



Article

# Mandatory Sustainability Reporting in Germany: Does Size Matter?

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**Abstract:** This article studies how German firms evaluate a recent national corporate social responsibility (CSR) law based on a European Union directive and the burden they expect regarding their organizational responsibilities due to mandatory sustainability reporting. One hundred and fifty-one firms of different sizes directly or indirectly affected by the law are included in the survey and their responses empirically analyzed using two-tailed *t*-tests and simple linear regression. Anchoring the discussion in stakeholder theory and the small and medium-sized enterprise (SME) literature while considering large-firm idiosyncrasies, the results show differing effects on SMEs and large firms as well as firms which are directly and indirectly affected. Findings show that firm size only matters for the evaluation of the law by directly affected firms, while size does not matter in the case of indirectly affected firms. Possible moderators of this evaluation are grounded in the resource-based theory and formalization of CSR. This article contributes to the understanding of when firm size matters in the case of mandatory sustainability reporting and underlines the role of organizational resources and capabilities as well as the special position of SMEs.

**Keywords:** SMEs; sustainability reporting; competitive advantages; stakeholder theory; resource-based view; formalization of CSR

## 1. Introduction

Sustainable change is influenced by many different sources. One such influence is the top-down regulation implemented by policy makers. This study examines a recent and unprecedented case of regulation in Germany: the law to strengthen the non-financial disclosure of companies in their management reports and group management reports from April 2017, i.e., the ‘CSR Directive Implementation Act’ (CDIA). The CDIA serves the implementation of European Union Directive 2014/95/EU on non-financial disclosure by the European Parliament and the Council from October 2014 into national German law. The EU directive defines requirements for the reporting on social, economic and environmental topics. Having passed the CDIA “is seen as a milestone on the road to sustainable development” [1].

The CDIA is designed as a mechanism to further root CSR within overall society, yet, it only directly affects firms with more than 500 employees and capital market interest; small and medium-sized enterprises (SMEs) are not addressed [2,3]. The same size criterium of up to 500 employees is applied for the definition of SMEs, as the ‘German Mittelstand’ (i.e., German small and medium enterprises) has a unique significance for the economy; sometimes, firms with more than 500 employees are also included within the group of SMEs if they meet certain financial criteria [4]. Moreover, SMEs are an integral component of the European and German economy: they represent around 99% of all businesses in Germany, and provide labor to around 60% of total German employees [5].

According to the EU Commission [6] “millions of EU SMEs will have no new obligation whatsoever”. However, the CDIA requires directly affected large firms to ensure compliance throughout the supply chain, i.e., the compliance of suppliers and subcontractors [3,7]. Despite no direct obligations for most firms, the EU Commission [6] thus notes “as companies of all sizes develop their businesses, they are likely to experience transparency demands from their customers, employees, consumers, investors, lenders and other business partners and stakeholders.” This discrimination therefore gives ground for the assessment of the CDIA in the context of a debate that started decades ago. The debate is around an SME-specific approach to CSR [8–11], and the often vulnerable position of SMEs within supply chains, making them prone to large firm dominance [12,13]. The supply chain literature provides ample evidence of the sometimes difficult position of SMEs within supply chains [12,14,15]. The debate is moderated by firm resources and capabilities, as a result of their significant effect on a company’s ability to engage in CSR measures [16–19], as well as the formalization of CSR, due to the consequences of the CDIA and the possible bureaucratic burden for firms [20,21].

Researchers [3,22,23] and institutions [6] acknowledge the CDIA’s effect on firms of different sizes, such as additional cost and possibly costly consultant work for directly affected firms, as well as an indirect effect on SMEs. However, to date, the discussion has remained largely hypothetical about actual consequences and vague about the impacts on firms of different sizes: for instance, studies take an accounting perspective or analyze financial reporting and examine the effects of (anticipated) mandatory reporting and the disclosure of sustainability issues on the firms concerned with engagement in CSR [24,25], while others consider firm CSR activities and the influences on firms’ disclosure practices or other organizational processes [26,27], formalize CSR [20,28,29] or evaluate the effects and diffusion of voluntary sustainability reporting such as the Global Reporting Initiative (GRI) framework or International Organization for Standardization (ISO) standards on businesses [30–34].

Sustainability reporting dates back decades; however, it has gained prominence especially during the last two decades across the globe due to an increased stakeholder demand for greater transparency [35,36]. According to Siew [35], corporate sustainability reporting tools (SRTs) can be classified into three categories: these are frameworks (i.e., principles, initiatives or guidelines such as the GRI framework, Carbon Disclosure Project, Sustainability Accounting Standards Board guidelines and the International Integrated Reporting Council Framework), standards (i.e., more formalized and specified documentation that can be followed such as SA8000 and ISO14001) as well as ratings and indices (i.e., third party evaluation of a corporation’s sustainability performance such as the KLD, Dow Jones Sustainability Index and FTSE4Good Index). While SRTs or requirements for national levels such as the Italian ‘Il bilancio sociale d’impresa’ and the German ‘Sozialbilanz’ can be highly recognized and impactful, they are not comparable to the CDIA. SRTs as well as most national reporting requirements are voluntary [35,37,38]; others focus on a certain sector (e.g., the Global Real Estate Sustainability Benchmark) or issue (e.g., the Carbon Disclosure Project). The few national mandatory initiatives, for example, in France or in Spain, had low firm compliance, possibly due to a lack in specificity, unclear sanctions in case of non-compliance, and thus a lack of normativity [39–41].

The impact of mandatory sustainability reporting on directly and indirectly affected firms of different sizes, measured in an empirical study, has not yet been assessed and deserves further attention. This study closes this gap and outlines firms’ expected burden on the organization as a result of the CDIA. There is an increased focus in understanding the role that firm size as well as the existing formalization of CSR and resources and capabilities play in this evaluation of the CDIA. Taking on survey research, the study empirically assesses these parameters as well as the previously gained experience in the field of CSR and the role of stakeholders.

The study contributes to the understanding of when firm size matters in the case of mandatory sustainability reporting and underlines the role of organizational resources and capabilities as well as the special position of SMEs. At an academic level, it contributes also to the SME and regulatory literature while outlining the significance of stakeholders and related pressures in the context of

mandatory sustainability reporting. At a business management level, the study highlights the relevance of taking a clear and possibly formalized approach to sustainability and points out firms that might require support by policy makers. The focal literature and theoretical angle are the SME literature together with stakeholder theory as well as the resource-based view (RBV) of the firm and the literature on the formalization of CSR. To collect the necessary data for the study, German firms were surveyed.

The paper continues as follows: the following section places this research within the academic literature and discusses CSR in small and large firms as well as the role of the CDIA. Furthermore, moderating effects from RBV theory and formalization of CSR are derived. The third section outlines the research methodology and the data collection process, before continuing with the analysis and discussion of the data. The last section outlines implications of the findings and concludes with suggestions for future research.

## 2. Theoretical Foundations and Hypotheses Development

### 2.1. Small Firm–Large Firm CSR and the Role of the CDIA

There is no single approach to CSR, especially not for firms of different sizes [42,43]. In the discussion of CSR, however, differences among firms of different sizes, especially the two groups commonly titled as ‘SMEs’ and ‘large firms’, have often been neglected. Many scholars criticize this approach as the simple transfer of the concept of CSR from large to small businesses, and perhaps even its terminology, is not possible or in any case misleading [10,11,13,20,43]. CSR activities and ethical standards developed for large firms may not be appropriate for SMEs [44], and should be adapted to the different structures of SMEs [8,11]. Business ethics concepts applied in large firms are based on bureaucratic administrative structures requiring substantial resources [42].

In the CSR discussion, large firms are often taken as the norm and approaches are scaled-down for SMEs, thereby neglecting differences such as organizational structures and management styles [45], fewer customers, a focus on immediate issues instead of long-term strategy and a flat hierarchical structure of SMEs [46,47]. Moreover, due to SMEs’ focus and relative lower resources, they frequently lack the use of sophisticated sustainability management tools or systems [11,48,49] and their engagement in issues beyond their day-to-day business is often low [10]. However, SMEs show a greater ability to adjust more flexibly and responsively to dynamics in the business environment compared to large firms [8,49]. Some authors also find that SMEs have a greater willingness compared to large firms to recognize the importance of having responsible behaviors along the supply chain [29]. Despite SMEs’ general flexibility and willingness to assume supply chain responsibility, however, there are numerous factors negatively affecting SME engagement in pro-social activities [50,51].

Considering the above, CSR regulation should be expected to foresee an SME-specific approach. Directive 2014/95/EU acknowledges differences among SMEs and large firms by only affecting certain large firms. However, the directive does not propose an SME-specific type of regulation. Directly affected firms are capital market-oriented corporations as well as large credit institutions and insurance companies with more than 500 employees on average in a financial year, and a balance sheet total of more than 20 million euros or a turnover of more than 40 million euros [52]. Germany adapted the directive as proposed by the EU: i.e., the Bundestag (the lower house of German Parliament) has accepted the minimum requirements of the EU without any amendments and transformed it into German law. The law neither applies to SMEs, nor to subsidiaries included in the consolidated reporting of the headquarters [53]. Most large firms, however, will not be able to report appropriately on their supply chain and will thus need to bind suppliers and subcontractors into the reporting process [3].

Suppliers and subcontractors, small and large alike, likely must comply with standards set by their customers and can thus be indirectly affected by the CDIA, possibly leading to exclusion of the supply chain if they fail to comply [3,22,23,52]. In addition, the CDIA may counter de-bureaucratization [3] and imply costly consultant and audit work [23]. The largest risk for SMEs is often financial

and operational risk [13]. They may thus view the formalization of CSR through reports and audits critically as counterproductive due to its drawback of bureaucracy. Formalized CSR may make sense only to a small number of SMEs with special characteristics [20]. The criticism of adverse effects of the bureaucratic burden for SMEs and top-down pressures from customers indicating large firm dominance is highlighted by practice and the academic literature [13,20,45].

Since Freeman's [54] work more than three decades ago, stakeholders have become an integral part of management research, and a great body of literature applying stakeholder theory has developed. "The stakeholder approach is about groups and individuals who can affect the organization and is about managerial behavior taken in response to those groups and individuals" [54] (p. 48). Stakeholder theory consequently assumes organizations have stakeholders, i.e., individuals or groups, who "can affect or are affected by the achievement of an organization's purpose" [54] (p. 49). Managing relationships with key business stakeholders has become essential for value generation [55]. For SMEs, their buyers are often their most salient stakeholders, as other stakeholders such as non-governmental organizations (NGOs) and the media do not scrutinize them. Any stakeholder or key agent for a firm will be able to exert pressures that will influence the depending firm [56] and thus can create a demand for the adoption of new organizational sustainability practices, both via formal and informal pressure [14]. Their position "can compel small companies to adopt voluntary standards in order to maintain a relationship with the customer. Similarly, SMEs may be obliged to address CSR due to the increasing take-up of ethical codes of practice by their large customers, which create pressure for demonstrably responsible behavior within the supply chain" [13] (p. 45).

The following hypotheses are put forward:

**H1.1.** *Larger firms directly affected by the CDIA will expect to incur a lower burden of organization due to the CDIA than directly affected smaller firms.*

**H1.2.** *Large firms indirectly affected by the CDIA will expect to incur a lower burden of organization due to the CDIA than indirectly affected SMEs.*

**H2.** *Large firms indirectly affected by the CDIA will expect to incur a lower burden of organization due to the CDIA than directly affected large firms.*

**H3.** *Large firms indirectly affected by the CDIA will indicate a lower necessity to adapt to their customers' standards than indirectly affected SMEs.*

## 2.2. The Role of Firm Resources and Capabilities in CSR

SMEs usually have little slack in terms of resources. They cannot easily spend money without losing financial capital; thus, their focus is on activities that are believed to increase their bottom line. Only if ethical engagement is not expected to increase pressure on financial performance and operations and management time—hence, not to possibly negatively impact profits—may SMEs consider it worth following [13]. The resource-based view of the firm is often applied to address the implementation of sustainability management [17,19,51,57,58]. "Resource-based theory takes the perspective that valuable, costly-to-copy firm resources and capabilities provide key sources of sustainable competitive advantage" [59] (p. 986). Wernerfelt [60] was one of the first to outline the importance of organizational resources and to change the 'traditional product perspective' against an inward-looking resource perspective.

Building on his work, Barney [59] and Hart [58] drew the connections among the proper implementation of the firm's business strategy, leading to the optimal use of firm resources (i.e., all tangible and intangible assets such as financial reserves, equipment, human resources and knowledge) and capabilities (e.g., shared vision, strategic proactivity, stakeholder management and organizational learning). Thus, while resources represent the raw input that is given into a process, capabilities are the processes through which the different resources are transformed into respective market offerings [16]. This optimal use, in turn, leads to an increased competitive advantage, which will

be perceived positively by firms. Organizational resources and capabilities can be considered essential in shaping a firm's evaluation of (implementing) CSR matters.

The RBV further stresses the instrumental role of organizational resources and capabilities [16]: i.e., the greater the available resources and capabilities, the more likely the implementation of CSR-related aspects [61]. "Firms that have already obtained a track record in sustainability by gaining experience and important capabilities in sustainability management are better positioned to engage in further sustainability initiatives" [62] (p. 77). Leonidou et al. [16] underline the critical role of both organizational resources and capabilities in pursuing environmentally friendly business strategies. The authors find strong positive relationships between the deployment of resources and capabilities committed to environmental issues, and the adoption of respective business strategies by firms. The mediating role of business strategy allows for the RBV to be applied in the context of CSR-related matters, since sustainable business strategies require the use of "heterogeneous resources and idiosyncratic capabilities" [16] (p. 584).

The following hypotheses are put forward:

**H4.** *A higher deployment of organizational resources for CSR matters is associated with a lower expected burden of organization due to the CDIA.*

**H5.** *A higher deployment of organizational capabilities for CSR matters is associated with a lower expected burden of organization due to the CDIA.*

### 2.3. The Role of CSR Strategies and Instruments

A formalized, strategic approach towards business management may improve chances of the successful implementation of socially responsible activities into business practice [13]. However, CSR activities in SMEs are mostly 'scarcely systematic' or structured into formalized processes [63] and, for example, sustainability reporting is less well established in SMEs than in large firms [64]. The activities usually have low visibility outside the company and are therefore considered 'sunken' CSR [63] or 'silent' CSR [13]. Personal contacts which are especially driven by the owner–manager with internal and external stakeholders, a higher sensibility to costs and the proportionally higher costs of reporting for SMEs explain why SMEs use less formalized instruments to communicate CSR initiatives [65,66].

Graafland et al. [66] find that SMEs believe that CSR is "not sufficiently relevant to require a systematic strategic approach" towards it and are thus "less inclined to use formal instruments to foster ethical behavior within the organization than large firms" (p. 53). The authors find systematic differences with respect to the CSR instruments large and small firms use, while no CSR strategy usually means no use of instruments. In their study on CSR strategies and instruments in Germany, Hahn and Scheermesser [48] find standardized management systems are predominantly used by large firms, and more informal measures driven by personal motives of managers and employees prevail in SMEs. Murillo and Lozano [11] make similar findings in a Spanish setting, and Perrini et al. [29] in an Italian one. The latter emphasize the link between size and a firm's willingness to engage in specific (formalized) CSR strategies. As opposed to formalized CSR in SMEs, informal CSR based on strong personal ties, such as a climate of trust, can be an advantage for firms over an impersonal instrument, such as a code of conduct [66]. Once a firm becomes aware of the topic of CSR and its respective tools, however, the firm applies tools and thus a strategized approach, regardless of its size [51]. Regarding CSR as an organizational innovation [33,67,68] allows for another perspective on formalization. From an innovation diffusion perspective, formalization within an organization may enhance the implementation of innovations [69].

The following hypothesis is put forward:

**H6.** *A more formal CSR strategy is associated with a more positive evaluation of the CDIA.*



### 3. Materials and Methods

#### 3.1. Operationalization of the Measure

For this research, an online-based survey consisting of closed-ended questions using a seven-point Likert scale ranging from (1) “strongly disagree” to (7) “strongly agree”, as well as binary (yes/no) and discrete questions was designed. The survey instruments to measure the constructs of interest rely on previously tested and validated instruments wherever possible, which were further refined during expert sessions. Table A1 in the Appendix A shows variables related to constructs and their sources.

The survey is divided into four sets of questions and relies on self-report measures which have become well accepted in the literature [70]. The first set investigates the interviewee’s understanding and the expected impact of the CDIA on the organization. To measure ‘evaluation of the CDIA’, i.e., a firm’s expected burden of organization due to the newly-introduced law, a three-item scale (CDIAc) adapted from Baden et al. [71] was developed. The second set of questions investigates the organization’s resources and capabilities already deployed for CSR matters. To measure resources deployed (RD) and capabilities deployed (CD), two scales from Leonidou et al. [16] were adapted. Each of the two scales consists of four items. The third set investigates the organization’s CSR strategy and formalization. The scale to measure formal approaches to CSR (FORM) was adapted from Graafland et al. [66] and Gallo and Christensen [72]. The last set of questions investigates the organizational and the interviewee backgrounds. All adapted scales were extracted from English-language peer-reviewed journals and translated into the German language by a professional translator. Explanations for uncommon or scientific terms, such as “CDIA”, were provided during the survey.

The initial version of the survey was refined using input from industry experts from academia and business. Each of these experts has numerous years of experience in their respective field. The resulting questionnaire was then pre-tested through interviews with 12 representatives from firms of different sizes and backgrounds. The representatives were asked to complete the survey before the interview was held. During a telephone interview, usually lasting around 30 to 45 min, the survey questions and responses were discussed in-depth. This process led to minor final adjustments. For pre-testing, a convenience sample was used [73] and enterprises similar to the final target population were selected. The pre-test respondents were then excluded from the main study. The extensive literature review, in-depth interviews with scholars and practitioners as well as pre-testing the survey are ways to support the content validity of the survey [74].

#### 3.2. Sample Description/Data Collection

The survey addresses German firms of different sizes (micro, small, medium and large/multinational corporations (MNCs)), measured by the number of employees [68,72]. This approach allows for a more thorough classification than only the distinction between SMEs and large firms, respecting that SMEs are not a heterogenous group [11,75]. The relevant target population for the study are German firms listed as of April 2018 in the databases of the German Council for Sustainable Development and the Global Reporting Initiative. A restricted sample has the advantage that the approach is more easily replicable and traceable, engages a clearly defined target population, and allows for a high-quality sample as all firms listed in either of the two databases can be assumed to have at least some knowledge of sustainability matters [76]. The latter, especially, is important in the light of accuracy and representativeness [74]. Results indicate the approach has engaged with the respective survey participants, as around 95% are aware of the CDIA.

Huber and Power [77] (p. 174) argue that information should be collected as accurately as possible, i.e., “from the most appropriate person in the organisation”, especially if a single key informant is to be targeted. Accordingly, questionnaires were addressed to CSR managers, corporate communications managers, owner-managers (especially in SMEs), managing directors or other personnel who know of the significance of CSR and may be involved in the implementation of CSR strategies. From 728 firms, duplicates and inactive firms were removed. Five hundred and eighty-four candidates remained, of which 151 took part in the survey, yielding a response rate of >25% and a common sample size for

this type of study [51,71,74,78,79]. Eleven responses were excluded, which are filed by self-employed CSR consultants, and another five incomplete surveys. Of the final sample of 135 firms, 13 firms (9.6%) claim not at all to be indirectly affected and were thus excluded in the statistical analysis. Table 1 gives descriptive statistics of the final sample.

**Table 1.** Firm and survey respondent profiles.

Firm Characteristics (n = 135)					
Number of Employees		Industry		Impact of the CDIA	
<10	5.2%	Finance & insurance	19.1%	Direct effect	37.0%
10–49	11.1%	Services	8.1%	Indir. effect expected	53.3%
50–249	12.6%	Energy/Water/Waste	7.4%	No indir. effect expect.	9.6%
250–500	8.2%	Manufacturing	7.4%		
501–1000	14.1%	Real estate/Hotels	6.6%		
1001–5000	16.3%	Chemicals	5.9%		
>5000	32.6%	Food & consumer products	5.1%		
		Transport & logistics	5.1%		
		Wholesale/Retail	4.4%		
		Tourism	3.7%		
		IT & telecommunications	2.9%		
		Pharma & healthcare	2.9%		
		Other	21.3%		
Interviewer characteristics (n = 135)					
Position		Department		Years within firm	
CEO/Top management	5.2%	CSR/Sustainability	48.9%	<1	3.0%
Director/Sr Manager	28.1%	PR/Communication	11.9%	1–3	16.3%
Manager	25.2%	Business development	5.2%	4–10	34.8%
Other	41.5%	Finance/Accounting	3.7%	>10	45.9%
		Marketing/Sales	2.2%		
		Production/Operations	2.2%		
		Purchase/Procurement	0.7%		
		Other	25.2%		

Note: Shown are the descriptive statistics of the final sample of n = 135 firms. CDIA: CSR Directive Implementation Act.

The survey participants received an internet link to the questionnaire directly via e-mail. Up to two reminders were sent to participants. A covering letter explained the background of the study and the use of the survey results. It also stated that all information would remain anonymous in order to reduce the potential for social desirability bias in the responses to the questions in the survey [80]. To diminish the effects of consistency artefacts, i.e., to avoid the respondents filling in their responses to one variable with their response to the other in mind, the survey questions that enquire into the evaluation of the CDIA were placed at the beginning of the survey and firm size towards the end. Moderators (resources, capabilities and formalization) were placed in the middle of the survey [81,82] and item ambiguity was reduced by avoiding vague concepts and by keeping the questions simple. Non-response bias was assessed on the basis that later respondents are more closely related to non-respondents than early respondents as suggested by Armstrong and Overton [83]. Using two-tailed *t*-tests, firm size and age as well as the four constructs (CDIAc, RD, CD and FORM) were compared to assess non-response bias [83–85]. The results do not indicate a significant statistical difference and thus no issue with non-response bias. Data was collected during April and May 2018.

### 3.3. Description of the Measure

The measure of an online-based survey was derived via a deductive approach. In total, four measurement constructs were applied, with each construct being a scale of at least three items. The constructs measure a firm's expected burden of organization due to the CDIA (CDIAc), resources deployed (RD) and capabilities deployed (CD) for CSR and the degree of CSR formalization

(FORM). Scales were adapted from extant literature, i.e., they are based on a combination of prior theory and empirical work and refined during expert sessions as outlined in the methodological section.

A confirmatory factor analysis (CFA) was conducted to test the reliability and validity of the adapted scales in this context and validate the constructs. All scale items were expected to load on one factor; i.e., to measure one underlying latent variable and hence yield a single-factor solution. Despite the presumption, items were allowed to load on different factors, and thus to possibly yield a multi-factor solution. Varimax rotation was applied to allow for a better fit of the axes with the actual data points. Oblique rotation was also applied to account for possible correlation among factors in case of a multi-factor solution. The analysis yields a one-factor solution with the same variables retained for varimax and oblique rotation. The commonly applied varimax rotation [17,86,87] was followed as it provides a better fit of the axes with the actual data points. This provides evidence that distinct and reliable factors were found.

The Kaiser–Meyer–Olkin measure was applied, and thus only factors with eigenvalues  $>1$  [88] were retained. Hence, four factors were retained: one for each construct. Only items with a loading of  $>0.4$  were included in the final constructs [88]. Reliability measures such as Cronbach’s alpha and composite reliability are always above the recommended threshold of 0.7 [88]. Convergent validity, as measured for example through average variance extracted (AVE), is in all cases above or close to the value of 0.5 as recommended by Fornell and Larcker [89]. This indicates that the items in the factor can explain at least the same share of change as explained through the error variance of the measure. The retained constructs together with related descriptive statistics are shown in Table 2.

**Table 2.** Measurement validation.

Construct	Scale Items	Loading $\lambda$	AVE	Alpha	Eigenvalue	Mean Score	SD	Items Mean	Items SD
CDIAc	CDIAc_1	0.67	0.54	0.80	1.62	3.49	1.57	3.83	1.84
	CDIAc_2	0.81						3.22	1.91
	CDIAc_3	0.71						3.43	1.81
RD	RD_1	0.85	0.53	0.82	2.13	5.12	1.16	5.16	1.26
	RD_2	0.76						4.76	1.52
	RD_3	0.75						5.39	1.27
	RD_4	0.52						5.22	1.69
CD	CD_1	0.65	0.44	0.78	1.76	5.61	0.83	5.55	1.08
	CD_2	0.60						6.32	0.78
	CD_3	0.65						5.04	1.33
	CD_4	0.74						5.55	1.05
FORM	FORM_1	0.68	0.52	0.84	2.60	5.65	1.04	5.57	1.40
	FORM_2	0.67						6.08	1.08
	FORM_3	0.55						5.55	1.41
	FORM_4	0.90						5.63	1.40
	FORM_5	0.86						5.43	1.34

Note: Summary of construct measurement and related descriptive statistics shows sound reliability and validity. RD: resources deployed; CD: capabilities deployed; FORM: formalized approaches.

The first construct, CDIAc, consists of 3 items and has an AVE of 0.54. The Cronbach’s alpha and composite reliability are moderately high (0.8), indicating a good reliability of the measurement construct. The second and third constructs, RD and CD, each consist of four of the original six items [16] as two items have considerably lower loadings than the others ( $<0.5$ ) in these analyses and were thus dismissed. The items retained in the constructs yield a factor with an AVE of 0.53 and an alpha of 0.82 for RD and a factor with an AVE of 0.44 and an alpha of 0.78 for CD. The latter is below the commonly accepted threshold of 0.5. It is retained, however, for its applicability in exploratory research and strong performance in other measurement criteria. The FORM scale consists of five items and fulfils all commonly accepted reliability and validity criteria (AVE of 0.52 and alpha of 0.84).



Based on a 7-point Likert Scale, a value of 4 indicates, e.g., in the case of CDIAc that the focal firm neither expects nor rejects a burden on the organization. For CDIAc, values closer to 7 indicate a lower expected burden on the organization; for RD and CD, these values indicate higher resources and capabilities deployed, respectively, while values closer to 7 for FORM indicate higher CSR formalization and strategy. Subsequently, the four constructs are applied to the data to analyze and discuss the initially raised research questions and hypotheses.

#### 4. Results and Discussion

To analyze the data and assess the hypotheses, *t*-tests were used. The statistical significance was tested using the 5% significance level. The 5% significance level is not used as a fixed cut-off *p*-value; however, the findings are also discussed against other factors. Each construct (CDIAc, RD, CD, FORM) is measured by taking the means of respective items within a construct. To assess the stability of the approach and findings, the same *t*-test analyses were carried out using median values and values derived from principal component analysis instead of mean values for each construct. The results support the findings based on the means-approach. Hence, only the means-approach is discussed in the following section. To further analyze the data and assess the moderating hypotheses, a simple linear regression using the ordinary least squares method was applied.

##### 4.1. Type of Exposure and the Role of Firm Size

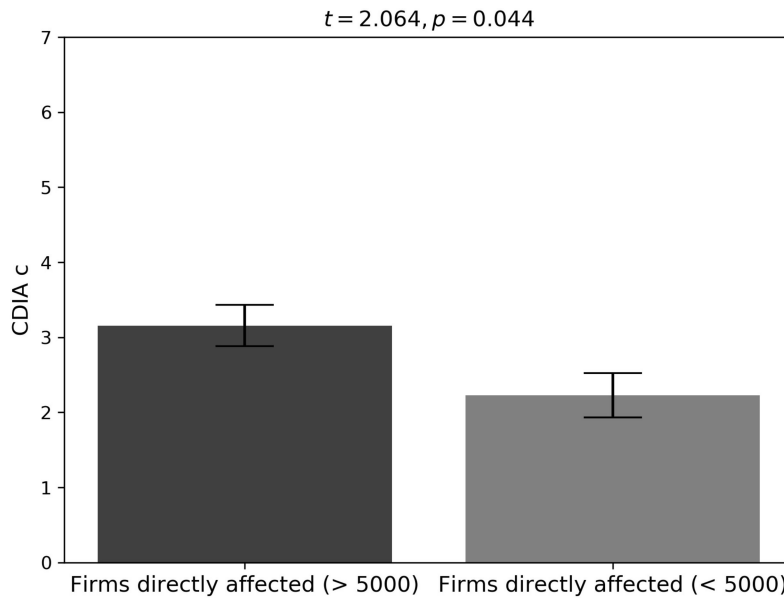
First, significant differences of CDIAc evaluation related to firm size are explored, considering directly and indirectly affected firms. It was hypothesized that larger firms directly affected by the CDIA (i.e., >5000 employees) expect to incur a lower burden of organization due to the CDIA than directly affected smaller firms (i.e., <5000 employees). Yielding an average evaluation of CDIAc of 3.16 (firms > 5000 employees) and 2.23 (firms < 5000 employees), respectively, support was found for H1.1 ( $p < 0.05$ ).

The result is in line with the extant MNC/large firm CSR literature: first, very large multinational companies often receive a great deal of attention and have been scrutinized for years by different stakeholder groups (e.g., media, NGOs, consumers) who may exert pressure on the firm; these firms have therefore already implemented most of the standards the CDIA requires [90–92]. This is due to ‘ticking boxes’, as one CSR professional of a large multinational German firm put it. Smaller firms that are directly affected by the CDIA often had fewer incentives to make formal CSR efforts and therefore face greater difficulty in complying with the law [90,93]. In the case of Directive 2014/95/EU, this size effect is shown in a study by Venturelli et al. [25], who demonstrate a positive correlation between firm size and extant reporting adequacy with regards to the Directive. Fiechter et al. [24] show foremost that firms with low levels of CSR expenditures or no voluntary CSR reports increase their CSR expenditures more strongly than their peers after the introduction of EU Directive 2014/95, equally supporting the findings. Second, a larger firm size often also implies a larger resource base, and this has been found to positively impact environmental performance [59,94]. The ‘relative cost of external CSR communication (reporting and PR)’, which the CDIA implies, is thus lower for large MNCs than for smaller firms that are equally affected [95]. Figure 1 summarizes the findings.

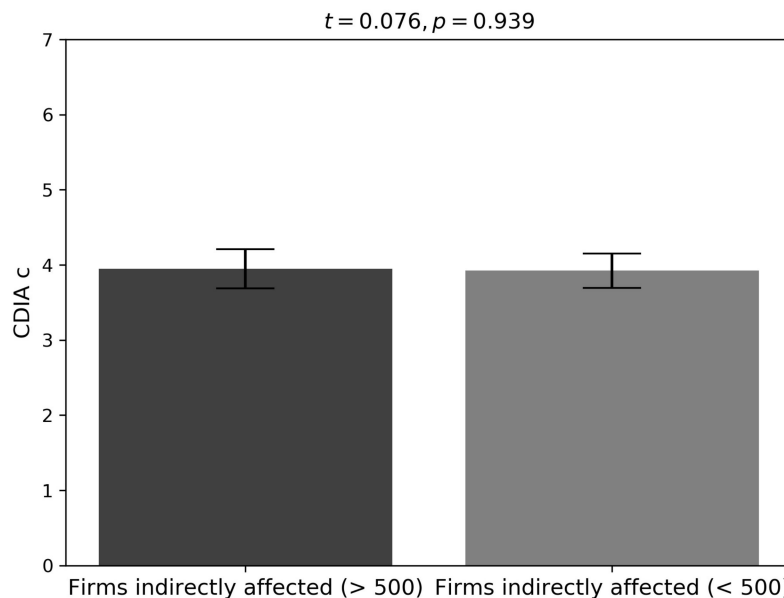
It was further assumed that indirectly affected large firms (>500 employees) expect to incur a lower burden of organization due to the CDIA than indirectly affected SMEs (<500 employees). Yielding an average evaluation of CDIAc of 3.95 (firms > 500 employees) and 3.92 (firms < 500 employees), respectively, there is no support for H1.2 ( $p > 0.1$ ). The neutral evaluation of the CDIA by indirectly affected SMEs and large firms alike can be attributable to a commonly insufficient understanding of the new law and its consequences, which might arise from an overall ambiguity [3,11,22,63]. Spence et al. [42] find SMEs in Germany to be generally well organized before any voluntary, additional membership or networking is entered, however, which could be another explanation for the results.

Possibly, once SMEs have developed their CSR management and have processes established, they can reach the same level of resilience as large firms and are not differently affected. Thus, there is

no proof that firms expect any additional burden of organization when indirectly affected by the CDIA, e.g., via the supply chain. This is an important insight regarding the debate about adverse effects on indirectly affected small and large firms due to sustainability regulation in the German case. The result is further supported by the relatively large number of firms that do not at all expect to be indirectly affected by the CDIA (around 18% of participating firms that were not directly affected). Figure 2 summarizes the findings.



**Figure 1.** Boxplot chart showing the mean evaluation of CDIAc and standard error of the mean for directly affected larger firms and directly affected smaller firms. The results are significant and indicate a higher expected burden by smaller firms directly affected by the CDIA.

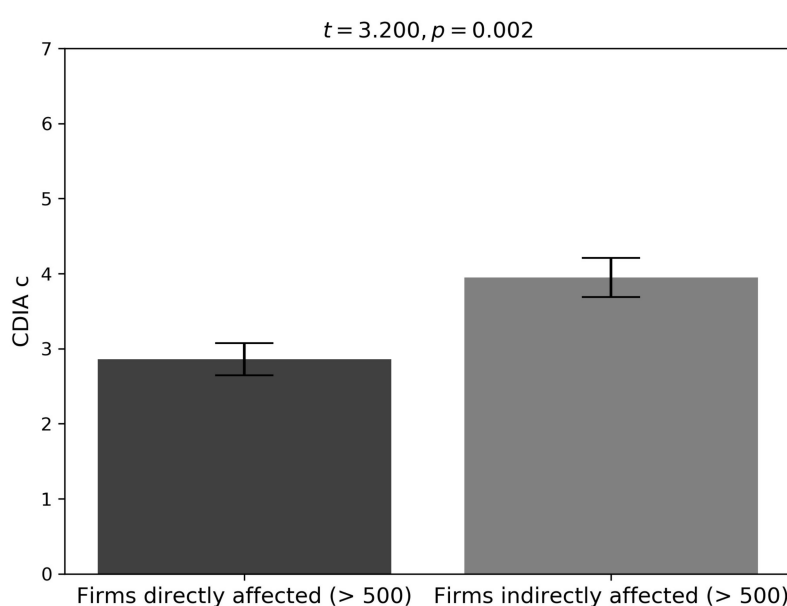


**Figure 2.** Boxplot chart showing the mean evaluation of CDIAc and standard error of the mean for indirectly affected large firms and indirectly affected SMEs. The results are not significant and indicate a neutral position to the expected burden for firms regardless of their size.

It is asserted that CDIAc measures a firm’s expected burden of organization due to the CDIA. Firms directly affected by the law should thus incur a significantly higher burden of

organization than indirectly affected firms. Consequently, it was tested if large firms indirectly affected by the CDIA (>500 employees) expect to incur a lower burden of organization due to the CDIA than directly affected large firms. Yielding an average evaluation of CDIAc of 3.95 (indirectly affected firms) and 2.86 (directly affected firms), respectively, there is strong support for H2 ( $p < 0.01$ ), confirming the measure.

The survey also aimed to outline possible supply chain pressures resulting from the CDIA and the role of firm size. Consequently, indirectly affected firms were asked whether they expect an increasing need to adapt to their customers' standards due to the new law. Yielding an average evaluation of 4.46 (firms > 500 employees) and 3.67 (firms < 500 employees), respectively, whereby values closer to 7 indicate a higher need to adapt to customer standards, there is moderate support for H3 ( $p < 0.1$ ). This result underlines the still weaker position in the supply chain of smaller firms compared to their larger peers [12,13]. Both SMEs and large firms, however, are still moderate overall in their estimation of having to adjust to customers, given the range of around 3.5 to 4.5 on a 7-point Likert scale. Figure 3 summarizes the findings.



**Figure 3.** Boxplot chart showing the mean evaluation of CDIAc and standard error of the mean for directly affected large firms and indirectly affected large firms. The results are highly significant and indicate a higher expected burden by large firms that are directly affected by the CDIA.

Finally, sectorial differences were evaluated. For that purpose, firms from different industry clusters were compared (manufacturing, services, financial institutions and insurance, trade and commerce, others) by opposing the CDIAc evaluation of directly and indirectly affected firms, respectively, for each cluster using the same methodology as before. The results show no significant differences across sectors, i.e., firms directly or indirectly affected by the CDIA from different sectors evaluate the CDIA homogenously. These findings are in line with previous analyses and signalize that the law does not lead to the systematic better or poorer positioning of some sectors in the German case.

#### 4.2. Analysis of Moderators

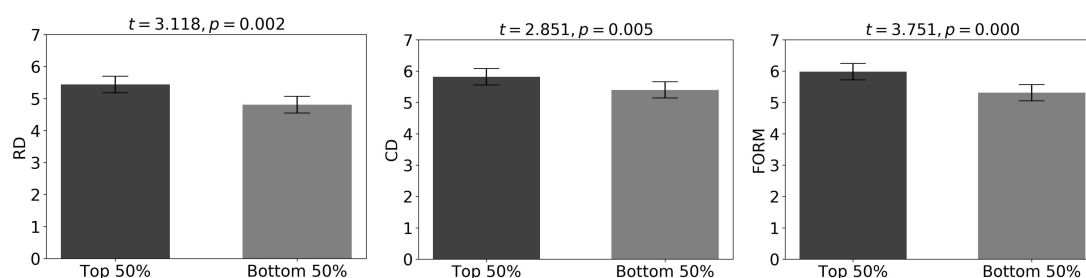
Second, significant differences of CDIAc evaluation among firms high/low in resources and capabilities deployed for CSR and high/low in formal CSR engagement were explored. It was hypothesized that a higher deployment of organizational resources (H4) and higher deployment of organizational capabilities (H5) for CSR matters is associated with a lower expected burden of organization due to the CDIA. Consequently, the associated RD and CD values of the mean top and bottom median CDIAc evaluation were opposed. It was assumed that the mean RD and CD values

of the upper groups would be significantly higher than those of the lower groups. Firm size as well as the type of effect (direct/indirect) do not play a role for this analysis.

An average evaluation of 5.44 (RD top median) and 4.81 (RD bottom median) indicate support for H4 ( $p < 0.01$ ). The findings equally support H5 (5.82, CD top median and 5.40, CD bottom median ( $p < 0.01$ )). Hence, firms that have more resources and capabilities deployed for CSR matters also evaluate the CDIA more positively, and vice versa. The results give indications on why firms put forth different evaluations of the CDIA, based on the role of firm resources and capabilities in the evaluation process by applying resource-based theory [57,59,60]. These findings are in line with other literature applying a resource-based perspective [16,19,51,58] and thus support the RBV by underlining the role of engaged resources and capabilities [61]. The results also stress the fact that small firms are in a position to champion CSR [8] and achieve competitive advantages, provided that appropriate resources are committed to sustainable practices [19]. The complexities and peculiarities involved in taking sustainable initiatives require a steady flow of supportive organizational resources [96].

It was further hypothesized that a more formal CSR strategy is associated with a more positive evaluation of the CDIA. As for RD and CD, the associated FORM values of the mean top and bottom median CDIAc evaluation were opposed. It was assumed that the mean FORM values of the upper groups would be significantly higher than those of the lower groups. Yielding an average evaluation of 5.98 (RD top median) and 5.31 (RD bottom median), there is support for H6 ( $p < 0.01$ ). The results indicate the formal anchoring of CSR within a firm to be associated with a lower expected burden of organization due to the CDIA.

That means that firms that have a clear CSR strategy and a formalized approach to CSR also evaluate the CDIA more positively. These results support the extant literature in the field [13,51]. The results also underline previous findings on the diffusion of CSR as an organizational innovation [68] and support the idea of easier implementation of innovations in more formalized environments [69]. Firms that have already developed a formalized CSR approach and tools, such as respective documentation put in place, will usually find it easier to comply with reporting requirements. The resulting causality between existing CSR tools and the evaluation of the CDIA can occur in two ways: they could either share the same drivers, or the presence of a more formal CSR infrastructure (i.e., more formal approach to CSR) could facilitate or even promote dealing with the CDIA [14]. Figure 4 summarizes the moderating effects as determined via  $t$ -tests.



**Figure 4.** Boxplot chart showing the mean evaluation and standard error of the mean for the moderators RD, CD and FORM for the top and bottom 50% of the CDIA evaluation. Results indicate that firms which evaluate the CDIA more positively are significantly stronger in resources and capabilities deployed for sustainability and implement a more formal CSR strategy.

#### 4.3. Supporting Analyses

To strengthen the findings, a simple linear regression using the ordinary least squares method with the CDIA (CDIAc) as a dependent variable was applied. This analysis helps to understand if a positive relation between each of the moderators and the CDIA exists, and if some of the variance in the dependent variable can be explained. There are positive statistically significant coefficients for all independent variables, RD (0.36,  $t$ -value = 3.02,  $p$ -value < 0.01), CD (0.58,  $t$ -value = 3.55,  $p$ -value < 0.001) and FORM (0.47,  $t$ -value = 3.58,  $p$ -value < 0.001), thus indicating a positive linear relation and equally

supporting the findings. The percentage of the variation that is explained by the model (r-squared) was moderately low for all three measures (RD: 0.071, CD: 0.095, FORM: 0.096), however, which can be common for social sciences.

Correlation analysis reveals moderately strong positive correlations, which are significant for all constructs ( $p < 0.01$ ). This result supports previous findings and the three moderating hypotheses H4, H5 and H6. The analysis also shows not only that the evaluation of the CDIA is positively correlated to the moderating constructs, but that also the moderating constructs, for example RD and CD, are positively correlated among one another. This supports the idea of the adequate measurement of constructs, especially as RD and CD would be expected to correlate and indeed show the strongest correlation across all constructs (0.53). Table 3 shows the correlations.

**Table 3.** Correlation analysis.

Construct	1	2	3	4
1 CDIAc (evaluation of the law)	1.00			
2 RD (resources)	0.27 *	1.00		
3 CD (capabilities)	0.31 **	0.47 **	1.00	
4 FORM (formalization)	0.31 **	0.47 **	0.53 **	1.00

\*  $p < 0.01$ ; \*\*  $p < 0.001$ .

#### 4.4. Hypotheses Results

The hypotheses underlying this research seek to investigate the impact of CSR regulation in the case of the CDIA. This study focuses on a firm's expected burden of organization, as well as the moderating factors of this evaluation. It also seeks to shed light on whether SMEs expect more than large firms to need to adapt to their customers' standards. There is support for all but one of the hypotheses, shedding light especially on SMEs and firm-size related differences in the context of mandatory CSR reporting. Table 4 summarizes the findings with regards to the hypotheses.

**Table 4.** Summary of research hypotheses results.

	Hypothesis	Observed Results	Status
Main Hypotheses	H1.1	Larger firms directly affected (low burden) vs. smaller firms directly affected (high burden)	Supported
	H1.2	Large firms indirectly affected (neutral to burden) vs. SMEs indirectly affected (neutral to burden)	Rejected
	H2	Large firms indirectly affected (neutral to burden) vs. large firms directly affected (low burden)	Supported
	H3	Large firms indirectly affected (no need to adapt) vs. SMEs indirectly affected (need to adapt)	Supported
Moderating Hypotheses	H4	Higher deployment of organizational resources & lower expected burden	Supported
	H5	Higher deployment of organizational capabilities & lower expected burden	Supported
	H6	More formal CSR strategy & lower expected burden	Supported

Note: All but one of the research hypotheses were supported by the preceding statistical analyses.

## 5. Conclusion and Implications

This article studies how firms of different sizes evaluate the impact of a recent CSR law on their organization. The law is implemented in Germany and based on Directive 2014/95/EU, which is the EU's latest major initiative on mandatory sustainability reporting. In an empirical study among 151 German firms that are directly or expect to be indirectly affected by the law, firm size is found to play a role in the appreciation of mandatory sustainability reporting; however, this depends on the type of impact considered (i.e., direct or indirect). Directly affected smaller firms indicate a greater burden of organization due to the new law compared to their larger peers. Grounded in stakeholder theory, previously lower public pressures and stakeholder scrutiny may explain why especially smaller



firms that are directly affected by the law indicate an increased burden of organization. These firms now need to make an effort to formalize their sustainable engagement, whereas for many larger firms this is simply a case of ticking boxes. Moreover, smaller firms' relative cost to comply with reporting standards is higher compared to their larger peers.

Indirectly affected SMEs and large firms alike, however, take the same neutral perspective and neither express consent nor reject a future burden of organization. Thus, there is no proof for SMEs being especially disadvantaged due to the CDIA, indicating the imminent expected supply chain pressures to be moderate or simply not well understood by firms. Indirectly affected SMEs, however, still expect a greater necessity than indirectly affected large firms to adjust to their customers' standards due to the CDIA. It might thus be relevant to monitor the long-term effects of the law, ensuring the independent competitiveness of SMEs in the future and countering possible adverse effects of CSR laws in the long term. Sectorial differences do not seem to play a role in the CDIA evaluation, however, indicating that the law does not lead to the systematic better or poorer positioning of some sectors in the German case.

It is evident that firm size is important for firms directly affected by the CDIA, and in the discussion of power-dominance among large and small firms over the long term. The indirect burden of organization, however, appears to be the same for large and small firms alike. The findings can thus advance small-firm literature by shedding more light on SMEs in the regulation of CSR and presenting detailed groundwork for when firm size matters and when it does not. For the time being, it will be the directly affected firms which will bear the greater burden due to the CDIA. Cooperation between buyers and their SME suppliers along the supply chain might be a powerful tool for long-term, size-independent sustainable solutions [12,15,51]. Which types of firm government support in dealing with mandatory CSR reporting can be especially helpful for is also shown.

Taking a resource-based perspective, the study further shows firms that deploy resources and capabilities for CSR matters and formalize it evaluate the CDIA significantly better than their peers. The result can be seen as another incentive for collaboration along the supply chain and leveraging or providing relevant resources and capabilities for the smooth integration of, e.g., reporting requirements. They also support the advantage of the first mover and firm-lead initiatives. SMEs as well as large firms have the potential to champion sustainability and an increasingly formalized CSR agenda, provided that the appropriate resources and capabilities are in place. The study thus stresses the instrumental role of both organizational resources and capabilities for undertaking and sustaining CSR initiatives of firms and thus supports the RBV. It also sharpens the understanding of possible consequences of formalizing CSR.

The latter is especially noteworthy for an increasing institutionalization of CSR matters across Europe [41,97] and a new 'explicit CSR' [98], which could thus be anticipated with the future cost or burden of complying with new regulation be lowered. The translation of Directive 2014/95/EU into German law was found to have significant effects on some companies. The directive might have similar effects on firms in other EU countries, especially those with comparable economies and which adapt the directive into national law. Other EU countries might therefore want to develop measures to estimate the effect of the directive's implementation into national law on directly and indirectly affected firms. Any country seeking to understand the impact of mandatory sustainability reporting on its organizations will more easily be able to provide support where needed and thus avoid possibly imbalanced development among firms over the long term. Countries could thus also harness sustainability reporting as it provides the chance to improve corporate transparency and accountability [99]. Additionally, in France, for example, it might be interesting to understand whether abidance by the law is increased compared to previous national reporting frameworks (e.g., cf. [40,41]); in Spain as well as in other EU countries, it could be tested if SMEs will also formalize their sustainability reporting and which type of firm is generally affected (e.g., cf. [64]).

Future research may complement the findings of this study and address some of its shortcomings: this study is limited in size; a larger sample, possibly taking a different sampling approach in

another geographical location, could therefore be useful to underline some of this study's findings. Moreover, the study focusses on firm size and only some of the variables moderating the evaluation of the CDIA. Besides the indications given in this study, it might be interesting to understand additional reasons why firms evaluate the CDIA differently, possibly via a qualitative study among firms. Alternatively, multivariate statistical analyses might lead to interesting insights with regards to causes and consequences. Considering control variables such as ownership and industry affiliation in more detail in future studies could equally yield interesting results.

Despite its limitations, however, the study gives valuable indications on what the perceived impact of mandatory CSR reporting on firms is. It offers perspectives on firms that especially struggle with the new law and might experience greater pressure on their organization in the future, thus requiring support from stakeholders such as policy makers or supply chain partners in dealing with mandatory CSR reporting. The study also gives indications on the role of a formalized approach to CSR and of organizational resources and capabilities. However, for instance, a greater focus on directly affected firms only, thus going beyond the exploratory nature of this study, could be insightful to better understand the direct impacts of the CDIA on firms. Finally, it would be interesting to understand whether the increase in formalized CSR activity among some firms due to the CDIA also leads to a measurable increase in actual CSR activity within these firms. Only then would sustainable change be created, and the triple bottom line of social, environmental and economic impact strengthened.

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## Appendix A

**Table A1.** Construct operationalization.

Construct	Item Code	Item Description	Source
CSR Directive Implementation Act (CDIAc)	CDIAc_1	CDIA will be implementable for our firm with little effort.	[71]
	CDIAc_2	CDIA will mean additional workload for our firm.	
	CDIAc_3	CDIA will cost our firm money.	
Organizational Resources (RD)	RD_1	Our firm has made investments in the environmental and social abilities of its employees.	[16]
	RD_2	Our firm has made investments in developing the environmental and social skills of the top management.	
	RD_3	Our firm has made investments in organizational abilities which are related to environmental and social issues.	
	RD_4	Our company has made investments in formal (routine-based) management systems and procedures with regards to ecological and social issues.	
Organizational Capabilities (CD)	CD_1	Our firm has the ability to seek solutions for ecological and social issues from different angles.	[16]
	CD_2	Our firm pays great attention to satisfying customer demands.	
	CD_3	In our firm, there are formal/informal systems for better coordinating ecological and social issues among departments.	
	CD_4	Our firm always expands its knowledge regarding the interaction between business and its stakeholders.	
CSR Formalization (FORM)	FORM_1	In our firm we have a clear CSR strategy.	[66,72]
	FORM_2	Our company's awareness of CSR has risen significantly in recent years.	
	FORM_3	The number of instruments/processes (e.g., sustainability report, environmental audit) used to organize CSR in our company has increased significantly in recent years.	
	FORM_4	Our firm has increasingly anchored CSR in its corporate strategy in recent years.	
	FORM_5	Our company integrates ecological and social issues into the strategic planning process.	

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