Received: 10 June 2024 | Revised: 12 September 2024 | Accepted: 24 September 2024

DOI: 10.1002/csr.2998

RESEARCH ARTICLE

Corporate Social Responsibility and Environmental Management

WILEY

Corporate social responsibility sophistication: Company-specific drivers among early and late adopters

Kyra Kunkel[1] | Katharina Wigge[1] | Rainer Lueg[1,2]

[1]Institute of Management, Accounting and Finance, Leuphana University Lüneburg, Lüneburg, Germany

[2]Department of Business and Economics, University of Southern Denmark, Kolding, Denmark

Correspondence
Rainer Lueg, Institute of Management, Accounting and Finance, Leuphana University Lüneburg, Universitätsallee 1, 21335 Lüneburg, Germany.
Email: lueg@leuphana.de

Abstract

This study examines the internal company drivers of corporate social responsibility (CSR) sophistication from a diffusion theory perspective. Bertram et al.'s (2015) framework on implementation drivers of innovations is used as our basis to operationalize the internal company drivers influencing CSR sophistication. We conduct fixed-effects regressions on a sample of 1919 international for-profit companies listed on the STOXX 1800 index (17,848 company years over the period 2002–2020) and explore several sub-portfolios. This study finds that management training, board skills, CEO compensation based on total shareholder return, and quality management systems drive CSR sophistication. Management training is the strongest and most consistent driver. Our analyses show that the effects of the identified drivers are strongest for portfolios of companies with previously low CSR sophistication. Moreover, early adopters appear to be motivated to utilize CSR for both economic reasons and legitimacy. While we find that board members with a finance background improve CSR sophistication, we also show that this increase mainly stems from improving governance practices. Last, we show that CSR sophistication notably increased over time, and parallel with the per capita wealth of the country that hosts its headquarters. Overall, this study is the first to investigate the internal company drivers of non-binary CSR sophistication using large-scale panel data, thereby exploring the effects of early/late adoption and the individual pillars of E, S, and G.

KEYWORDS
board skills, compensation, CSR sophistication, diffusion theory, early adoption, leadership skills, management training, quality management systems

JEL CLASSIFICATION
M10, M40, Q56

1 | INTRODUCTION

This article explores the organizational factors that influence corporate social responsibility (CSR) implementations. CSR is a voluntary practice whereby firms address social and environmental interests in corporate interactions with stakeholders (Commission of the European Community, 2001). Sophisticated CSR requires the integration of key processes across organizational hierarchies such as accounting, operations, and management (Ansari et al., 2010; Asif et al., 2013; Burkert & Lueg, 2013; Lueg & Radlach, 2016). The

literature suggests that the implementation of CSR is a complex process that is influenced by both internal and external drivers. We recognize four groups of drivers: (i) institutional drivers that induce companies to gain approval from influential stakeholders (Campbell, 2007); (ii) economic drivers that motivate companies to implement CSR in order to improve long-term shareholder value (Colucci et al., 2020; Wobst et al., 2023); (iii) organizational drivers that adjust CSR to the chosen strategy and structure of a company, such as its complexity, or governance (Läger et al., 2022); and (iv) individual drivers that can also affect CSR implementations through, for instance, the skills and values of leaders (Agle et al., 2007). Institutional drivers are external, whereas the other three groups are company-specific.

Despite the vast amount of literature on CSR and its drivers, research gaps still exist. First, many studies tend to focus on external drivers, thereby avoiding discussions of the fuzziness and endogeneity of internal company drivers (Campbell, 2007). Few exceptions exist (Kind et al., 2023; Laguir et al., 2019; Petrenko et al., 2016; Sajko et al., 2021). Second, the body of existing research on internal company drivers (economic, organizational, and individual) mostly covers corporate governance issues, especially board-related drivers (Beji et al., 2021), or political drivers. Third, many studies conduct static analyses of longitudinal data, or investigate rather short time horizons (Marano & Kostova, 2016; Miska et al., 2016). Marano and Kostova (2016) emphasize that CSR adoption is shaped by institutional complexity and argue that long-term horizons are critical to understanding CSR adoption dynamics across multiple institutional contexts. Likewise, Miska et al. (2016) suggest that short-term analyses may fail to capture how CSR responsiveness varies depending on both global CSR strategies and local responsiveness. In this vein, the shifting importance of CSR drivers across time, company types, or single-country settings could use further elaboration. The seminal *implicit* and *explicit* institutional framework of Matten and Moon (2008) provides a comparative perspective, showing how CSR adoption evolves across context and time. Lozano (2015) emphasizes the importance of adopting a more integrated, multi-level, longitudinal approach to CSR that considers dynamic interactions between factors that drive CSR. Most recently, Crifo et al. (2019) highlight the role of corporate governance in sustaining CSR initiatives over longer time horizons. Fourth, it is a novelty to the field to understand how CSR sophistication changes over time (Babiak & Trendafilova, 2011; Cetindamar, 2007; Colucci et al., 2020; Crilly et al., 2012). Most extant studies use binary classifications of adopters versus non-adopters that do not account for the fact that CSR initiatives—despite carrying the same name—might comprise practices that vary greatly across companies and even within the same company over time. Fifth, the bulk of the current academic literature on CSR implementation within companies is grounded in case study research and interviews (Pistoni et al., 2016; Sendlhofer, 2020; Vidal et al., 2010) while most of the quantitative research employs survey data (Cetindamar, 2007). Archival data can help avoid non-response biases that may be present in surveys, and provide novel insights (Lozano, 2015). Specifically, Laguir et al. (2019) suggest a quantitative evaluation of internal drivers of CSR sophistication. To address these relevant gaps, we pose the following research question:

> "How do internal company factors cause differences in CSR sophistication?"

Our study builds on the concept of practice sophistication as proposed by Ansari et al. (2010), and applies Bertram et al.'s (2015) framework. This framework consists of competency, organizational, and leadership drivers that influence the sophistication of a practice. The aim is to explore the influence of internal company factors on CSR sophistication and compare the differences between adopters and non-adopters. We examine a sample of 1919 international companies listed in the STOXX Global 1800 Index using archival data from 2002 to 2020 in a fixed-effects regressions model. The results suggest that competency, leadership, and organizational factors have a positive and significant effect on the CSR sophistication of a business. Competency, assessed by training, exhibited the highest and most consistent impact of the drivers across all assessments. These results are especially pertinent for businesses that are just starting to embrace CSR, as well as those with low levels of CSR sophistication. They also imply that late adopters are driven more by external pressures, such as regulations, and the need for legitimacy. Furthermore, the study suggests that companies can increase the sophistication of their CSR practices if they work on the factors this study identifies.

2 | THEORETICAL FOUNDATION

2.1 | CSR implementation and CSR sophistication in diffusion theory

While there are multiple context-specific definitions of CSR (Dahlsrud, 2008), it is generally understood as a practice in which companies incorporate social and environmental factors into their operations and interactions with stakeholders on a non-binding basis, promoting the ability of future generations to meet their own needs. This study understands CSR as a management practice because it is a series of practices managers use to enact sustainability (Shapiro, 2016). To be successful, CSR must be integrated into all corporate levels and processes (Asif et al., 2013). The diffusion of CSR practices within an organization follows the principles of organizational learning and adaptation, where new ideas or practices are adopted incrementally across various departments and management levels. This dissemination is not linear; it often involves feedback loops where practices are refined as they move through the organization (Ansari et al., 2010).

This study considers CSR *implementation* to encompass both adoption and sophistication. We explore the idea that companies may utilize different levels of *sophistication* when it comes to implementing CSR practices, rather than simply *adopting* or not adopting them in a binary fashion (Ansari et al., 2010; Etzion, 2014). This diffusion-theoretic perspective allows for a more comprehensive understanding of the CSR practices employed by companies than the simple

dichotomy of adoption and non-adoption (Ansari et al., 2010). According to Ansari et al. (2010), practices face greater variations if they are complex, divisible, and widely interpretable—and CSR is a relatively complex practice (Asif et al., 2013). As a result, variations in its drivers should disproportionally affect differences in CSR sophistication. Cetindamar (2007) notes that while companies may formally commit to seemingly clear and strictly defined CSR initiatives such as the UN Global Compact, their actual practices often vary significantly. These variations remain largely undetected by most research because such initiatives are grouped under the same overarching name. Crilly et al. (2012) present a nuanced perspective and challenge a binary view of adopters versus non-adopters by showing that companies may engage in CSR practices through varied strategies. Babiak and Trendafilova (2011) add that pressures to adopt CSR practices differ significantly across industries and geographies, reinforcing the argument that the distinction between adopters and non-adopters oversimplifies the complex dynamics of CSR. Further, Colucci et al. (2020) underscore that companies often exhibit a discrepancy between CSR talk and walk, reinforcing that a simple adoption/non-adoption framework fails to capture the varying degrees of CSR sophistication. This fits the empirical findings that companies implement CSR in unique ways (Campbell, 2007). Moreover, CSR is widely interpretable, as it needs to be adapted to the corporate contexts and strategic objectives (Dahlsrud, 2008). Last, different organizational factors are shown to lead to different levels of CSR implementation (Darnall et al., 2010).

The implementation of CSR practices is often measured by environmental, social and governance (ESG) scores, which provide a composite evaluation of a company's environmental, social, and governance performance (Bauckloh et al., 2021; Refinitiv, 2021). In their text-mining review, Park et al. (2023) explain that while CSR focuses on a company's broader societal responsibilities, ESG provides clear measures to assess corporate behavior across environmental, social, and governance domains (Damtoft et al., 2024). The authors highlight that although CSR is more qualitative, ESG scores quantify company actions, making them a useful proxy for CSR sophistication in empirical studies. Empirically, companies with higher ratings have demonstrated more sophisticated CSR strategies. Bauckloh et al. (2021) provide empirical evidence showing that signatories of the UN PRI significantly improve their ESG integration post-signing. The authors conclude that higher ESG scores are indicative of a company's genuine commitment to CSR. Their study also highlights that early adopters (signatories) tend to implement more robust CSR strategies. Eccles et al. (2014) also support this connection, demonstrating that companies with higher ESG scores also tend to develop distinct governance structures and long-term orientations that improve their performance on CSR-related metrics over time. Kölbel et al. (2020) affirm that ESG scores are not only a reflection of a company's current CSR practices but also play a pivotal role in influencing investment decisions that can further encourage companies to enhance their social responsibility efforts.

We would like to further clarify the relationship between our construct of *CSR implementation* (adoption and sophistication) that we measure with manifest data (ESG score) and further literature that employs ESG scores as a measure of sustainability/CSR *performance*, which we would consider the outcome of a successful *CSR implementation*. We view ESG scores as a measure of the CSR practices implemented by listed companies, rather than as a direct measure of their overall performance. The performance of these companies is the attainment of their corporate purpose/strategies. Performance is not explicitly measured in diffusion theoretical studies since the research objective is understanding the *fit* with the company (Ansari et al., 2010).[1]

2.2 | Framework for drivers of CSR implementation

Following the advice of Ansari et al. (2010), it is essential to determine company-specific drivers that may facilitate the implementation of a practice. The framework proposed by Bertram et al. (2015) serves as a basis to study the sophistication of practices, particularly in the public services sector, health-related academic settings (Damschroder & Hagedorn, 2011), and the implementation of innovations (Bertram et al., 2015).

This framework can be applied to research on CSR as an innovative management practice that leads to change within companies. The framework has three main components: competency, leadership, and organizational drivers. The competency drivers refer to staff selection, training, coaching, and performance assessment meant to develop the knowledge, skills, and capacity necessary for successful implementation of new concepts (Bertram et al., 2015). The leadership drivers distinguish between technical and adaptive implementation challenges based on clarity and consensus concerning the problems and solutions (Bertram et al., 2015). Finally, the organizational drivers create an environment that offers resources for administration, funding, policy, and the processes required for competency-building (Bertram et al., 2015). The framework and its constructs are illustrated in Figure 1.

2.3 | A diffusion theory approach: How practices spread, and change as they do

Our approach to understanding the drivers of CSR sophistication builds on diffusion theory. *Diffusion* is defined as "the process by which an innovation is communicated through certain channels over time among members of a social system" (Rogers, 1983, p. 5). Diffusion theory explains the patterns through which innovations or innovative practices spread among adopters within a field of practice (Abrahamson, 1991; Rogers, 1983). However, there is a lack of recognition of how practices vary among adopters throughout the diffusion

[1]As examples of such ontologically different studies in related fields, Mishra (2017) highlights the impact of post-innovation CSR performance on firm value, focusing on the tangible outcomes of CSR initiatives. Wang et al. (2018) examine the readability of CSR reports as an indicator of CSR performance, showing how clear communication affects the perceived effectiveness of CSR activities.

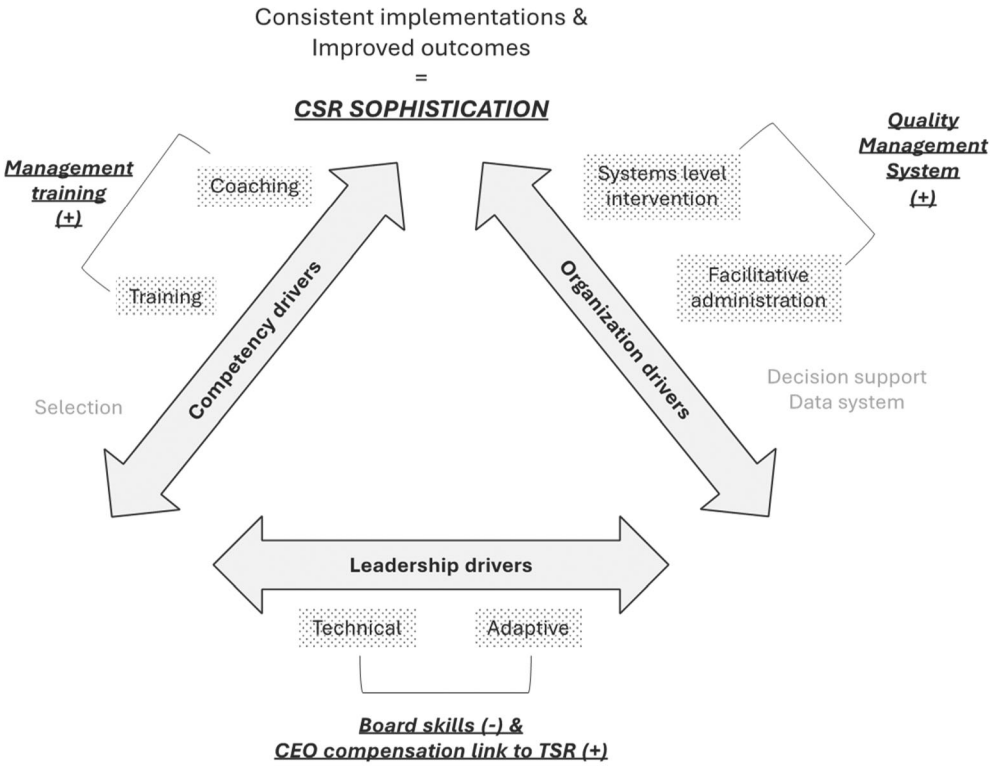

FIGURE 1 Implementation drivers according to Bertram et al. (2015). Adapted to corporate social responsibility (CSR) sophistication.

Underlined factors are added to the original framework by the authors

process (Strang & Macy, 2001). Rogers (1983) has proposed that the diffusion of a practice is influenced by both supply side (referring to the characteristics of the practice and its communication channels) and demand-side (encompassing organizational demands and prevailing conditions) factors.

A substantial body of research in diffusion theory has aimed to understand the motivations underlying the initial adoption of practices among companies (Fiss & Zajac, 2004). Rational accounts emphasize potential economic benefits from the adoption of a practice, while social accounts prioritize the attainment of legitimacy (Abrahamson, 1991; Ansari et al., 2010; Strang & Macy, 2001; Tolbert & Zucker, 1983). Early studies suggested a connection between adoption time and the motives for adoption (Ansari et al., 2010; Rogers, 1983; Tolbert & Zucker, 1983), with early adopters being motivated by rational accounts and late adopters by social accounts (Ansari et al., 2010; Tolbert & Zucker, 1983). More recent studies, however, have suggested that both rational and social motivations coexist during each stage of the diffusion process (Ansari et al., 2010; Kennedy & Fiss, 2009).

A complementary stream of diffusion research examines how adopted practices diffuse within adopters, and how this translates into differences in sophistication. Ansari et al. (2010) clarify that diffusion theory explains how practices do not remain static as they diffuse but are instead subject to variations and adaptations within organizations based on the fit between the practice and the adopting organization's technical, cultural, and political dimensions. This dynamic fit is what drives different levels of CSR sophistication, as organizations adapt CSR practices in ways that best align with their specific internal and external contexts (Ansari et al., 2010; Lueg & Carvalho e Silva, 2022). Thereby, we apply the *compatibility* in our framework to explain CSR sophistication (Ansari et al., 2010). The demand-side factors, such as organizational needs, objectives, and prevailing structures, are volatile and adjustable among corporations adopting CSR. Building on this base of diffusion theory, Ansari et al. (2010) outline three drivers that affect the demand-side fit: (i) technical, (ii) cultural, and (iii) political influences.

We began our exploration by considering the theoretical concepts of technical fit, cultural fit, and political fit. These concepts provided a foundational basis for examining the diffusion of practices, as demonstrated in the works of Etzion (2014) and Lueg and Carvalho e Silva (2022). To build on this foundation, we turned to Bertram et al. (2015) whose framework complements and operationalizes these concepts. By integrating Bertram et al.'s (2015) approach, we were able to investigate practice sophistication more effectively. This integration has been particularly useful in analyzing practice sophistication, as seen in the studies by Aarons et al. (2011), and Damschroder and Hagedorn (2011). First, the technical fit describes the compatibility of the practice with existing technologies in the company (Ansari et al., 2010). Tarí (2011) suggests that a stakeholder focus could be sharpened through the implementation of management practices, a view which aligns with the definition of organizational drivers in Bertram et al.'s (2015) framework. Second, cultural fit describes the compatibility of a practice with the cultural values, beliefs, and extant practices of potential adopters (Ansari et al., 2010). Sendlhofer (2020) demonstrates that when employees possess a shared knowledge of

the moral obligation of CSR, they may promote CSR initiatives within the company. This is congruent with the competency driver proposed by Bertram et al. (2015), which seeks to induce behavioral transformation among employees through training and mentoring. Third, political fit refers to the alignment of a practice's implicit or explicit norms with the interests and agendas of potential adopters. Du et al. (2013) discovered that a higher proportion of transformational leadership among managers was associated with a positive effect on CSR. This is also consistent with Bertram et al.'s (2015) framework, which suggests that an open leadership style (adaptive leadership) is necessary to effectively respond to a practice that is influenced by uncertainty.

2.4 | Hypothesis development

2.4.1 | Competency drivers

According to Bertram et al. (2015), four competency drivers foster the sophistication of a practice: staff selection, training, coaching, and performance assessment. Staff selection involves recruiting people with necessary skills that are difficult to teach, while training and coaching equip existing staff with appropriate soft- and hard-skills. The implementation of CSR relies on providing existing staff with the necessary skills and competencies (Bertram et al., 2015). The training and coaching components are the primary drivers of this (Sult et al., 2024). Larrán Jorge et al. (2016) outline that regular training programs are key to successful CSR implementation, as they ensure that managers have the requisite competencies to enact innovations. González-Ramos et al. (2023) show relationships between knowledge management exploration and social and environmental CSR, as well as knowledge management exploitation and economic CSR. Performance assessment, meanwhile, ensures continuous monitoring for further improvement (Bertram et al., 2015).

The literature suggests that training alone is not sufficient to develop staff confidence and competence related to practice (Fixsen et al., 2009). While training provides employees with basic knowledge and skills, confidence in their application comes through on-the-job coaching (Sult et al., 2024). Coaching and monitoring also ensures that skills are maintained and further developed (Bertram et al., 2015). Managers who are responsible for developing talent act as coaches (Sult et al., 2024). They must motivate their staff to achieve the company's strategic goals and create a positive work environment in which employees can obtain the required skills (Ghobadian et al., 2007). To this end, managers must have the coaching skills necessary to guide staff through a CSR implementation (Sult et al., 2024). Therefore, the following hypothesis is proposed:

> **Hypothesis 1.** *The provision of leadership training positively and significantly influences CSR sophistication.*

2.4.2 | Leadership drivers

The strategic decisions of a company are largely determined by its leadership team, and this is especially relevant when considering the firm's engagement in CSR (Schuhmacher et al., 2022). Top management teams (TMTs) typically consist of the two highest levels of management within a company (Finkelstein & Hambrick, 1996). Leadership orientation has a direct effect on strategic decision-making (Hambrick & Mason, 1984), making it important to consider the characteristics of TMTs with respect to CSR sophistication.

Research has demonstrated that demographic differences in TMTs have an effect on the adoption of management practices, strategic change, and decision-making in a company (Jensen & Zajac, 2004; Schuhmacher & Burkert, 2022). This is due to the fact that these differences shape the mental models of these managers, which, in turn, shape beliefs about corporate purpose and if implementations are feasible (Fiss & Zajac, 2004). Mental models are continually adjusted in response to learning (Burkert & Lueg, 2013) and studies suggest that the educational background of executives can influence CSR. Manner (2010) documented that a CEO with a bachelor's degree in economics has a negative association with CSR. Prabowo et al. (2017) found that the positive effect of a higher education on CSR disclosure lessened when directors held an MBA or had an educational background in accounting or economics. Godos-Díez et al. (2015) showed that students exposed to management theories were less likely to consider stakeholder interests. Sobczak et al. (2006) discovered that business school graduates viewed shareholders as the most important group of stakeholders. It is suggested that business schools promote self-serving interests that prioritize financial sustainability over broader CSR (Alajoutsijärvi et al., 2015). Research indicates that business students tend to be less cooperative than their counterparts from other academic fields (e.g., Boone et al., 1999), displaying a more individualistic attitude (Wei et al., 2018). Additionally, economic education is thought to be inadequate in terms of considering the implications of CSR (Arce, 2004). Given the entrenched emphasis on shareholder value in economics, it is likely that how a strong financial background shapes the beliefs of TMTs makes them less likely to embrace CSR initiatives (Fiss & Zajac, 2004).

In addition to educational background, Hambrick and Mason (1984) and Manner (2010) suggest that the prior professional experiences of TMTs in the industry are significant factors in determining their willingness to adopt CSR. Manner (2010) suggests that CEOs with broader career experiences are more likely to engage in proactive CSR, while those with narrower expertise, such as a degree in economics, tend to exhibit lower levels of proactive CSR. Carpenter et al. (2004) suggest that TMTs with diverse industry experiences are more open to strategic change, while those with single-industry expertise may be less adaptable to new initiatives. Boone and Hendriks (2009) propose that TMTs with diverse functional backgrounds are more likely to engage in high-quality decision-making and improve firm performance due to the variety of their expertise. Furthermore, Musteen et al. (2006) find that directors with external work experience are more open to change and possess greater adaptive leadership skills. These findings are further supported by Mazutis (2014), who reveal that a broader range of functional experiences is associated with a higher adoption of CSR initiatives over time. Thus, directors with an industry-specific background, who typically have more undiversified

work experiences, may be less likely to implement CSR. We hypothesize:

> **Hypothesis 2a.** ***A financial or industry-specific background of the board negatively influences CSR sophistication.***

Although executives often develop mental and behavioral models that do not prioritize CSR, companies can leverage reward systems to incentivize desired behavior (Profitlich et al., 2021). Prior research shows that variable and long-term oriented compensation components (Profitlich et al., 2021; Schuhmacher et al., 2022) can play a role in steering executives toward CSR, although the financial benefits for the firm associated with CSR actions, such as reduced risks of legal and social sanctions, improved access to resources, and increased capability to acquire employees, customers, and suppliers can take time to develop (Schuhmacher et al., 2022). If executives view CSR as a tool for long-term financial performance improvement, variable compensation linked to long-term financial objectives should encourage more sophisticated CSR. We hypothesize:

> **Hypothesis 2b.** A variable long-term incentivized CEO compensation structure positively influences CSR sophistication.

2.4.3 | Organizational drivers

Quality management systems (QMS) can be seen as a significant facilitator for the refinement of CSR. Bertram et al. (2015) explored organizational drivers which may support the sophistication of a new practice. Their work finds that it requires the implementation of a management practice that aligns with CSR. Research conducted by Fisscher and Nijhof (2005), Ghobadian et al. (2007), Larrán Jorge et al. (2016), McAdam and Leonard (2003), and Waddock and Bodwell (2004) shows that QMS are similar to CSR in multiple ways. In particular, they share foci on stakeholders and corporate conduct/business ethics. This is for two reasons.

First, facilitative administration plays a key role in ensuring that existing policies, processes and working conditions are compatible with new practices (Bertram et al., 2015). CSR requires operations to be tailored to meet the needs of stakeholders (Tarí, 2011). The implementation of a QMS necessitates an assessment of socially responsible behavior, which is an important element of both environmental and social performance (Tarí, 2011). Moreover, a QMS should include process evaluation to ensure production accuracy and efficiencies (Tarí, 2011). This may support companies in creating environmental management practices (Lueg & Radlach, 2016), big data analytics (Choi & Park, 2022), and a waste management system (Hassan, 2013).

Second, the availability of data is essential to increase the impact of CSR. Data-driven decision-making is fundamental for effective management practices, as highlighted by Bertram et al. (2015). Within this context, companies that have adopted a QMS such as Six Sigma are more easily able to generate the data necessary for identifying leverage points for the implementation of CSR (Ghobadian et al., 2007). We hypothesize:

> **Hypothesis 3.** *The prior implementation of a QMS positively and significantly influences CSR sophistication.*

2.4.4 | Timing influences

Bertram et al. (2015) suggest that timing affects the implementation of practices. This is in line with diffusion theory (Ansari et al., 2010). According to Strang and Macy (2001) and Tolbert and Zucker (1983), later adopters are motivated by sociology and earlier adopters by economics when adopting a practice. Bauckloh et al. (2021) indicate that early adoption is often linked to higher practice sophistication, while later adopters may be more interested in gaining a better reputation without actually changing behaviors. Also, Wang and Sarkis (2017) propose that early adoption, driven by economic motives, links to higher sophistication. We hypothesize:

> **Hypothesis 4a.** *The effects of organizational drivers on CSR sophistication will be stronger for early adopters.*

Late adoption of CSR strategies may be a more viable option for companies than early implementation, as it can result in financial savings (Fiss & Zajac, 2004; Lueg & Carvalho e Silva, 2022; Tolbert & Zucker, 1983). Additionally, it may still be received favorably by the stock market (Fiss & Zajac, 2006). These companies are aiming for legitimacy in the field, achieved via their branding and image, stakeholder relations, or improved organizational culture and are less likely to repeat the mistakes of early implementers. Furthermore, the low level of regulation surrounding CSR implementations allows companies to espouse CSR at a symbolic level (Kolk & Tsang, 2017). Tolbert and Zucker (1983) suggest that this could be an effective way for companies to reap the benefits of a practice without the associated costs. We hypothesize:

> **Hypothesis 4b.** *The effects of the investigated implementation drivers on CSR sophistication will be stronger for companies with a low CSR sophistication.*

3 | RESEARCH DESIGN

3.1 | Sample selection

To answer the research question, a sample of CSR adopters differing in CSR sophistication is required. Since an international sample is likely to fulfill these criteria (Matten & Moon, 2008) the sample selection is based on companies listed in the STOXX 1800 Index. CSR sophistication substantially varies among the selected companies on a scale from 0 to 100 from minimum 0.47 to a maximum of 95.21 with a mean of 53.11 and a standard deviation of 20.20 (Table 1).

TABLE 1 Descriptive and correlation statistics.

		Source	Mean	SD	Min	Max	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)	ESG_Score	TR.TRESGScore	53.11	20.20	0.47	95.21	1.000										
(2)	Mgmt_Training	TR.MgtTraining	0.61	0.49	0	1	0.522 ***	1.000									
(3)	Board_Spec_Skills	TR.AnalyticBoardSpecificSkills	54.34	23.87	0	100	−0.199 ***	−0.161 ***	1.000								
(4)	QMS	TR.SixSigmaQMS	0.21	0.41	0	1	0.226 ***	0.181 ***	−0.057 ***	1.000							
(5)	CEO_Comp_TSR	TR.CEOCompTSR	0.46	0.50	0	1	0.204 ***	0.041 ***	−0.037 ***	0.001	1.000						
(6)	FTE	TR.Employees	9.55	1.46	4.71	12.78	0.332 ***	0.231 ***	−0.113 ***	0.199 ***	−0.021 ***	1.000					
(7)	Board_Size	TR.CGBoardSize	2.35	0.28	1.61	3.04	0.162 ***	0.099 ***	−0.095 ***	0.055 ***	−0.099 ***	0.342 ***	1.000				
(8)	Tobin_Q	TR.CompanyMarketCap TR.TotalEquity	1.24	1.09	0.11	8.01	−0.073 ***	−0.106 ***	0.005	0.012	0.055 ***	−0.136 ***	−0.221 ***	1.000			
(9)	Leverage	TR.TtlDebtToTtlEquityPct	72.59	58.57	0.11	280.19	0.067 ***	0.029 ***	−0.040 ***	−0.041 ***	0.095 ***	0.064 ***	0.133 ***	−0.254 ***	1.000		
(10)	Blockholder	NOSHIC	5.45	6.97	0	32	−0.133 ***	−0.140 ***	0.055 ***	−0.043 ***	0.174 ***	−0.163 ***	−0.172 ***	0.154 ***	0.018 **	1.000	
(11)	GDP	World Bank	10.76	0.24	9.08	11.42	0.083 ***	0.004	−0.029 ***	0.026 ***	0.284 ***	−0.028 ***	−0.163 ***	0.145 ***	0.015 **	0.149 ***	1.000

Note: This table displays the summary statistics (mean, standard deviation, minimum, maximum) for the investigated variables. Financial institutions are excluded from the sample resulting in 17,848 firm-year observations for all variables. In the following columns, Spearman's rank correlation coefficients of the variables in the descriptive statistics are shown. FTE, Board Size, and GDP are winsorized at the 1% and 99% level and logarithmized. The variable Blockholder is only winsorized at the 1% and 99% level. Due to severe outliers Leverage is winsorized at the 5% and 95% level. The variables are defined as follows: ESG_Score = Combined company score based on the self-reported information in the environmental, social and governance pillars; Mgmt_Training = Binary variable which is marked as one when the company claims to provide regular staff and business management training for their managers; Board_Spec_Skills = Percentage of board members who have either an industry-specific background or a strong financial background; QMS = Binary variable which is marked as one if the company applies quality principles; CEO_Comp_TSR = Binary variable which is marked as one when the CEO's compensation is linked to total shareholder return; FTE = Ln of the number of full-time equivalent employees; Board_Size = Ln of the total number of board members; Tobin_Q = Market capitalization of a firm divided by its assets replacement costs which are simplified as the equity book value (ratio); Leverage = Ratio of total debt to total equity; Blockholder = The percentage of shareholdings of 5% or more held as long-term strategic holdings by investment banks or institutions; GDP = Ln of the economic output of a nation per person. A time lag of 1 year is applied to all variables except for the ESG score.

Companies that have entered or left the Index are included as well to mitigate survivor bias. By including only listed companies, the sample is homogeneously comprised of large corporations. The timeframe of the study was chosen as 2002 to 2020, as complete ESG scores were available for this period at the time of data retrieval. The initial sample consisted of 52,726 company-year observations. Thereafter, observations with missing values and financial institutions (including insurances and banks) were deleted. To reduce the influences of outliers, the variables were winsorized. The final sample consisted of 1919 individual companies with 17,848 company-year observations. The sample distribution was balanced among the continents of the Americas, Asia and Oceania, and Europe.

3.2 | Dependent variable and independent variables

In accordance with prior research measuring implementation behavior (Bauckloh et al., 2021), the dependent variable *CSR sophistication* was proxied by the Refinitiv ESG score, available in the Thomson Reuters ASSET4 database. This relative score scales from 0 to 100, comparing a company's performance to its industry peer group (Refinitiv, 2021).[2]

This study draws on four independent variables retrieved from the Eikon Database. To account for the competency driver, training and coaching, the variable *management training* was examined. It is a binary variable, taking the value one if the company provides regular training to their managers, and zero otherwise. A company is considered to provide management training if it offers training to managers on how to lead teams and handle processes, and if it offers mentoring programs for, as yet, non-managerial staff. In line with Larrán Jorge et al. (2016), such training is designed to managers with the leadership skills and coaching competencies necessary to implement CSR. We examined two variables to measure leadership drivers. First, we used the variable *board skills* which measures the percentage of board members who have either an industry-specific or a distinctive financial background. It is a proxy for the board's openness to change and thus its inclination toward CSR. Second, to account for a long-term incentive in the *compensation structure* of the TMT, a link of the CEO's compensation to total shareholder return (TSR) was included. This is a binary variable, which is assigned the value one if the CEO's compensation is linked to TSR, and zero otherwise. We chose TSR as prior studies find that CSR is positively associated with the market value of a company (Ademi & Klungseth, 2022) and TSR (Lueg & Pesheva, 2021). Last, we included the binary variable *QMS* which takes the value one when the company applies a quality principle such as Six Sigma or Total Quality Management, and zero otherwise.

[2]Unlike the ESG database of its rival Bloomberg, Refinitiv does not measure CSR *reporting* but rather externally observable indicators of CSR *practices*. Companies with Refinitiv ESG scores are thus thought to espouse more sophisticated CSR (Clément et al., 2023). In the systematic literature review by Clément et al. (2023), the authors elaborate on the differences between Refinitiv and Bloomberg ESG scores. Refinitiv scores rely on comprehensive datasets that capture externally verifiable CSR outcomes, making it a more robust tool for assessing CSR. In contrast, Bloomberg's approach is seen as more dependent on self-reported data from companies, which can sometimes lead to selective or inflated reporting. Clément et al. (2023) highlight that Refinitiv's broader range of metrics reflect CSR implementation, while Bloomberg's database rather offers CSR reporting.

3.3 | Control variables

We chose control variables that have been associated with CSR sophistication in diffusion studies. Our study controls for company-specific, board-specific, investor-related, and institutional-related influences. As larger companies are more visible and hence face more external pressure to engage in CSR, we included company *size*, proxied by the natural logarithm of the number of full-time employees (Läger et al., 2022). To control for the influence of the company's past performance, the market-based performance measure *Tobin's Q* was incorporated. It is calculated by dividing a company's market capitalization by its equity book value. Moreover, the *leverage ratio* of the companies was employed, calculated as the ratio of total debt to total equity. Companies with a high-leverage ratio face lower free cash flows, indicating fewer funds to finance CSR activities (Sun et al., 2020). To account for board-related effects, we included the natural logarithm of the number of *board members*. It is expected that a higher number of board members will be associated with a greater diversity of opinions, leading to an increased likelihood that the board considers CSR to be important (Beji et al., 2021). To account for investor influences, the *investor concentration* was controlled by including the percentage of blockholders (holding 5% or more in shares). Thereby, the cumulative power and long-term orientation of those shareholder groups are accounted for (Burkert & Lueg, 2013; Fiss & Zajac, 2004). Since benefits of CSR only materialize in the long run, long-term institutional investors are expected to motivate companies to engage in CSR (Kim et al., 2019). The institutional pressure for CSR varies largely across different countries, therefore the gross domestic product (*GDP*) per capita was included: it is anticipated that wealthier countries will be found to exert more pressure on corporations to engage in CSR (Lim & Tsutsui, 2012). All control variables were retrieved from the Eikon database except for GDP, which is available on the World Bank website (Worldbank, 2022).

3.4 | Regression model

We test the hypotheses with a fixed effects regression on the panel data, using the following model:

$$\begin{aligned} ESG\_Score_{i,t} = {} & \beta_0 + \beta_1 Mgmt\_Training_{i,t-1} + \beta_2 Board\_Skills_{i,t-1} \\ & + \beta_3 QMS_{i,t-1} + \beta_4 CEO\_Comp\_TSR_{i,t-1} + \beta_5 FTE_{i,t-1} \\ & + \beta_6 Board\_Size_{i,t-1} + \beta_7 Leverage_{i,t-1} \\ & + \beta_8 Tobin\_Q_{i,t-1} + \beta_9 Blockholder_{i,t-1} \\ & + \beta_{10} GDP_{i,t-1} + \sum \gamma_{year} + \epsilon_{i,t}. \end{aligned}$$

In the regression equation $\sum year,i$ represents the time-fixed effects, while ε is the error term. To account for the time delay in information incorporation and to rule out endogeneity concerns, a 1 year time lag was included for all independent and control variables. The Breusch-Pagan-Lagrange-Multiplier-test suggests that heteroscedasticity is present. Furthermore, the Hausman test suggests a fixed

effects model. This appears sensible as the influence of internal company drivers of ESG scores are sensitive to time-constant effects, such as organizational culture and industry membership. To reduce time-invariant omitted variables year-, country-, and industry-fixed effects were applied. To adjust for the detected heteroscedasticity and autocorrelation, clustered robust standard errors were included in the model, employing the Huber White–Sandwich estimator (Wooldridge, 2020). We assessed the variance inflation factor (VIF) of the independent variables as an indicator for their multicollinearity. VIFs do not exceed 2.00 for any of the given variables, providing evidence for a minimal impact of multicollinearity (Wooldridge, 2020). Even though all relevant variables identified by prior literature were included in the model, the Ramsey test indicates a model misspecification. We expected this, since research on CSR is nowhere close to presenting a comprehensive model of all the factors that drive its sophistication. Even some of the highest-quality prior studies, despite their significant contributions to the field, have not fully acknowledged the potential for omitted variable bias, which can lead to model misspecifications and underestimations of key drivers in CSR research. The large sample and the absence of severe outliers (due to our winsorizing) suggest normality in the data (Wooldridge, 2020).

To test H1–H3, we employed the ESG score of the full sample. To examine H4a and H4b, we divided the data into sub-samples of early, middle, and late adopters. To examine H4a and H4b, we divided the data into sub-samples. To test H4a (the influence of adoption time), the sample was grouped according to the year the company received its first ESG score. Adoption phases were clustered into years before 2005 (early adopters), between 2006 and 2014 (middle adopters), and 2015 onwards (late adopters). Since a substantial increase in the number of companies receiving an ESG score is visible after 2004, companies receiving an ESG score before 2005 are considered early adopters. Also, a rising number of articles in the business press containing the word CSR during that time indicates the growing importance of CSR in the early years of the new millennium (Grafström & Windell, 2011). In 2006, the UN Principles for Responsible Investment were launched (Bauckloh et al., 2021). As one of the first global initiatives fostering the implementation of CSR, they mark the starting point for the middle adopters until the year 2015 as afterwards the Paris Agreement comes into place. During this time, CSR became a more publicly recognized practice (Clémençon, 2016). Thus, all corporations adopting CSR after 2015 are considered late adopters.

To investigate H4b, which explores whether the level of CSR influences CSR sophistication, an ESG portfolio analysis was conducted. Companies were ranked into three groups based on their annual ESG performance: best, middle, and worst CSR sophistication. The classification into these groups was based on the distribution of ESG scores, where we ranked companies into tertiles. The top tertile represented the "best" CSR performers, the middle tertile comprised the "middle" performers, and the bottom tertile represented the "worst" performers. This method of classification ensures that each group represents a third of the sample, offering an equal and objective basis for comparison across years. The thresholds for these tertiles were recalculated annually to account for any shifts in overall ESG performance trends, ensuring consistency in classification over time.

4 | RESULTS

4.1 | Descriptive statistics and correlation analysis

We observe a continuous increase in ESG scores since their initial publication. The number of sample companies receiving an ESG score per year increases by 263%—from 633 companies in 2002 to 2295 companies in 2020 (Figure 2, Panel A). Moreover, a steady increase in the average score is observable, from 33.93 in 2002 to 61.18 in 2020 (Figure 2, Panel B).

Table 1 presents the correlation matrix. The independent variables management training, QMS, and TSR-based CEO compensation are positively correlated with the ESG score at the 1% significance level. The correlation between the ESG score and board skills is negative and significant at the 1% level.

4.2 | Regression results

The results of the fixed effects regressions of the full sample are presented in Table 2. The explanatory power of the model including all variables (full model) has an R^2-within of 0.52 which is considered high in this field (Schreck & Raithel, 2018). It shows a positive and significant relationship of management training (4.283; $p < 1\%$), CEO compensation linked to TSR (2.241; $p < 1\%$) and QMS (3.254; $p < 1\%$) with the ESG score. All three variables show significances at the 1% level. This indicates that companies with existing management training programs, CEO compensation linked to TSR, and QMS in place appear to have a more sophisticated CSR, supporting H1, H2b, and H3. The variable board skills show a positive and significant influence on the 5% level. Thus, the results do not provide support for H2a. However, the size of the coefficient (0.014; $p < 5\%$) indicates a practically negligible influence.

To measure the intensity of the observed relationships and to confirm the practical relevance of the results, the effect sizes of the variables are calculated following Wooldridge (2020) (see Table 1). The effect size of management training is the largest of all independent variables and above the threshold of 0.02, indicating a small influence (Cohen, 1992). In contrast, the effect sizes of the remaining independent variables are below the threshold of a small influence, which indicates that, while they display a statistically significant influence, they are not of practical relevance. The effect size of 0.317 for the yearly dummy indicates a medium influence, as it is above the threshold of 0.15 (Cohen, 1992). Time of adoption, and thereby diffusion theory, explains a considerable amount of the effects on ESG.

To test H4a and H4b, a regression on sub-samples was performed. The detailed results of the analysis are presented in Table 2. For the adoption time, the effect of management training on the ESG score is positive and significant throughout all groups, consistent with prior findings and H1. However, the effect for the group of late adopters is only significant at the 5% level. The same applies for the CEO compensation linked to TSR, which loses significance in the group of late adopters (2.256, $p < 5\%$). For the other variables, the

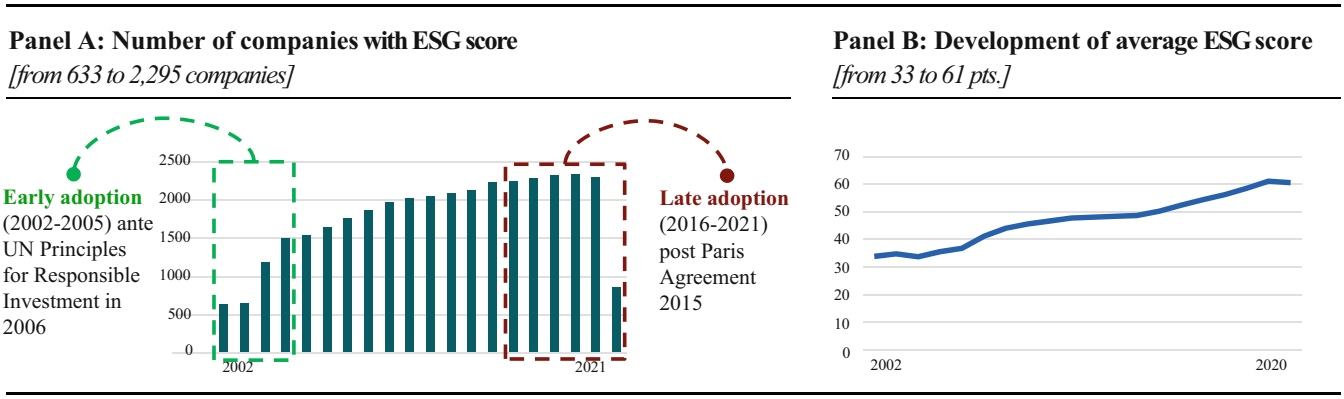

FIGURE 2 Development of adopters and average environmental, social and governance (ESG) scores among these adopters.

effects found in the full model are not consistent for late adopters, as board skills (0.033, not sig.) and QMS (0.410, not sig.) differ in significance and size. However, the overall results hold for early and middle adopters, providing evidence in support of H4a.

For the portfolio analysis, the previously observed results only persist for the companies in the worst ESG portfolio. Management training (3.028; $p < 1\%$), QMS (2.617; $p < 1\%$), and CEO compensation linked to TSR (1.732; $p < 1\%$) exert a positive and highly significant influence on CSR sophistication, while board skills is insignificant but still positive. For companies in the best performing portfolio, QMS (0.783; $p < 10\%$) is the only variable that is significant, however only at the 10% level. Overall, H4b can be confirmed.

4.3 | Robustness checks

We conducted robustness checks to confirm the results. First, to identify uncorrelated influences of the respective independent variables on CSR sophistication, each independent variable was analyzed in a separate model (see Table 3). Thereby, both the significance level and the size of the influences and the R^2-within remain stable. For the control variables, the positive and significant impact of FTE ($p < 1\%$) remains. Moreover, GDP has a highly significant and positive impact throughout all models, indicating higher average CSR sophistication for companies with headquarters in wealthier countries. In addition, the full model is tested without the control variables. The findings show that adding control variables does not change the results significantly.

Second, for verification purposes the regression was re-estimated using the separate environmental, social, and governance pillar scores provided by Refinitiv through the Eikon Database as the dependent variable. Table 3 displays the detailed results of the three models. The variable management training shows the largest positive influence on the environmental pillar (E-Pillar) (5.905, $p < 1\%$). QMS has the largest positive impact on the social pillar (S-Pillar) (5.187, $p < 1\%$) while CEO compensation linked to TSR (5.289, $p < 1\%$) and board skills (0.053, $p < 1\%$) have the largest positive influence on the governance pillar (G-Pillar). In contrast to the results of the main model, the variable board skills have a slightly negative coefficient on the S-Pillar (−0.003, not sig.), but without being significant, which is also the case for the E-Pillar (0.002, not sig.). Thus, the effect of the influence on the combined ESG score is mainly driven by the G-Pillar. The missing significant influence of the board on the E- and S-Pillars is also confirmed by the control variable board size, which is only significant for the G-Pillar (−3.219, $p < 5\%$). The results of the control variable FTE are consistent, while for GDP the E-Pillar drives the overall results (15.546, $p < 1\%$).

Third, controlling for a regional bias in the data, the sample was divided geographically by continents. The results display a stable influence of the main variables across all continents (see Table 3).

5 | DISCUSSION

5.1 | Contributions to theory

This study contributes to theory by, first, giving evidence that diffusion theory might be applicable to CSR sophistication. Findings demonstrate how demand-side factors, specifically the technical, cultural, and political fit (Ansari et al., 2010) shape CSR sophistication (Du et al., 2013; Sendlhofer, 2020; Tarí, 2011). Moreover, the finding that internal company drivers apply especially for early adopters supports the conception that early adopters' motives are primarily rational (Abrahamson, 1991; Strang & Macy, 2001; Tolbert & Zucker, 1983). It also substantiates the assumption that economic benefits can mainly be realized through a thorough implementation (Wang & Sarkis, 2017). This is in line with findings of early adopters profoundly implementing CSR (Bauckloh et al., 2021). However, the company size measured through the control variable FTE, which is a proxy for stakeholder pressure, is found to positively influence CSR sophistication primarily for early and middle adopters. This indicates that both motivational explanations co-exist at every stage of the diffusion process (Ansari et al., 2010; Kennedy & Fiss, 2009). Nonetheless, further supporting research is needed to verify these implications, especially in light of the controversially discussed measure company size (Läger et al., 2022).

TABLE 2 Fixed effects regression analysis.

	Full sample		Adoption time			Portfolio analysis		
	Full model	Effect sizes	ESG_Early_Adopters	ESG_Middle_Adopters	ESG_Late_Adopters	ESG_Worst	ESG_Middle	ESG_Best
Mgmt_Training	4.283 *** (0.398)	0.023	4.002*** (0.539)	4.294*** (0.598)	3.649** (1.494)	3.028*** (0.443)	1.243 *** (0.268)	0.665 (0.464)
Board_Spec_Skills	0.014** (0.006)	0.001	0.008 (0.008)	0.025** (0.010)	0.033 (0.029)	0.008 (0.008)	0.011** (0.005)	0.003 (0.006)
QMS	3.254*** (0.484)	0.01	2.940*** (0.618)	3.919*** (0.775)	0.410 (1.800)	2.617*** (0.595)	1.025*** (0.333)	0.783* (0.440)
CEO_Comp_TSR	2.241 *** (0.381)	0.006	1.634*** (0.487)	2.966*** (0.631)	2.256** (1.132)	1.732*** (0.423)	0.335 (0.283)	0.052 (0.357)
FTE	3.199*** (0.470)	0.013	3.221*** (0.587)	2.212*** (0.833)	0.175 (1.554)	1.102** (0.498)	1.105*** (0.354)	1.093* (0.662)
Board_Size	−0.441 (0.861)	0.0002	−1.005 (1.050)	0.345 (1.467)	−0.949 (3.369)	−0.076 (0.926)	−0.541 (0.615)	−1.047 (0.787)
Tobin_Q	0.254 (0.214)	0.0004	0.332 (0.306)	0.056 (0.297)	0.812 (0.611)	0.119 (0.192)	0.281* (0.155)	0.243 (0.269)
Leverage	−0.002 (0.004)	0	−0.006 (0.005)	0.006 (0.006)	−0.001 (0.008)	0.003 (0.004)	0.003 (0.003)	−0.003 (0.004)
Blockholder	0.041* (0.022)	0.001	0.057** (0.028)	0.002 (0.039)	0.037 (0.085)	0.024 (0.020)	−0.018 (0.016)	0.047** (0.022)
GDP	7.199*** (1.418)	0.006	5.476*** (1.785)	10.500*** (2.293)	−2.563 (11.950)	5.064*** (1.761)	2.505** (1.096)	−0.359 (1.432)
Constant	−80.215*** (14.774)	n.a.	−57.471*** (19.015)	−105.034*** (23.643)	52.957 (127.947)	−48.468*** (18.576)	−5.473 (11.943)	46.231*** (15.232)
Year FE	Yes	0.317	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,848	17,848	10,769	6368	711	5955	5951	5942
Number of firms	1919	1919	913	748	258	1194	1260	890
Mean VIF	1.13	n.a.	1.13	1.14	1.18	1.13	1.11	1.10
R^2-within	0.517	n.a.	0.542	0.485	0.495	0.578	0.703	0.497

Note: The Table presents the results of the regression analysis including the variables presented in the descriptive statistics. Robust standard errors are displayed in parentheses, *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. The included variables are defined as follows: ESG_Score = Combined company score based on the self-reported information in the environmental, social, and governance pillars; Mgmt_Training = Binary variable which is marked as one when the company claims to provide regular staff and business management training for their managers; Board_Spec_Skills = Percentage of board members who have either an industry-specific background or a strong financial background; QMS = Binary variable which is marked as one if the company applies quality principles; CEO_Comp_TSR = Binary variable which is marked as one when the CEO's compensation is linked to total shareholder return; FTE = Ln of the number of full-time equivalent employees; Board_Size = Ln of the total number of board members; Tobin_Q = Market capitalization of a firm divided by its assets replacement costs which are simplified as the equity book value (ratio); Leverage = Ratio of total debt to total equity; Blockholder = The percentage of shareholdings of 5% or more held as long-term strategic holdings by investment banks or institutions; GDP = Ln of the economic output of a nation per person; ESG_Early_Adopters = ESG score of companies which received their first ESG Score before 2005; ESG_Middle_Adopters = ESG score of companies which received their first ESG score between 2006 and 2014; ESG_Late_Adopters = ESG score of companies which received their first ESG score 2015 onwards. ESG_Worst = ESG score of the third of the included companies with the worse ESG score; ESG_Middle = ESG score of the third of the included companies with the middle ESG score; ESG_Best = ESG score of the third of the included companies with the best ESG score. Year FE = Yearly fixed effects dummy. A time lag of 1 year is applied to all variables except for the ESG score. Effect sizes were calculated using the following formula. $f^2 = \frac{R_2^2 - R_1^2}{1 - R_2^2}$ stands for the variance explained for a model incl. the investigated variable, depicts the variance explained for a model without the investigated variable. The effect size can be interpreted as the share of variance explained by the given variable in proportion to the share of unexplained output variance. Thus, effect sizes constitute the influences of the variables included in the model.

TABLE 3 Robustness analyses.

	Separate influences					Pillar analysis			Continent analysis		
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	E-pillar	S-pillar	G-pillar	ESG_Asia_OCE	ESG_Americas	ESG_Europe
Mgmt_Training	4.504*** (0.382)	–	–	–	4.533*** (0.402)	5.905*** (0.573)	5.018*** (0.491)	1.660*** (0.582)	6.243*** (0.797)	4.059*** (0.617)	3.109*** (0.639)
Board_Spec_Skills	–	0.014** (0.007)	–	–	0.017*** (0.006)	0.002 (0.009)	−0.003 (0.008)	0.053*** (0.009)	0.025* (0.013)	0.014 (0.010)	0.017* (0.009)
QMS	–	–	3.640*** (0.491)	–	3.291*** (0.490)	2.024*** (0.706)	5.187*** (0.626)	1.531** (0.650)	3.754*** (1.006)	3.213*** (0.849)	3.050*** (0.670)
CEO_Comp_TSR	–	–	–	2.654*** (0.388)	2.524*** (0.390)	1.237** (0.579)	0.835* (0.481)	5.289*** (0.575)	2.314** (1.153)	2.520*** (0.537)	1.519*** (0.582)
FTE	3.026*** (0.452)	3.611*** (0.488)	3.068*** (0.454)	3.095*** (0.455)	–	5.034*** (0.720)	2.677*** (0.573)	2.796*** (0.693)	1.903** (0.854)	4.233*** (0.731)	2.561*** (0.739)
Board_Size	−0.444 (0.792)	−0.365 (0.899)	−0.432 (0.803)	−0.493 (0.808)	–	1.910 (1.268)	−0.194 (1.005)	−3.219** (1.281)	−1.372 (1.367)	−0.102 (1.752)	0.706 (1.248)
Tobin_Q	0.184 (0.208)	0.283 (0.220)	0.166 (0.211)	0.203 (0.212)	–	0.145 (0.319)	0.469* (0.278)	−0.175 (0.305)	0.287 (0.462)	0.449 (0.322)	0.202 (0.357)
Leverage	−0.0003 (0.004)	−0.001 (0.004)	−0.0006 (0.004)	−0.0009 (0.004)	–	−0.008 (0.005)	−0.0004 (0.005)	0.007 (0.005)	0.014 (0.009)	−0.010* (0.006)	−0.00005 (0.005)
Blockholder	0.023 (0.022)	0.040* (0.023)	0.028 (0.023)	0.031 (0.023)	–	0.023 (0.032)	0.032 (0.027)	0.049 (0.035)	0.016 (0.046)	0.079** (0.032)	0.024 (0.038)
GDP	6.080*** (1.364)	7.681*** (1.462)	7.139*** (1.380)	6.267*** (1.383)	–	15.546*** (2.129)	3.083* (1.803)	3.772* (2.068)	18.397*** (2.496)	9.892** (4.803)	1.942 (2.871)
Constant	−65.337*** (14.273)	−88.590*** (15.186)	−76.503*** (14.404)	−68.173*** (14.411)	23.552*** (1.339)	−204.501*** (22.682)	−35.799* (19.047)	−16.004 (21.701)	−163.756*** (25.681)	−122.072** (50.221)	−13.813 (30.049)
Observations	20,214	17,848	20,214	20,214	17,920	17,836	17,836	17,846	4940	6886	6022
Number of firms	1931	1919	1931	1931	1921	1919	1919	1919	592	667	660
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean VIF	1.13	1.11	1.12	1.14	1.03	1.13	1.13	1.13	1.18	1.16	1.15
R^2-within	0.555	0.497	0.550	0.548	0.508	0.475	0.463	0.122	0.455	0.562	0.513

Note: The Table presents the results of the regression analysis including the variables presented in the descriptive statistics. Robust standard errors are displayed in parentheses, *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. The included variables are defined as follows: E_Pillar = Company's environmental performance; S_Pillar = Company's social performance; G_Pillar = Company's governance performance. ESG_Asia_OCE = ESG score of companies headquartered in Asia and Oceania; ESG_Americas = ESG score of companies headquartered in North and South America; ESG_Europe = ESG score of companies headquartered in Europe; Mgmt_Training = Binary variable which is marked as one when the company claims to provide regular staff and business management training for their managers; Board_Spec_Skills = Percentage of board members who have either an industry-specific background or a strong financial background; QMS = Binary variable which is marked as one if the company applies quality principles; CEO_Comp_TSR = Binary variable which is marked as one when the CEO's compensation is linked to total shareholder return; FTE = Ln of the number of full-time equivalent employees; Board_Size = Ln of the total number of board members; Tobin_Q = Market capitalization of a firm divided by its assets replacement costs which are simplified as the equity book value (ratio); Leverage = Ratio of total debt to total equity; Blockholder = The percentage of shareholdings of 5% or more held as long-term strategic holdings by investment banks or institutions; GDP = Ln of the economic output of a nation per person; Year FE = Yearly fixed effects dummy. A time lag of 1 year is applied to all independent variables.

Second, this study adds evidence of the diffusion of CSR beyond the binary classification of adopters and non-adopters (Ansari et al., 2010; Etzion, 2014). The findings suggest that implementation drivers have decreasing explanatory power as CSR sophistication increases (Campbell, 2007; Darnall et al., 2010). This makes sense. On the one hand, notably *improving* internal company drivers from low levels (such as training) should be most effective when CSR sophistication is low, and the benefits of CSR are largely untapped. On the other hand, companies with the desired (high) level of CSR only need to *maintain* their already extraordinarily high levels of drivers in our dataset (such as training).

Third, the results reveal the importance of considering competency drivers when increasing CSR sophistication (Bertram et al., 2015). Most notably, companies that train their managers in leadership and process management have higher CSR sophistication. This is in line with the proposition by Bertram et al. (2015) that training and coaching are the most important competency drivers. The findings of this study also support other literature highlighting the importance of regular training (Larrán Jorge et al., 2016), leadership development and change-agent mindsets (Schuhmacher et al., 2022) when implementing and sophisticating CSR. Even though the human resource management function is seen as a key facilitator of CSR (Sult et al., 2024), the effect of general management training is still underrepresented in the CSR literature (Sult et al., 2024).

Fourth, this study contributes by illustrating the importance of separating ESG into its individual components to understand underlying influences. Contrary to the expectations formed from the extant literature, board members with an educational background in finance *support* CSR sophistication. This aligns our findings with studies that find a positive effect of general business education on CSR (Huang, 2013; Mazutis, 2014). One explanation is that most post-2000s accounting and finance education particularly emphasizes the economic benefits of instrumentalized CSR and stakeholder governance (Dzhengiz & Hockerts, 2022; Jensen, 2001; Prabowo et al., 2017). This instrumentalization of CSR as a driver of shareholder value creation is in line with our analyses of the individual E, S, and G pillars. We observe that the positive influence of board skills mainly stems from an inflated G score. These results are comparable with those of Beji et al. (2021) who also find controversial effects of business-educated directors on different CSR areas but a positive and significant effect on the corporate governance performance.

Fifth, this study helps to increase knowledge about the type of leadership skills needed to advance CSR within for-profit companies (Schuhmacher et al., 2022). However, small statistical coefficients indicate a practical negligibility of the results. This suggests that the ability of the board to promote CSR sophistication may need to be measured differently. Furthermore, it indicates the necessity to redefine the competencies of the board, as nowadays more diverse skills than the conventional financial knowledge are required to influence all facets of CSR.

Sixth, this study indicates that differences in the drivers of CSR sophistication are not driven by regional differences but by differences in national wealth (Lim & Tsutsui, 2012). One interpretation could be that companies in wealthier countries have more resources available and can afford to be sustainable. An alternative interpretation could relate to the possibility that wealthier countries set higher regulatory standards for CSR. Last, one might conjecture that the guidelines for ESG scores are designed to fit the needs of western companies with headquarters in wealthy countries. At the same time, these standards might constitute a misfit with the context that companies situated in non-western, less wealthy countries face. According to Lim and Tsutsui (2012), wealthy western countries define CSR standards and require developing countries to meet these standards. Hence, companies located in these standard-setting regions generally have advantages when being rated. However, our data only consists of companies from (more or less wealthy) developed countries. Developing countries are not included in the sample. Thus, generalizability to developing countries is limited, and further research is needed.

5.2 | Contributions to practice

First, we document how managers can actively influence internal drivers of CSR sophistication, namely TSR-based compensation, training, board skills, and QMS. In alignment with the boards, managers can optimize the desired level of CSR sophistication to meet their companies' responsibilities toward selected stakeholders. Our research highlights that CSR is a bundle of management practices (Laguir et al., 2019; Shapiro, 2016) that needs integration into all activities of a company (Asif et al., 2013).

Second, we emphasize the strongly positive but widely underestimated effect on CSR sophistication from trainings on leadership and process skills. Our study suggests that the effect of training even supersedes the often-hailed effect of long-term compensation. The results indicate that regular management training programs are likely to equip managers with necessary skills (Larrán Jorge et al., 2016). Companies wishing to increase their CSR sophistication should, therefore, complement their output controls (compensation) with input controls (training; leading by example) (Schuhmacher et al., 2022; Sult et al., 2024). Moreover, literature suggests that corporations are only fully socially responsible when training possibilities are provided to all employees, and not only to managers (Sult et al., 2024). Nonetheless, managers need to be equipped with the necessary competencies first, to be able to support and coach the staff (Sult et al., 2024).

Third, we would like to increase awareness that the drivers of CSR sophistication will not have the same effect across all companies. Our findings suggest that companies with high-CSR sophistication will profit marginally less from increasing the level of each driver. For example, variable long-term incentives can be an influential mechanism for promoting CSR (Profitlich et al., 2021), but only for companies with a low-CSR sophistication.

Fourth, managers can leverage existing resources from their QMS to increase CSR sophistication. Operations include many non-financial, stakeholder-related indicators that quickly help to create awareness of CSR (Tarí, 2011). Moreover, the QMS-related category of *product responsibility* places a special focus on product quality

(Tarí, 2011) and serves as an important indicator of social performance in CSR ratings (Refinitiv, 2021).

Fifth, policymakers should hold companies accountable for their social and environmental results (actions), not just the outcomes (reporting). This could take the form of policymakers developing their own ESG scores. The standards of private rating agencies are opaque and partly contradictory (The Economist, 2022). Therefore, regulators should develop guidelines for rating agencies or suggest comparable ESG scores that indicate CSR sophistication and actual practices (Damtoft et al., 2024). Currently, regulatory initiatives predominantly focus on CSR reporting (e.g., EU Non-Financial Reporting Directive), but these are often not sufficiently industry-specific, and encourage free-riding late adopters according to our study.

5.3 | Limitations and future research

The investigation of internal drivers prompts the issue of endogeneity. We address endogeneity concerns by including a one-year time lag to minimize potential reverse causality. As with any other similar type of research, concerns that the ESG score might mutually influence the independent variables can never be ruled out completely.

Our work extends research on this topic by including a non-binary measure of CSR sophistication. However, the other independent variables (except for board skills) are binary. Dummy variables limit differentiation within groups, exhibit low variance, and consequently reduce the explanatory power of the models. A fruitful follow-up of our work would be to test the hypotheses with non-binary independent variables to increase the granularity of the researched effects.

Currently, ESG scores are the best available measure to capture CSR sophistication based on publicly available data. Nonetheless, CSR reporting does not necessarily correspond to CSR sophistication. Discrepancies can be due to overreporting underreporting (Lueg et al., 2015), or different weighting schemes: for instance, the OECD finds that the simple act of disclosing climate strategies drives the ESG score more than concrete actions (The Economist, 2022). Future studies should develop new measures for CSR sophistication independent of ESG scores, such as artificial intelligence-based analyses of yet under-analyzed data sources.

Last, the substantial effect of the time variable demonstrates a steady increase of the average ESG scores. An optimistic interpretation is that CSR sophistication has actually increased. A critical interpretation might point to the possibility that companies have only honed their reporting skills by analyzing the benchmarks ratings agencies use on them. Similar debates are known in social sciences, for instance, on the reasons why the average human intelligence has substantially increased in the 20th century (Baker et al., 2015). Future research on CSR sophistication should therefore include time components and investigate the rationales for the inflation of the ESG scores.

6 | CONCLUSION

Studies on the diffusion of CSR beyond the binary of adoption/non-adoption concept are rare. Our study investigates the drivers of CSR sophistication over time using the ESG score as a proxy. It is the first study to employ an integrative framework of internal company drivers of CSR sophistication (Bertram et al., 2015). The results suggest that internal company, and thus steerable, drivers (compensation, training, board skills, QMS) affect CSR sophistication. The findings highlight that especially the under-researched field of management training has a remarkably positive influence on CSR sophistication. In addition, this study finds that companies with boards that have an industry-specific background or financial skills, a QMS, and CEO compensation tied to TSR espouse higher CSR sophistication. The results mainly hold for early adopters of CSR as well as for companies with a low level of previous CSR sophistication.

ACKNOWLEDGMENTS

We thank Ursula Weisenfeld for her comments on previous versions of this manuscript. Open Access funding enabled and organized by Projekt DEAL.

FUNDING INFORMATION

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

ORCID

Rainer Lueg https://orcid.org/0000-0002-6172-944X

REFERENCES

Aarons, G. A., Hurlburt, M., & Horwitz, S. M. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research*, *38*(1), 4–23. https://doi.org/10.1007/s10488-010-0327-7

Abrahamson, E. (1991). Managerial fads and fashions: The diffusion and rejection of innovations. *Academy of Management Review*, *16*(3), 586–612. https://doi.org/10.5465/amr.1991.4279484

Ademi, B., & Klungseth, N. J. (2022). Does it pay to deliver superior ESG performance? Evidence from US S&P 500 companies. *Journal of Global Responsibility*, *13*, 421–449. https://doi.org/10.1108/JGR-01-2022-0006

Agle, B., Mitchell, R., & Sonnenfeld, J. (2007). Who matters to CEOs? An investigation of stakeholder attributes and salience, corporate performance, and CEO values. *Academy of Management Journal*, *42*(5), 507–525.

Alajoutsijärvi, K., Juusola, K., & Siltaoja, M. (2015). The legitimacy paradox of business schools: Losing by gaining? *Academy of Management Learning & Education*, *14*(2), 277–291. https://doi.org/10.5465/amle.2013.0106

Ansari, S. M., Fiss, P. C., & Zajac, E. J. (2010). Made to fit: How practices vary as they diffuse. *Academy of Management Review*, *35*(1), 67–92. https://doi.org/10.5465/amr.35.1.zok67

Arce, D. G. (2004). Conspicuous by its absence: Ethics and managerial economics. *Journal of Business Ethics*, *54*(3), 259–274. https://doi.org/10.1007/s10551-004-1773-5

Asif, M., Searcy, C., Zutshi, A., & Fisscher, O. A. M. (2013). An integrated management systems approach to corporate social responsibility. *Journal of Cleaner Production*, *56*, 7–17. https://doi.org/10.1016/j.jclepro.2011.10.034

Babiak, K., & Trendafilova, S. (2011). CSR and environmental responsibility: Motives and pressures to adopt green management practices. *Corporate Social Responsibility and Environmental Management*, *18*(1), 11–24. https://doi.org/10.1002/csr.229

Baker, D. P., Eslinger, P. J., Benavides, M., Peters, E., Dieckmann, N. F., & Leon, J. (2015). The cognitive impact of the education revolution: A possible cause of the Flynn effect on population IQ. *Intelligence*, *49*, 144–158. https://doi.org/10.1016/j.intell.2015.01.003

Bauckloh, T., Schaltegger, S., Utz, S., Zeile, S., & Zwergel, B. (2021). Active first movers vs. late free-riders? An empirical analysis of UN PRI signatories' commitment. *Journal of Business Ethics*, *182*, 747–781. https://doi.org/10.1007/s10551-021-04992-0

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. https://doi.org/10.1007/s10551-020-04522-4

Bertram, R. M., Blase, K. A., & Fixsen, D. L. (2015). Improving programs and outcomes: Implementation frameworks and organization change. *Research on Social Work Practice*, *25*(4), 477–487. https://doi.org/10.1177/1049731514537687

Boone, C., De Brabander, B., & van Witteloostuijn, A. (1999). The impact of personality on behavior in five Prisoner's dilemma games. *Journal of Economic Psychology*, *20*(3), 343–377. https://doi.org/10.1016/S0167-4870(99)00012-4

Boone, C., & Hendriks, W. (2009). Top management team diversity and firm performance: Moderators of functional-background and locus-of-control diversity. *Management Science*, *55*(2), 165–180.

Burkert, M., & Lueg, R. (2013). Differences in the sophistication of value-based management – The role of top executives. *Management Accounting Research*, *24*(1), 3–22. https://doi.org/10.1016/j.mar.2012.10.001

Campbell, J. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *The Academy of Management Review*, *32*(3), 946–967.

Carpenter, M. A., Geletkanycz, M. A., & Sanders, W. G. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management*, *30*(6), 749–778.

Cetindamar, D. (2007). Corporate social responsibility practices and environmentally responsible behavior: The case of the United Nations global compact. *Journal of Business Ethics*, *76*(2), 163–176. https://doi.org/10.1007/s10551-006-9265-4

Choi, H.-Y., & Park, J. (2022). Do data-driven CSR initiatives improve CSR performance? The importance of big data analytics capability. *Technological Forecasting and Social Change*, *182*, 121802.

Clémençon, R. (2016). The two sides of the Paris climate agreement: Dismal failure or historic breakthrough? *The Journal of Environment & Development*, *25*(1), 3–24. https://doi.org/10.1177/1070496516631362

Clément, A., Robinot, É., & Trespeuch, L. (2023). The use of ESG scores in academic literature: A systematic literature review. *Journal of Enterprising Communities: People and Places in the Global Economy*. https://www.emerald.com/insight/content/doi/10.1108/JEC-10-2022-0147/full/html

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*, 155–159.

Colucci, M., Tuan, A., & Visentin, M. (2020). An empirical investigation of the drivers of CSR talk and walk in the fashion industry. *Journal of Cleaner Production*, *248*, 119200. https://doi.org/10.1016/j.jclepro.2019.119200

Commission of the European Communities. (2001). *Promoting a European framework for corporate social responsibilities. Brussels*. Commission of the European Communities.

Crifo, P., Escrig-Olmedo, E., & Mottis, N. (2019). Corporate governance as a key driver of corporate sustainability in France: The role of board members and investor relations. *Journal of Business Ethics*, *159*(4), 1127–1146. https://doi.org/10.1007/s10551-018-3866-6

Crilly, D., Zollo, M., & Hansen, M. T. (2012). Faking it or muddling through? Understanding decoupling in response to stakeholder pressures. *Academy of Management Journal*, *55*(6), 1429–1448. https://doi.org/10.5465/amj.2010.0697

Dahlsrud, A. (2008). How corporate social responsibility is defined: An analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management*, *15*(1), 1–13. https://doi.org/10.1002/csr.132

Damschroder, L. J., & Hagedorn, H. J. (2011). A guiding framework and approach for implementation research in substance use disorders treatment. *Psychology of Addictive Behaviors*, *25*(2), 194–205. https://doi.org/10.1037/a0022284

Damtoft, N. F., van Liempd, D., & Lueg, R. (2024). Sustainability performance measurement–a framework for context-specific applications. *Journal of Global Responsibility*. https://www.emerald.com/insight/content/doi/10.1108/JGR-05-2023-0082/full/html

Darnall, N., Henriques, I., & Sadorsky, P. (2010). Adopting proactive environmental strategy: The influence of stakeholders and firm size: Environmental strategy, stakeholders, and size. *Journal of Management Studies*, *47*(6), 1072–1094. https://doi.org/10.1111/j.1467-6486.2009.00873.x

Du, S., Swaen, V., Lindgreen, A., & Sen, S. (2013). The roles of leadership styles in corporate social responsibility. *Journal of Business Ethics*, *114*(1), 155–169. https://doi.org/10.1007/s10551-012-1333-3

Dzhengiz, T., & Hockerts, K. (2022). Dogmatic, instrumental and paradoxical frames: A pragmatic research framework for studying organizational sustainability. *International Journal of Management Reviews*, *24*(4), 501–534.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, *60*(11), 2835–2857.

Etzion, D. (2014). Diffusion as classification. *Organization Science*, *25*(2), 420–437. https://doi.org/10.1287/orsc.2013.0851

Finkelstein, S., & Hambrick, D. C. (1996). Strategic leadership: Top executives and their effects on organizations. West Pub. Co.

Fiss, P. C., & Zajac, E. J. (2004). The diffusion of ideas over contested terrain: The (non)adoption of a shareholder value orientation among German firms. *Administrative Science Quarterly*, *49*(4), 501–534. https://doi.org/10.2307/4131489

Fiss, P. C., & Zajac, E. J. (2006). The symbolic management of strategic change: Sense giving via framing and decoupling. *Academy of Management Journal*, *49*(6), 1173–1193.

Fisscher, O., & Nijhof, A. (2005). Implications of business ethics for quality management. *The TQM Magazine*, *17*(2), 150–160. https://doi.org/10.1108/09544780510583227

Fixsen, D. L., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core implementation components. *Research on Social Work Practice*, *19*(5), 531–540. https://doi.org/10.1177/1049731509335549

Ghobadian, A., Gallear, D., & Hopkins, M. (2007). TQM and CSR nexus. *International Journal of Quality & Reliability Management*, *24*(7), 704–721. https://doi.org/10.1108/02656710710774683

Godos-Díez, J.-L., Fernández-Gago, R., & Cabeza-García, L. (2015). Business education and idealism as determinants of stakeholder orientation. *Journal of Business Ethics*, *131*(2), 439–452. https://doi.org/10.1007/s10551-014-2289-2

González-Ramos, M. I., Guadamillas, F., & Donate, M. J. (2023). The relationship between knowledge management strategies and corporate social responsibility: Effects on innovation capabilities. *Technological Forecasting and Social Change*, *188*, 122287.

Grafström, M., & Windell, K. (2011). The role of infomediaries: CSR in the business press during 2000–2009. *Journal of Business Ethics*, *103*(2), 221–237. https://doi.org/10.1007/s10551-011-0862-5

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. https://doi.org/10.5465/amr.1984.4277628

Hassan, H. (2013). Applying lean six sigma for waste reduction in a manufacturing environment. *American Journal of Industrial Engineering*, *1*(2), 28–35.

Huang, S. K. (2013). The impact of CEO characteristics on corporate sustainable development: CSR drivers, CSR CEO characteristics,

hypotheses, method, discusssion. *Corporate Social Responsibility and Environmental Management*, *20*(4), 234–244. https://doi.org/10.1002/csr.1295

Jensen, M. (2001). Value maximisation, stakeholder theory, and the corporate objective function. *European Financial Management*, *7*(3), 297–317.

Jensen, M., & Zajac, E. J. (2004). Corporate elites and corporate strategy: How demographic preferences and structural position shape the scope of the firm. *Strategic Management Journal*, *25*(6), 507–524. https://doi.org/10.1002/smj.393

Kennedy, M. T., & Fiss, P. C. (2009). Institutionalization, framing, and diffusion: The logic of TQM adoption and implementation decisions among US hospitals. *Academy of Management Journal*, *52*(5), 897–918. https://doi.org/10.5465/amj.2009.44633062

Kim, H.-D., Kim, T., Kim, Y., & Park, K. (2019). Do long-term institutional investors promote corporate social responsibility activities? *Journal of Banking & Finance*, *101*, 256–269. https://doi.org/10.1016/j.jbankfin.2018.11.015

Kind, F. L., Zeppenfeld, J., & Lueg, R. (2023). The impact of chief executive officer narcissism on environmental, social, and governance reporting. *Business Strategy and the Environment*, *32*(7), 4448–4466.

Kölbel, J. F., Heeb, F., Paetzold, F., & Busch, T. (2020). Can sustainable investing save the world? Reviewing the mechanisms of investor impact. *Organization & Environment*, *33*(4), 554–574.

Kolk, A., & Tsang, S. (2017). Co-evolution in relation to small cars and sustainability in China: Interactions between central and local governments, and with business. *Business & Society*, *56*(4), 576–616. https://doi.org/10.1177/0007650315584928

Läger, F., Bouzzine, Y. D., & Lueg, R. (2022). The relationship between firm complexity and corporate social responsibility: International evidence from 2010–2019. *Corporate Social Responsibility and Environmental Management*, *29*(3), 549–560. https://doi.org/10.1002/csr.2219

Laguir, L., Laguir, I., & Tchemeni, E. (2019). Implementing CSR activities through management control systems: A formal and informal control perspective. *Accounting, Auditing & Accountability Journal*, *32*(2), 531–555.

Larrán Jorge, M., Herrera Madueño, J., Lechuga Sancho, M. P., & Martínez-Martínez, D. (2016). Development of corporate social responsibility in small and medium-sized enterprises and its nexus with quality management. *Cogent Business & Management*, *3*(1), 1228569. https://doi.org/10.1080/23311975.2016.1228569

Lim, A., & Tsutsui, K. (2012). Globalization and commitment in corporate social responsibility: Cross-national analyses of institutional and political-economy effects. *American Sociological Review*, *77*(1), 69–98. https://doi.org/10.1177/0003122411432701

Lozano, R. (2015). A holistic perspective on corporate sustainability drivers: A holistic perspective on corporate sustainability drivers. *Corporate Social Responsibility and Environmental Management*, *22*(1), 32–44. https://doi.org/10.1002/csr.1325

Lueg, R., & Carvalho e Silva, A. L. (2022). Diffusion of the balanced scorecard: Motives for adoption, design choices, organisational fit, and consequences. *Accounting Forum*, *46*(3), 287–313. https://doi.org/10.1080/01559982.2021.1930341

Lueg, R., Pedersen, M. M., & Clemmensen, S. N. (2015). The role of corporate sustainability in a low-cost business model–a case study in the Scandinavian fashion industry. *Business Strategy and the Environment*, *24*(5), 344–359.

Lueg, R., & Pesheva, R. (2021). Corporate sustainability in the Nordic countries – The curvilinear effects on shareholder returns. *Journal of Cleaner Production*, *315*, 127962. https://doi.org/10.1016/j.jclepro.2021.127962

Lueg, R., & Radlach, R. (2016). Managing sustainable development with management control systems: A literature review. *European Management Journal*, *34*(2), 158–171.

Manner, M. H. (2010). The impact of CEO characteristics on corporate social performance. *Journal of Business Ethics*, *93*(S1), 53–72. https://doi.org/10.1007/s10551-010-0626-7

Marano, V., & Kostova, T. (2016). Unpacking the institutional complexity in adoption of CSR practices in multinational enterprises: Institutional complexity, MNEs, and CSR practices. *Journal of Management Studies*, *53*(1), 28–54. https://doi.org/10.1111/joms.12124

Matten, D., & Moon, J. (2008). "Implicit" and "explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, *33*(2), 404–424. https://doi.org/10.5465/amr.2008.31193458

Mazutis, D. (2014). CEO open executive orientation and positive CSR initiative adoption. *Academy of Management Proceedings*, *2014*(1), 13997. https://doi.org/10.5465/ambpp.2014.241

McAdam, R., & Leonard, D. (2003). Corporate social responsibility in a total quality management context: Opportunities for sustainable growth. *Corporate Governance: The International Journal of Business in Society*, *3*(4), 36–45. https://doi.org/10.1108/14720700310497104

Mishra, D. R. (2017). Post-innovation CSR performance and firm value. *Journal of Business Ethics*, *140*, 285–306.

Miska, C., Witt, M. A., & Stahl, G. K. (2016). Drivers of global CSR integration and local CSR responsiveness: Evidence from Chinese MNEs. *Business Ethics Quarterly*, *26*(3), 317–345. https://doi.org/10.1017/beq.2016.13

Musteen, M., Barker, V. L., & Baeten, V. L. (2006). CEO attributes associated with attitude toward change: The direct and moderating effects of CEO tenure. *Journal of Business Research*, *59*(5), 604–612. https://doi.org/10.1016/j.jbusres.2005.10.008

Park, J. G., Park, K., Noh, H., & Kim, Y. G. (2023). Characterization of CSR, ESG, and corporate citizenship through a text mining-based review of literature. *Sustainability*, *15*(5), 3892.

Petrenko, O. V., Aime, F., Ridge, J., & Hill, A. (2016). Corporate social responsibility or CEO narcissism? CSR motivations and organizational performance. *Strategic Management Journal*, *37*(2), 262–279.

Pistoni, A., Songini, L., & Perrone, O. (2016). The how and why of a firm's approach to CSR and sustainability: A case study of a large European company. *Journal of Management & Governance*, *20*(3), 655–685. https://doi.org/10.1007/s10997-015-9316-2

Prabowo, M. A., Iswaningtyas, A., Syofyan, E., Idris, N. A., Mulazid, A. S., & Habbe, A. H. (2017). Board of directors and CSR disclosure in Indonesian banking industry: Does education matter? *International Journal of Trade and Global Markets*, *10*(4), 322. https://doi.org/10.1504/IJTGM.2017.090280

Profitlich, M., Bouzzine, Y. D., & Lueg, R. (2021). The relationship between CFO compensation and corporate sustainability: An empirical examination of German listed firms. *Sustainability*, *13*(21), 12299. https://doi.org/10.3390/su132112299

Refinitiv. (2021). Environmental, social and governance scores from Refinitiv. https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Rogers, E. M. (1983). *Diffusion of innovations* (3rd ed.). Free Press; Collier Macmillan.

Sajko, M., Boone, C., & Buyl, T. (2021). CEO greed, corporate social responsibility, and organizational resilience to systemic shocks. *Journal of Management*, *47*(4), 957–992.

Schreck, P., & Raithel, S. (2018). Corporate social performance, firm size, and organizational visibility: Distinct and joint effects on voluntary sustainability reporting. *Business & Society*, *57*(4), 742–778. https://doi.org/10.1177/0007650315613120

Schuhmacher, K., & Burkert, M. (2022). Time is relative: How framing of time estimation affects the accuracy of cost information. *Management Science*, *68*(7), 5493–5513.

Schuhmacher, K., Towry, K. L., & Zureich, J. (2022). Leading by example in socially driven organizations: The effect of transparent leader compensation contracts on following. *The Accounting Review*, *97*(3), 373–393.

Sendlhofer, T. (2020). Decoupling from moral responsibility for CSR: Employees' visionary procrastination at a SME. *Journal of Business*

Ethics, *167*(2), 361–378. https://doi.org/10.1007/s10551-019-04174-z

Shapiro, B. (2016). Using traditional narratives and other narrative devices to enact humanizing business practices. *Journal of Business Ethics*, *139*(1), 1–19. https://doi.org/10.1007/s10551-015-2645-x

Sobczak, A., Debucquet, G., & Havard, C. (2006). The impact of higher education on students' and young managers' perception of companies and CSR: An exploratory analysis. *Corporate Governance: The International Journal of Business in Society*, *6*(4), 463–474. https://doi.org/10.1108/14720700610689577

Strang, D., & Macy, M. W. (2001). In search of excellence: Fads, success stories, and adaptive emulation. *American Journal of Sociology*, *107*(1), 147–182. https://doi.org/10.1086/323039

Sult, A., Wobst, J., & Lueg, R. (2024). The role of training in implementing corporate sustainability: A systematic literature review. *Corporate Social Responsibility and Environmental Management*, *31*(1), 1–30.

Sun, W., Li, X., Geng, Y., Yang, J., & Zhang, Y. (2020). Board interlocks and the diffusion of CSR reporting practices: The role of market development. *Corporate Social Responsibility and Environmental Management*, *27*(3), 1333–1343. https://doi.org/10.1002/csr.1887

Tarí, J. J. (2011). Research into quality management and social responsibility. *Journal of Business Ethics*, *102*(4), 623–638. https://doi.org/10.1007/s10551-011-0833-x

The Economist. (2022). The signal and the noise.

Tolbert, P. S., & Zucker, L. G. (1983). Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880-1935. *Administrative Science Quarterly*, *28*(1), 22. https://doi.org/10.2307/2392383

Vidal, N. G., Bull, G. Q., & Kozak, R. A. (2010). Diffusion of corporate responsibility practices to companies: The experience of the forest sector. *Journal of Business Ethics*, *94*(4), 553–567. https://doi.org/10.1007/s10551-009-0281-z

Waddock, S., & Bodwell, C. (2004). Managing responsibility: What can be learned from the quality movement? *California Management Review*, *47*(1), 25–37. https://doi.org/10.2307/41166285

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.

Wang, Z., & Sarkis, J. (2017). Corporate social responsibility governance, outcomes, and financial performance. *Journal of Cleaner Production*, *162*, 1607–1616. https://doi.org/10.1016/j.jclepro.2017.06.142

Wei, J., Ouyang, Z., & Chen, H. (2018). CEO characteristics and corporate philanthropic giving in an emerging market: The case of China. *Journal of Business Research*, *87*, 1–11. https://doi.org/10.1016/j.jbusres.2018.02.018

Wobst, J., Tanikulova, P., & Lueg, R. (2023). Value-based management: A review of its conceptualizations and a research agenda toward sustainable governance. *Journal of Accounting Literature*. https://www.emerald.com/insight/content/doi/10.1108/JAL-11-2022-0123/full/html

Wooldridge, J. M. (2020). *Introductory econometrics: A modern approach* (7th ed.). Cengage Learning.

Worldbank. (2022). GDP per capita. https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

How to cite this article: Kunkel, K., Wigge, K., & Lueg, R. (2025). Corporate social responsibility sophistication: Company-specific drivers among early and late adopters. *Corporate Social Responsibility and Environmental Management*, *32*(1), 894–910. https://doi.org/10.1002/csr.2998