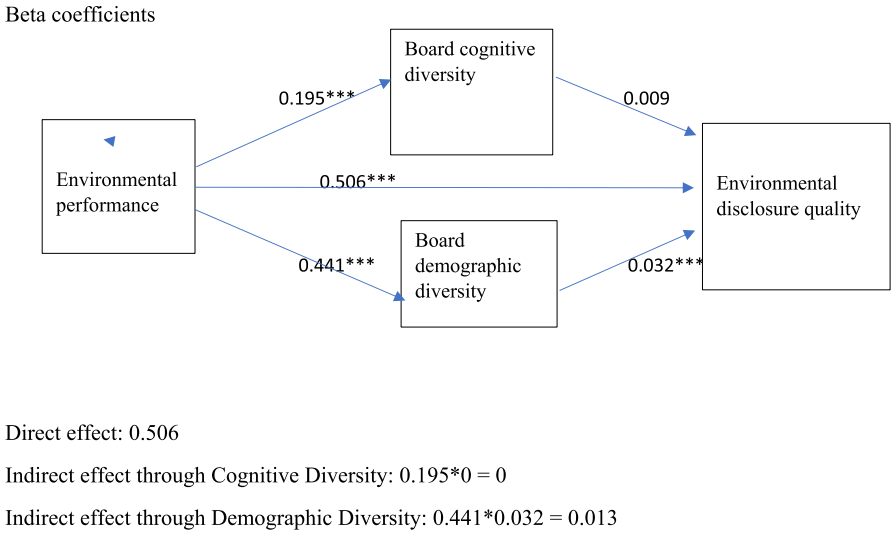

Fig. 4 Mediating effect of cognitive diversity and demographic diversity on the relation between environmental performance and environmental disclosure quality

performance and value. The effect of diversity on the relation between performance and disclosure quality does not appear to be capped or limited in a non-linear way.

Our study is subject to some limitations. First, the measures used for all of our key variables (social and performance, social and environmental disclosure quality, demographic and cognitive diversity) are assumed to capture underlying constructs in a reliable manner, which may or may not be the case. However, the measurement of performance and disclosure quality is consistent with prior research while our diversity measures reflect our understanding of how these constructs affect decision-making within groups such as boards. Second, our setting is restricted to Canadian firms, which may limit the external validity of our results. However, since diversity has varying levels of acceptability around the world, grouping firms from different countries in a sample may obscure some existing relations. Moreover, Canada is among the most diverse countries in the world.[11]

Future research may further examine how demographic diversity and cognitive diversity affect board decision-making and functionality. Qualitative methodologies (interviews, direct observation) should be considered in addition to quantitative analyses to obtain a more holistic picture of diversity. There should also be further analysis of the interaction between demographic diversity and cognitive diversity and how it affects a board's or management team's oversight and decision-making atmospheres. Current practices and regulations emphasize demographic diversity but it appears that cognitive diversity is needed as well to obtain the full benefits of a diverse team.

[11] https://worldpopulationreview.com/country-rankings/most-diverse-countries.

Acknowledgements The authors acknowledge the financial support of Social Sciences and Humanities Research Council, of the Chair in Financial and Organizational Information and of l'Autorité des marchés financiers (AMF- Québec), the Stephen A. Jarislowsky Chair in Corporate Governance (Concordia) and the Institute for the Governance of Private and Public Organizations (IGOPP). The paper benefitted from comments from participants at ESG-UQAM workshop. The content of this article does not necessarily reflect the opinion of financial supporters; any errors are the responsibility of the authors.

References

Aboud, A., & Diab, A. (2018). The impact of social, environmental, and corporate governance disclosures on firm value. *Journal of Accounting in Emerging Economies, 8*(4), 442–458.

Aguilera, R. V., Judge, W. Q., & Terjesen, S. A. (2018). Corporate governance deviance. *Academy of Management Review, 43*(1), 87–109.

Al-Tuwaijri, S., Christensen, T. E., & Hughes, K. E. (2004). The relations among environmental disclosure, environmental performance, and economic performance: A simultaneous equations approach. *Accounting, Organizations and Society, 29*(5–6), 447–471.

Aoki, M., Greif, A., & Milgrom, P. (2001). *Toward a comparative institutional analysis*. MIT Press.

Arora, A. (2021). Gender diversity in boardroom and its impact on firm performance. *Journal of Management and Governance*. https://doi.org/10.1007/s10997-021-09573

Aureli, S., Del Baldo, M., Lombardi, R., & Nappo, F. (2020). Nonfinancial reporting regulation and challenges in sustainability disclosure and corporate governance practices. *Business Strategy and the Environment, 29*(6), 2392–2403.

Baker, H. K., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research, 108*, 232–246. https://doi.org/10.1016/j.jbusres.2019.11.025

Beji, R., Yousfi, O., Loukil, N., & Omri, A. (2021). Board diversity and corporate social responsibility: Empirical evidence from France. *Journal of Business Ethics, 173*(1), 133–155.

Ben-Amar, W., Francoeur, C., Hafsi, T., & Labelle, R. (2013). What makes better boards? A closer look at diversity and ownership. *British Journal of Management, 24*(1), 85–101.

Bernile, G., Bhagwat, V., & Yonker, S. (2018). Board diversity, firm risk, and corporate policies. *Journal of Financial Economics, 127*(3), 588–612.

Blacconiere, W. G., & Patten, D. M. (1994). Environmental disclosures, regulatory costs, and changes in firm value. *Journal of Accounting and Economics, 18*(3), 357–377.

Brooks, C., & Oikonomou, I. (2018). The effects of environmental, social and governance disclosures and performance on firm value: A review of the literature in accounting and finance. *The British Accounting Review, 50*(1), 1–15.

Cho, C. H., & Patten, D. M. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society, 32*(7–8), 639–647.

Ciavarella, A. (2017). *Board diversity and firm performance across Europe* (pp. 1–36). https://www.sipotra.it/wp-content/uploads/2018/11/Board-diversity-and-firm-performance-across-Europe.pdf

Činčalová, S., & Hedija, V. (2020). Firm characteristics and corporate social responsibility: The case of Czech transportation and storage industry. *Sustainability, 12*(5), 1992.

Clarkson, P. M., Overell, M. B., & Chapple, L. (2011). Environmental reporting and its relation to corporate environmental performance. *Abacus, 47*(1), 27–60.

Cormier, D., Gordon, I. M., & Magnan, M. (2016). Corporate ethical lapses: Do markets and stakeholders care? *Management Decision, 54*(10), 2485–2506. https://doi.org/10.1108/MD-05-2016-0301

Cormier, D., & Magnan, M. (2007). The revisited contribution of environmental reporting to investors' valuation of a firm's earnings: An international perspective. *Ecological Economics, 62*(3–4), 613–626.

Cormier, D., & Magnan, M. (2015). The economic relevance of environmental disclosure and its impact on corporate legitimacy: An empirical investigation. *Business Strategy and the Environment, 24*(6), 431–450.

Demers, E., Hendrikse, J., Joos, P., & Lev, B. (2020). *ESG didn't immunize stocks against the COVID-19 market crash*. Available at SSRN 3675920.

Ding, L., Yang, J., & Chung, Y. (2018). Effects of corporate social performance on corporate financial performance: A two-sector analysis between the US hospitality and manufacturing companies. *Global Business and Finance Review, 23*, 1–16.

Engert, S., & Baumgartner, R. J. (2016). Corporate sustainability strategy-bridging the gap between formulation and implementation. *Journal of Cleaner Production, 113*(1), 822–834.

European Commission. (2011). *A renewed EU strategy 2011–2014 for Corporate Social Responsibility*. COM(2011) 681 final. October 25. Retrieved August 8, 2021, from https://www.europarl.europa.eu/meetdocs/2009_2014/documents/com/com_com(2011)0681_/com_com(2011)0681_en.pdf

European Commission. (2021). Retrieved August 8, 2021, from https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/overview-sustainable-finance_en

Filatotchev, I., & Wright, M. (2017). Methodological issues in governance research: An editor's perspective. *Corporate Governance: An International Review, 25*(6), 454–460.

Filip, A., Labelle, R., & Rousseau, S. (2015). Legal regime and financial reporting quality. *Contemporary Accounting Research, 32*(1), 280–307.

Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment, 5*(4), 210–233.

Fuente, J. A., García-Sanchez, I. M., & Lozano, M. B. (2017). The role of the board of directors in the adoption of GRI guidelines for the disclosure of CSR information. *Journal of Cleaner Production, 141*, 737–750.

Garcia, A. S., Mendes-Da-Silva, W., & Orsato, R. J. (2017). Sensitive industries produce better ESG performance: Evidence from emerging markets. *Journal of Cleaner Production, 150*, 135–147.

Garcia, A. S., & Orsato, R. J. (2020). Testing the institutional difference hypothesis: A study about environmental, social, governance, and financial performance. *Business Strategy and the Environment, 29*(8), 3261–3272.

Gomez-Gutierrez, L., & Cormier, D. (2019). Barriers to worldwide institutionalization of social and environmental disclosure. *International Journal of Sustainable Development & World Ecology, 26*(2), 99–112.

Greenwood, R., Hinings, C. R., & Whetten, D. (2014). Rethinking institutions and organizations. *Journal of Management Studies, 51*(7), 1206–1220.

Guidry, R. P., & Patten, D. M. (2012). Voluntary disclosure theory and financial control variables: An assessment of recent environmental disclosure research. *Accounting Forum, 36*(1), 81–90.

Hafsi, T., & Turgut, G. (2013). Boardroom diversity and its effect on social performance: Conceptualization and empirical evidence. *Journal of Business Ethics, 112*(3), 463–479.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9*(2), 193–206.

Handajani, L., Subroto, B., Sutrisno, T., & Saraswati, E. (2014). Does board diversity matter on corporate social disclosure? An Indonesian evidence. *Journal of Economics and Sustainable Development, 5*(9), 8–16.

Harjoto, M., Laksmana, I., & Yang, Y.-W. (2015). Board diversity and corporate social responsibility. *Journal of Business Ethics, 132*(4), 641–660.

Harjoto, M., Laksmana, I., & Yang, Y-W. (2018). *Board nationality diversity and corporate social responsibility* (September 19, 2018). Available at SSRN https://ssrn.com/abstract=3252114

Herko, R. T. (2018). Going beyond what is expected: Cognitively-diverse boards of directors and their impact on firm sustainability initiatives. *Journal of Strategic Innovation & Sustainability, 13*(4), 1–77.

Hillman, A. J. (2015). Board diversity: Beginning to unpeel the onion. *Corporate Governance: An International Review, 23*(2), 104–107.

Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management, 35*(6), 1404–1427.

Jeriji, M., & Louhichi, W. (2021). The relationship between poor CSR performance and hard, negative CSR information disclosures. *Sustainability Accounting, Management and Policy Journal, 12*(2), 410–436. https://doi.org/10.1108/SAMPJ-04-2020-0094

Jizi, M. (2017). The influence of board composition on sustainable development disclosure. *Business Strategy and the Environment, 26*(5), 640–655.

Jouber, H. (2020). Is the effect of board diversity on CSR diverse? New insights from one-tier vs two-tier corporate board models. *Corporate Governance: The International Journal of Business in Society, 21*(1), 23–61. https://doi.org/10.1108/CG-07-2020-0277

Kagzi, M., & Guha, M. (2018). Board demographic diversity: A review of literature. *Journal of Strategy and Management, 11*(1), 33–51. https://doi.org/10.1108/JSMA-01-2017-0002

Kang, H. R., Yang, H. D., & Rowley, C. (2006). Factors in team effectiveness: Cognitive and demographic similarities of software development team members. *Human Relations, 59*(12), 1681–1710.

Katmon, N., Mohamad, Z. Z., Norwani, N. M., & Al Farooque, O. (2019). Comprehensive board diversity and quality of corporate social responsibility disclosure: Evidence from an emerging market. *Journal of Business Ethics, 157*(2), 447–481.

Kilduff, M., Angelmar, R., & Mehra, A. (2000). Top management-team diversity and firm performance: Examining the role of cognitions. *Organization Science, 11*(1), 21–34. https://doi.org/10.5815/ijigsp.2012.01.06

Knight, D., Pearce, C. L., Smith, K. G., Olian, J. D., Sims, H. P., Smith, K. A., & Flood, P. (1999). Top management team diversity, group process, and strategic consensus. *Strategic Management Journal, 20*(5), 445–465.

Lamberti, L., & Lettieri, E. (2009). CSR practices and corporate strategy: Evidence from a longitudinal case study. *Journal of Business Ethics, 87*(2), 153–168.

Leighton, D. S., & Thain, D. H. (1997). *Making boards work: What directors must do to make Canadian boards effective*. McGraw-Hill Ryerson.

Lu, J., & Herremans, I. M. (2019). Board gender diversity and environmental performance: An industries perspective. *Business Strategy and the Environment, 28*(7), 1449–1464.

Lu, J., & Wang, J. (2021). Corporate governance, law, culture, environmental performance and CSR disclosure: A global perspective. *Journal of International Financial Markets, Institutions and Money*. https://doi.org/10.1016/j.intfin.2020.101264

Masud, M. A. K., Nurunnabi, M., & Bae, S. M. (2018). The effects of corporate governance on environmental sustainability reporting: Empirical evidence from South Asian Countries. *Asian Journal of Sustainability and Social Responsibility, 3*(3), 1–26.

Meissner, P., & Wulf, T. (2017). The effect of cognitive diversity on the illusion of control bias in strategic decisions: An experimental investigation. *European Management Journal, 35*(4), 430–439. https://doi.org/10.1016/j.emj.2016.12.004

Mello, A. L., & Delise, L. A. (2015). Cognitive diversity to team outcomes: The roles of cohesion and conflict management. *Small Group Research, 46*(2), 204–226.

Mello, A. L., & Rentsch, J. R. (2015). Cognitive diversity in teams: A multidisciplinary review. *Small Group Research, 46*(6), 623–658.

Miller, C. C., Burke, L. M., & Glick, W. H. (1998). Cognitive diversity among upper-echelon executives: Implications for strategic decision processes. *Strategic Management Journal, 19*(1), 39–58.

Miralles-Quirós, M. M., Miralles-Quirós, J. L., & Valente Gonçalves, L. M. (2018). The value relevance of environmental, social, and governance performance: The Brazilian case. *Sustainability, 10*(3), 574.

Olthuis, B. R., & van den Oever, K. F. (2020). The board of directors and CSR: How does ideological diversity on the board impact CSR? *Journal of Cleaner Production, 251*, 119532.

Orazalin, N., & Baydauletov, M. (2020). Corporate social responsibility strategy and corporate environmental and social performance: The moderating role of board gender diversity. *Corporate Social Responsibility and Environmental Management, 27*(4), 1664–1676.

Parayitam, S., & Papenhausen, C. (2016). Agreement-seeking behavior, trust, and cognitive diversity in strategic decision making teams: Process conflict as a moderator. *Journal of Advances in Management Research, 13*(3), 292–315. https://doi.org/10.1108/JAMR-10-2015-0072

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford University Press.

Poletti-Hughes, J., & Briano-Turrent, G. C. (2019). Gender diversity on the board of directors and corporate risk: A behavioural agency theory perspective. *International Review of Financial Analysis, 62*(1), 80–90.

Refinitiv. (2022). *Environmental, Social and Governance Scores from Refinitiv.* May. Retrirved from https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Rixom, J. M., Jackson, M., & Rixom, B. A. (2022). Mandating diversity on the board of directors: Do investors feel that gender quotas result in tokenism or added value for firms? *Journal of Business Ethics*. https://doi.org/10.1007/s10551-021-05030-09

Rodrigue, M., Magnan, M., & Boulianne, E. (2013). Stakeholders' influence on environmental strategy and performance indicators: A managerial perspective. *Management Accounting Research, 24*(4), 301–316.

Sarto, F., Saggese, S., Viganò, R., & Mauro, M. (2019). Human capital and innovation: Mixing apples and oranges on the board of high-tech firms. *Management Decision, 58*(5), 897–926. https://doi.org/10.1108/MD-06-2017-0594

Schindlinger, D., Ciccarelli, K., & Diguiseppe, M. (2021). Beyond the C-Suite: Trends in Director Skill Set. Diligent Institute. July 13. Retrieved August 2, 2021 from https://www.diligentinstitute.com/wp-content/uploads/2021/07/Beyond-the-C-Suite-Trends-in-Director-Skill-Sets-2.pdf

Sharma, A. (2016). Managing diversity and equality in the workplace. *Cogent Business & Management, 3*(1), 1–14. https://doi.org/10.1080/23311975.2016.1212682

Shaukat, A., Qiu, Y., & Trojanowski, G. (2016). Board attributes, corporate social responsibility strategy, and corporate environmental and social performance. *Journal of Business Ethics, 135*(3), 569–585. https://doi.org/10.1007/s10551-014-2460-9

Simons, T., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal, 42*(6), 662–673.

Szőcs, I., & Schlegelmilch, B. B. (2020). Embedding CSR in corporate strategies. Chapter: *Rethinking business responsibility in a global context*. Springer (pp. 45–60).

Torchia, M., Calabrò, A., & Morner, M. (2015). Board of directors' diversity, creativity, and cognitive conflict: The role of board members' interaction. *International Studies of Management & Organization, 45*(1), 6–24.

United Nations. (1987). *Report of the world commission on environment and development: Our common future* (Brundtland Commis(sion). Retrieved August 8, 2021, from https://www.un.org/en/academic-impact/sustainability

Van der Vegt, G. S., & Janssen, O. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of Management, 29*(5), 729–751. https://doi.org/10.1016/S0149-2063(03)00033-3

Wang, Z., Hsieh, T. S., & Sarkis, J. (2018). CSR performance and the readability of CSR reports: Too good to be true? *Corporate Social Responsibility and Environmental Management, 25*(1), 66–79.

Whelan, T., and Fink, C. (2016). The Comprehensive business case for sustainability. *Harvard Business Review*. October 21**.** Retrieved August 8, 2021, from: https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability

Wijethilake, C. (2017). Proactive sustainability strategy and corporate sustainability performance: The mediating effect of sustainability control systems. *Journal of Environmental Management, 196*, 569–582. https://doi.org/10.1016/j.jenvman.2017.03.057

Xu, Y., Zhang, L., & Chen, H. (2018). Board age and corporate financial fraud: An interactionist view. *Long Range Planning, 51*(6), 815–830.

Zhang, J. Q., Zhu, H., & Ding, H. (2013). Board composition and corporate social responsibility: An empirical investigation in the post Sarbanes-Oxley era. *Journal of Business Ethics, 114*(3), 381–392.

Denis Cormier Full professor at ESG UQAM, FCPA, FCA Auditor. Holds a PhD in Applied Economics from University of Mons (Belgium). Teaches financial and extra-financial accounting at PhD level. Denis Cormier's research activities revolve around the following themes: financial statement analysis in an international context; extra-financial data; organizational governance and ethics; social and environmental responsibility; climate risk management and assessment. The results of his research (more than 230 articles) have been published in various scientific and professional journals.

Luania Gutierrez Professor in the Department of Accounting, ESG UQAM She holds a PhD in accounting from ESG UQAM. Her research interests include: isomorphism in international social and environmental disclosure; neo-institutional theory; cognitive diversity within companies; the relationship between the uncertainty of CSR disclosure and the value relevance. Luania has published her work in several scientific journals such as Journal of Management and Governance, International Journal of Sustainable Development & World Ecology, Accounting Perspectives.

Michel Magnan Full Professor at John Molson School of Business, Concordia University, FCPA, FCA Auditor. He holds a PhD from the University of Washington. He is interested in organizational governance issues, compensation, corporate disclosure strategies, financial statement analysis and corporate social responsibility, including business ethics and environmental accounting. Michel Magnan has published more than a 250 articles in peer-reviewed scientific and professional journals.