

Bridging theory and practice: European evidence on operationalising digital responsibility in Small and Medium Enterprises

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1

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Abstract

Corporate Digital Responsibility (CDR) has emerged as a critical framework to address societal, economic and environmental impacts of digital transformation, concerning use/re-use of data, design and deployment of advanced technology in business.

On the one hand, global digitalisation provides socio-economic and environmental benefits. On the other, we reside in an era where innovation and digital transformation present known and emergent risks. Business mindsets must shift from profit to purpose-driven, fostering adoption of safer digital and AI practices, irrespective of company size.

Significant conceptual progress has been made in establishing CDR as a principled framework in this context, with examples of large cooperations moving towards responsible behaviour. However, the ability to operationalise and implement CDR remains complex for small and medium-sized enterprises (SMEs), hampered by multi-faceted challenges in adopting AI / digital technology.

This paper provides practical input to address the adoption gap between CDR theory and practice in SMEs. The methodology draws on Corporate Social Responsibility literature, the experience of International CDR Manifesto members, and practitioners' initiatives across Europe addressing CDR with SMEs. This includes two Interreg cooperation projects covering 14 countries. The paper illustrates the findings through a comparative case study.

The paper demonstrates how, in the absence of standardised CDR regulations, practical initiatives already facilitate adoption of CDR methods and translate them into responsible digital practice for SMEs. Practical outcomes of the paper have implications in providing concrete support tools for SMEs.

Keywords: Digital Responsibility, Small and Medium Enterprises, Safer AI, Corporate Social Responsibility

2

1 Introduction

Corporate Digital Responsibility (CDR) has emerged as a critical framework for addressing the societal impacts of responsible digital transformation, concerning the use and re-use of data, design and deployment of advanced technology, including Artificial Intelligence (AI), in business operations and the impact across societal, economic, and environmental domains.

Global digitalisation provides socio-economic and environmental benefits, including accelerating progress towards several UN Sustainable Development Goals (GeSiDeloitte, 2019). However, digital transformation also generates risks related to cybersecurity, data governance, AI ethics, labour displacement, and environmental sustainability (AI HLEG, 2019; OECD, 2021; European Commission, 2022; Elliott et al., 2021). Consequently, organisations increasingly face pressure to adopt responsible and safer digital practices irrespective of company size (Lloyd, 2016; Novaes Neto et al., 2020; Elliott et al., 2021).

Significant conceptual progress has been made in establishing CDR as a principled mechanism and framework to address digital responsibility concerns and there are examples of large cooperations moving towards more responsible behaviour. However, the ability to operationalise and implement CDR's core principles and tenets remains challenging for small and medium-sized enterprises (SMEs), which make up 99.8% of all active business in Europe and employ almost 85M people (Galan, 2025).

The DESI report (2022) stated that “insufficient levels of digital skills hamper the prospects of future growth, deepen the digital divide and increase risks of digital exclusion as more and more services, including essential ones, are shifted online.” The follow-up report, The State of the Digital Decade (2024), highlights that AI and digital technology adoption presents a multi-faceted challenge to SMEs. SMEs report a 2.5% per annum increase in adoption rates for AI and digital technologies, far below the projected 2030 Digital Decade targets (ibid., 2024).

This paper provides practical evidence on how to address the adoption gap between CDR theory, awareness, and practice in SMEs. Findings draw on Corporate Social Responsibility (CSR) background literature and from practitioner initiatives working directly with SMEs. These include two cooperation projects (Interreg Europe CDR EUROPE / Interreg Central Europe COEUS) covering 14 EU countries. The paper presents a case study from one country (Romania), in order to exemplify findings. The purpose of this chapter is to show how, in the absence of official EU-standardised regulations on CDR, actions, projects, and initiatives exist can facilitate digital responsibility, translating lessons from the CSR era into responsible digital practice for SMEs.

Notwithstanding this growing body of work, a clear research gap persists, while conceptual frameworks for CDR are well articulated (Lobschat et al., 2021; Dörr, 2025), empirical evidence on how CDR can be operationalised within resource-constrained SMEs remains scarce, and extant studies rarely connect CSR-derived theory with practitioner-led implementation at scale. Hence, this paper addresses the following research question: *How can CDR principles be operationalised and implemented within European SMEs, and which barriers and enablers condition this process in the absence of standardised CDR regulation?* In answering this question, the paper connects the theoretical background reviewed below with multi-country practitioner evidence, clarifying the logical link between the conceptual foundations, the empirical material, and the intended contribution.

2 From Corporate Social Responsibility (CSR) to Corporate Digital Responsibility (CDR): theoretical foundations and evolutionary imperatives

2.1 The evolution and limitations of CSR

The urgency of CDR adoption stems in part from its potential to avoid replicating the pitfalls of Corporate Social Responsibility (CSR), which despite decades of evolution remains largely voluntary and often lacks meaningful accountability mechanisms.

CSR has historically relied on voluntary or “soft law” approaches lacking robust accountability mechanisms (Nwete, 2007; Adeyeye, 2011; Cominetti and Seele, 2016; Tamvada, 2019). ESG frameworks, for example, introduced measurable reporting mechanisms sectors (Garriga and Melé, 2004; Melé, 2008; Nollet et al., 2016; Eccles et al., 2020). However, they also generate concerns regarding performative compliance and “greenwashing” (Laufer, 2003; Higgins et al., 2020; Velte, 2021).

The digital equivalent termed “ethics bluewashing” illustrated how this practice has spilt over into digitised services where the appearance of *being* ethical is a falsehood and CDR is at risk of replicating these known CSR failures in the digital age (Floridi, 2019).

2.2 The regulatory paradigm shift: from voluntary CSR to enforceable CDR

Unlike CSR's predominantly voluntary trajectory, CDR emerges within a fundamentally different and more enforceable global regulatory context. The EU AI Act (in force, 2024) has established a framework attempting to enforce digital responsibilities that encompass risk assessment mandates, AI transparency requirements around algorithmic decisions, and retaining human oversight for high-risk AI systems that applies across large corporates to SMEs. Likewise, the EU's Corporate Sustainability Reporting Directive (CSRD, 2025) initially requires large companies and listed SMEs (*envisaged to eventually encompass most organisations*) to report sustainability impacts including digital infrastructure environmental footprints and data governance practices. A suite of directives under the umbrella of the EU Taxonomy and Green Deal seek to establish criteria for environmentally sustainable economic activities that includes assessing digital operations. Such frameworks could be viewed as a step towards Floridi's (2021) call to arms of transitioning from soft to hard law ethical and accountability organisational structures.

This paradigm shift to responsible reporting has not occurred without risks and tensions in implementing hard law with associated regulation (Wachter, 2023; Hoch and Mügge, 2025; McGowan, 2025). However, in the current era of digitisation, where corporates and SMEs impacts are transitioning from the physical to digital supply chains. a dramatic shift in responsible and transparent accountability approaches is necessary. Digital systems now automate physical auditing trails at increased speeds, where big data capabilities permit the processing of millions of data points instantaneously across jurisdictions. However, the underpinning algorithmic decisions affect social, economic and environmental domains, somewhat opaquely (Eubanks, 2018). Hence, we reside in an omnipresent “onlife” existence, where the physical and digital domains are blurred for citizens, businesses, regulators, policy makers and governments (Floridi, 2015, 2021). This scope suggests that regulation (e.g., not overly prescriptive to stifle innovation) nor voluntary approaches in isolation (e.g., resisted due to profit incentives) can adequately govern digital responsibility.

2.3 Establishing CDR as conceptually distinct: academic definition debates and convergence

The nascent academic literature on CDR demonstrates growing consensus that digital responsibility constitutes a separate field rather than CSR extension, though definitional debates persist. The term

Corporate Digital Responsibility first appeared in industry discourse through Accenture's (2015) identification of an *emerging doctrine* comprising five key principles of digital stewardship, digital transparency, digital empowerment, digital equity, and digital inclusion.

Academic and practitioner definitions increasingly converge around understanding CDR as organisational responsibility for the societal, economic, and environmental impacts of digital technologies and data use (Lobschat et al., 2021). This study uses the co-created definition from the International CDR Manifesto¹ as follows “*Corporate Digital Responsibility (CDR) is a set of practices and behaviours that help an organisation use data and digital technologies in ways that are perceived as socially, economically, and environmentally responsible*” (Corporate Digital Responsibility.net, 2022).

Examining the above contributions, reveals both convergence and divergence in CDR discourse. For example, scholars converge on the view that digital responsibility extends beyond legal compliance to encompass organisational culture, perceptions, and behaviour including employees’ perceptions of responsibility commitments that shape innovative organisational behaviour (Alhmoudi et al., 2022); owner-managers’ micro-level actions are decisive in embedding sustainability practices within SMEs (Del Giudice et al., 2017); and cognitive alignment between the firm and their stakeholders conditions their sustainability-oriented relationships (Caputo et al., 2018). The literature diverges, however, on whether CDR constitutes a construct distinct from CSR or is a mere digital extension (Lobschat et al., 2021; Wirtz et al., 2021), and on the relative weight of voluntary versus regulatory drivers of responsible behaviour (Floridi, 2021; Sheehy et al., 2023). These aspects are underexplored and underpins this study, namely, the translation of conceptual and large corporate centred debates into feasible practice for SMEs, whose structural characteristics differ materially from the corporations on which most CDR scholarship is based. This positioning of our study, defines the added value of the present contribution.

5

3 The implementation gap: empirical evidence of CDR challenges in European SMEs

3.1 Challenges to CDR adoption in SMEs

SMEs face structural constraints relating to resources, digital skills, and regulatory complexity, which hinder CDR adoption (Accion, 2020). This constraint becomes heightened in micro-enterprises, defined as those with fewer than 10 employees with an annual turnover or balance sheet below €2 million (European Commission, 2003). These distinctive structural challenges exceed historical CSR implementation barriers, due to the need for digital transformation and digital competency.

The following table presents a summary of some key challenges, as emerging from the literature and practitioner studies.

Table 1: Summary of SME challenges to operationalising and implementing CDR

Resource constraints across interconnected dimensions / financial limitations constraining SME capacity to invest in CDR-related infrastructure such and specialist consultant expertise (Benz and Chatterjee, 2020; European Commission, 2003).
Organisational capacity constraints, including tendency to externalise digital activities that creates dependency on vendors whose CDR practices cannot be influenced, potentially exposing SMEs to reputational and regulatory risks from third-party digital service providers' practices (COEUS, 2024).

¹ <https://corporatedigitalresponsibility.net>

Lack of skills and expertise among employees / workers to integrate basic or advanced digital technologies into business operations, along with unfamiliarity with digital technologies (Accion, 2020; Benz and Chatterjee, 2020; Arendt, 2008; Shaw et al., 2024; DESI report, 2024).

Regulatory complexity spanning multiple jurisdictions (GDPR, AI Act, Digital Services Act, sectoral regulations, national variations), creating compliance burdens that disproportionately impact smaller organisations lacking dedicated legal/compliance functions (European Commission, 2022).

Source: authors own (summarising findings from literature review and practical initiatives)

The result is to exacerbate the risks that SMEs can run in relation to data protection, privacy or, concerning high risk AI to health, safety and fundamental rights. Work with Tuscan micro-enterprises (Huntingford and Collini, 2022) showed that 75% of participating companies believed implementing a CDR strategy and framework would benefit their organisation. However, most (66.7%) stated that training and strategic services required to embed CDR in operations relied on guidelines and technologies (50%) that would be difficult to achieve.

The CDR EUROPE project² conducted SME readiness assessments across nine countries, revealing low levels of CDR awareness and significant knowledge gaps (n=692 SMEs). While 74% of respondents had undertaken or planned digital training, this primarily focused on cybersecurity and compliance rather than broader CDR principles. Similarly, although 59% planned future digital investments, far fewer considered environmental (23%) or social (16%) dimensions within digitalisation strategies, highlighting a disconnect between digital transformation and responsible governance.

Findings from the COEUS project³ across six countries (n=157 SMEs) reinforced these patterns. SMEs demonstrated stronger awareness of cybersecurity and GDPR obligations in highly regulated sectors, but limited understanding of broader CDR frameworks, including the Digital Services Act and EU AI Act.

Finally, CDR's currently voluntary status adds to SMEs constraints, where survival pressures may mean that performative compliance and tick-boxing mindsets take precedence over deliberative and substantive cultural and organisational change (Telukdarie et al, 2023; Kallmuenzer et al., 2025). Despite the growing set of related legislation, CDR lacks regulatory mandates to enable organisations to appear to visibly adopt digital responsibility tenets via establishing governance/responsibility boards, over neglecting expensive and challenging implementations, such as transparent algorithmic auditing, privacy-preserving architecture redesigns or supply chain digital responsibility verification (Cominetti and Seele, 2016; Floridi, 2021).

3.2 Operationalising CDR: the CDR EUROPE pilot methodology and implementation framework

The CDR EUROPE ran a pilot study and associated actions, employing a comprehensive, evidence-based methodology designed to bridge theory and practice through measurable interventions. The pilot was conducted over a nine-month period (November 2024-July 2025). This inter-regional initiative spanned four countries (Spain, France, Italy, Romania), selected consultants in each country to support SMEs through structured CDR maturity assessment and action planning processes (7 consultants in total: 2 in Spain, 1 in France, 2 in Italy, 2 in Romania).

The pilot combined maturity assessments, SWOT analyses, workshops, and consultant-supported action planning processes to evaluate CDR readiness and implementation across SMEs. Therefore, our methodological choices warrant explicit justification; a comparative case study design was adopted

² <https://www.interregeurope.eu/cdreurope>

³ <https://www.interreg-central.eu/projects/coeus/>

because CDR operationalisation in SMEs is a contemporary, context-dependent phenomenon that is best examined within real organisational settings rather than administering detached survey instruments. We selected the Romanian illustrative case for the following three reasons 1) Romania participated in all of the pilot phases, thus, generating the richest longitudinal record, 2) Romania combines strong interest in digitalisation with comparatively low baseline CDR awareness, rendering implementation dynamics readily observable and 3) this case has an innovation profile (EIS, 2025) that typifies conditions faced by SMEs across many emergent European regions, supporting analytical, albeit not statistical generalisation. The participating SMEs were purposively selected from applicant firms to maximise heterogeneity of size, sector, and developmental stage, on the premise that such variation strengthens the transferability of implementation lessons learned.

To assist replicating our study, the data collection protocols combined structured maturity self-assessments (completed by SMEs and validated in dialogue with consultants), CDR-based SWOT analyses, semi-structured interviews, workshop observation, and consultant field notes. We engaged in triangulation across these sources to corroborate emergent findings and mitigate self-reporting bias. The quantitative assessment scores were analysed descriptively at individual and aggregate levels, while qualitative data were synthesised thematically against the challenge categories depicted in Table 1, enabling pattern-matching between literature-derived expectations and observed practice.

3.3 Empirical findings: evidence from CDR implementation in Romanian SMEs

Romania is represented in the above-described CDR EUROPE project and was chosen to exemplify and detail the findings introduced above, representing a testbed for CDR implementation. From the initial n=97 companies matching SME targeted profiles, 18 responses provided sufficient rich data to conduct an in-depth CDR-based SWOT⁴ analysis and maturity assessment. From these assessments, it emerged that despite increasing digitalisation levels and some support available across companies, CDR awareness remained critically low, characterised by fundamental misconceptions regarding its central tenets, scope and implications for responsible digitalisation.⁵ The Romanian case study presents a context with a strong interest in digitalisation topics and expressed openness to technological innovation, validating assumptions regarding entrepreneurial receptivity to digital transformation and the tenets of CDR (Solaimani et al., 2022; Levy et al., 2023).

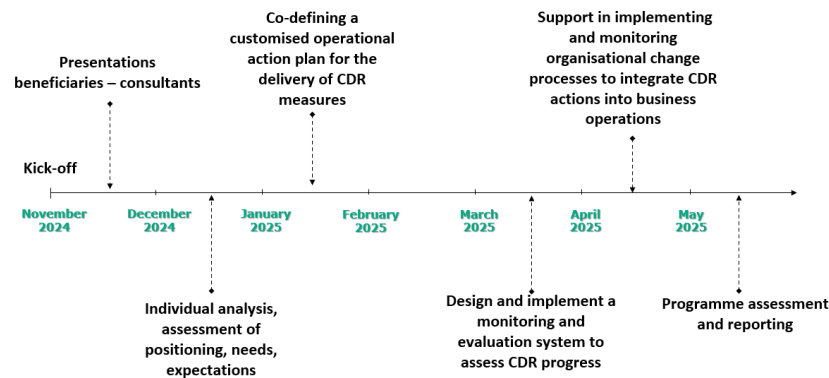
The Romanian pilot selected 5 SMEs (from 9 companies that applied), who demonstrated deliberate diversity and included one startup, two small companies and two medium-sized enterprises operating across distinct sectors: medical technologies, water resources engineering and management, IT services, digital services for banking financial institutions, and telecommunications. The Romanian Pilot ran between the end of 2024 and mid-2025, as summarised in the following figure.

7

⁴ Strength, Weaknesses, Opportunities and Threats (SWOT)

⁵ See survey details https://www.interregeurope.eu/sites/default/files/2026-02/CDREUROPE_InterregionalSMEsurvey_final.pdf

Figure 1 Calendar of pilot programme actions in Romania



Source (CDR EUROPE project, 2025).

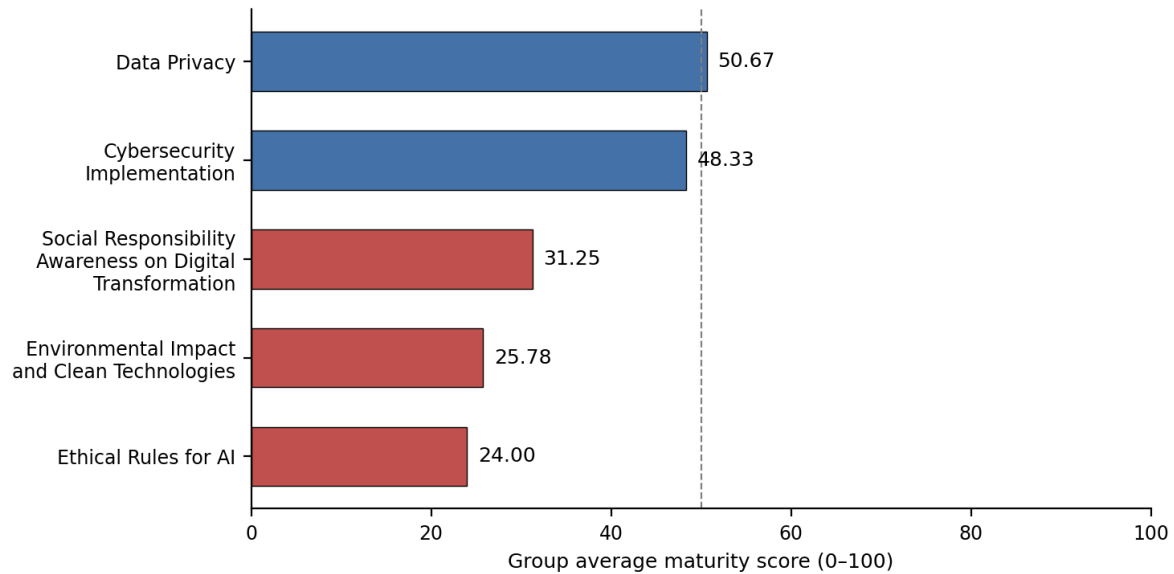
The CDR maturity assessment for these 5 SMEs revealed significant variance across responsibility dimensions, providing validation of hypothesised implementation gaps while exposing patterns of digitalisation characteristic of contemporary organisational digital-transformation trajectories.

The assessment revealed organisational aspects extending beyond CDR knowledge assessment to encompass contextual factors that were pivotal for subsequent customisation by the consultants. The aspects included an evaluation of available internal resources (e.g., financial, human, technological), organisational structure and team organisation patterns, existing operational processes and workflow architectures, professional training initiatives for staff and associated learning cultures. The evaluation also looked at sales strategies and customer relationship approaches, industry-specific business environment characteristics creating distinctive challenges and opportunities, existence of certifications and compliance with relevant standards (ISO, sector-specific). Finally, identifying the internal motivations and strategic implications for adopting and implementing CDR policies. This holistic diagnostic approach recognised that CDR implementation succeeds or fails based on alignment with organisational realities, rather than adherence to abstract policies, similar to change management implementation processes to embed change across organisational hierarchies (Reim et al., 2022; Pfister and Lehmann, 2023). This broad organisational diagnostic, conducted prior to CDR policy implementation, aligns with established change management theory. It mirrors the early stages of Lewin's Change Model, situating the assessment within the Unfreeze phase, where organisations identify the need for transformation and build readiness before implementation begins (Endrejat and Burnes, 2024)

All five SMEs completed assessments across the responsibility dimensions, enabling aggregate analysis of group-level positioning alongside individual organisational profiling. Aggregate results demonstrate relative organisational strengths in Data Privacy (group average 50.67/100 points) and Cybersecurity Implementation (48.33/100), likely reflecting recent regulatory emphasis on GDPR compliance and increased cyber threat awareness catalysed by high-profile breaches affecting financial services and technology sectors (Lloyd, 2016; Novaes Neto et al., 2020).

Conversely, the assessments exposed critical deficits across three dimensions representing proactive, values-driven aspects of digital responsibility. Ethical Rules for AI scored the lowest at 24.00/100, followed by Environmental Impact and Clean Technologies (25.78/100) and Social Responsibility Awareness on Digital Transformation (31.25/100). Figure 2 below, provides a visual representation of these aggregate CDR maturity scores across the assessed responsibility dimensions, illustrating the asymmetry between compliance-driven and values-driven dimensions.

Figure 2 Aggregate CDR maturity assessment scores by responsibility dimension (group average, n=5 SMEs)



Source (CDR EUROPE project, 2025).

The substantial gap exemplified between technical security measures and ethical or environmental considerations show this clearly, and organisation's trade-offs perhaps related to survival relegate CDR responsibility frameworks integrating technological capabilities with social, environmental, and economic imperatives to lower organisational strategic prioritisation (Alnafrah, 2024). Interpreted against the extant literature, these findings are part confirmatory and part novel. For instance, the primacy of resource and skills constraints, and the compliance-driven privileging of cybersecurity and data protection, confirm prior evidence on SME digitalisation barriers (Arendt, 2008; Benz and Chatterjee, 2020; Telukdarie et al., 2023) and on the risk of performative, tick-box responsibility (Cominetti and Seele, 2016; van Vuuren, 2020). Three results, by contrast, extend current knowledge. First, the consistent future prioritisation of governance across heterogeneous SMEs is not anticipated by extant CDR frameworks, which derive from corporate contexts (Lobschat et al., 2021); this suggests that structural integration, rather than technical capability, is the binding constraint on SME CDR maturity. Second, the finding that CSR familiarity operates as a conceptual bridge into CDR provides micro-level empirical support for theorised CSR–CDR continuity (Del Giudice et al., 2017; Alhmoudi et al., 2022). Third, the emergence of realistic CDR roadmaps under structured, co-designed voluntary support qualifies the pessimism of hard law accounts, indicating that substantive rather than symbolic engagement is attainable where guidance is resource-proportionate (Floridi, 2021).

While scores varied by individual SME, as mentioned, governance emerged as universally identified priority for future action planning. This pattern reflects the recognition that sustainable CDR implementation would require SMEs to commit from leadership engagement or “buy-in” that prompts a change cascade across structures and accountability mechanisms across all areas of the organisation. Simply put, deferring governance implementation may reflect a recognition that without structural integration, CDR initiatives risk remaining peripheral to core business operations (Teimeira and Carvalho, 2024; Sotamaa et al., 2025).

Individual organisational trajectories illustrated how sectoral contexts, organisational structures, strategic priorities, and developmental stages influence CDR maturity and implementation approaches. These profiles demonstrate that effective CDR frameworks must accommodate

heterogeneity rather than imposing uniform requirements inappropriate for diverse organisational realities. Thus, owners of the change must reside within the organisation and not with the project or consultants (Ramdani et al., 2022; Awoyemi et al., 2023). Some key findings and priority action from the individual SMEs are summarised in Table 2 below.

Table 2: Summary of SME key findings and Priority actions

SME	Key finding	Priority Action
IT Services	Strong cybersecurity maturity but weak governance integration	Governance structuring
Telecom/IT	Compliance-driven approach	Sustainable procurement
Water Engineering	High maturity due to group structure (local branch of an EU wide-group)	Standardisation
Financial Digital Services	Regulatory pressure driving adoption	Responsible finance framework
MedTech Startup	Resource constraints limited implementation	Tailored CDR framework for start-ups

Source: (CDR EUROPE, 2025)

3.4 Barriers, enablers, and implementation insights

Qualitative interview data, workshop discussions, and consultant observations confirmed the key challenges identified in the literature. Resource constraints emerged as fundamental impediments for SME enterprises and startups operating with limited financial and human capital (Clegg, 2018; Ghezzi, 2019). Associated skill deficits compounded such constraints, if organisation's lack digitally skilled employees' predictable challenges arise to address responsible digitalisation requiring combined technical competencies and ethical reasoning capabilities. The findings also show that businesses lack institutional incentives to produce societally and environmentally beneficial outcomes (Bregman, 2025).

Concurrently, the pilot identified enablers to facilitate CDR adoption. SMEs expressed alignment between CSR and CDR principles, indicating that existing corporate responsibility orientations provide conceptual foundations for transitioning to CDR frameworks. Likewise, the SMEs possessed knowledge of immediate linkages to global objectives (UN SDGs, ESG metrics and the CDR Manifesto principles). They were able to foresee actionable, measurable commitments reflecting their specific operational contexts, from inclusive employment practices and gender equality to climate action and responsible energy/finite resource consumption. Thus, operationalisation of CDR principles appears easier when familiarity of CSR exists. This allows for an adjustment towards recognising digital values, strategic objectives, and stakeholder expectations, as opposed to viewing CDR as an imposed compliance directive (Kala Kamdjoug, 2024; Omowole, 2024).

The emergence of realistic CDR roadmaps for SMEs, supported by structured guidance, demonstrates that even organisations lacking prior CDR awareness can progress toward implementation. Theoretically, this supports the view that carefully, co-designed voluntary approaches can produce substantive rather than symbolic compliance, without formal regulatory mandates (Omrani, 2022; Silva et al., 2022; Kumar et al., 2024). While pilot conditions, intensive support, and peer learning may limit generalisability, the consistent prioritisation of governance across all participating SMEs,

regardless of sector or maturity, signals genuine organisational understanding of CDR requirements. This governance focus confirms that isolated technical initiatives are insufficient without structural integration, accountability mechanisms, and leadership buy-in (Hubbart, 2022; Awoyemi et al., 2023). Effective CDR governance, as evidenced here and in the broader literature, requires dedicated accountability roles, cross-functional collaboration to reduce siloed implementation, and explicit policies articulating organisational commitments (Prabhu and Srivastava, 2023; Teixeira et al., 2024). Equally important are structured stakeholder engagement processes that allow external perspectives to inform internal decisions, alongside CDR maturity metrics embedded within performance management systems to incentivise responsible practice (Levy et al., 2023; Khar et al., 2024).

3.5 Qualitative considerations on the methodology

The CDR EUROPE methodology was developed based on interregional collaboration. Application in the four pilot sites leads to some qualitative considerations, summarised in the table below, which may be of relevance for replication purposes in any future initiatives.

Table 3: Considerations on the CDR EUROPE pilot methodology

Concerning organisational engagement:	In the early stages, SMEs evaluated feasibility, implementation timelines, and resource allocation internally. This process proved critical for translating external consultant guidance into organisational ownership across finance, technical, and management functions.
Concerning the questionnaire:	The assessment enabled organisations to identify varying CDR maturity levels and prioritise actions where gaps were most significant or strategically relevant. ⁶ Extended completion periods enabled cross-departmental participation and strengthened organisational ownership of implementation processes (akin to change management protocols, Lemos et al., 2025).
Concerning the iterative, consultative-based approach:	The consultative approach ensured that action plans were realistic, feasible, and aligned with organisational objectives through combining external guidance with internal SME knowledge. The consultancy model provided SMEs with specialist guidance while supporting internal capacity building through collaborative action planning, enabling continued CDR development beyond the programme.

11

Source: authors own (summarising interregional comparison from CDR EUROPE pilot)

4 Implications for theory, practice, and policy

Theoretically, the study contributes to the emergent CDR literature in three ways. First, by supplying multi-country empirical evidence for an implementation gap that has previously remained conceptualised (Lobschat et al., 2021; Dörr, 2025). Second, we demonstrate that CSR-derived constructs such as perception, micro-level managerial action, and cognitive alignment of organisations (Del Giudice et al., 2017; Caputo et al., 2018; Alhmoudi et al., 2022) can be transported into the digital domain and assist in explaining how SMEs engage with the tenets of CDR and finally, this study positions governance integration, rather than technical adoption, as the central mechanism through which CDR maturity develops in SMEs.

⁶ Granular assessment model at https://www.interregeurope.eu/sites/default/files/2026-02/CDREUROPE_CDR_MODEL_1.pdf

For managers and owner-managers, the evidence supports the following actions based on the pilot findings, in that building outward from existing CSR commitments and “hard-law” compliance strengths (e.g., GDPR and cybersecurity) into the weaker CDR dimensions of AI-ethics, environmental, and social impacts, reflects the observed CSR–CDR bridging effect. Hence, assigning explicit CDR accountability at leadership level, reflects the future prioritisation of governance, and using maturity self-assessment to sequence resource-proportionate actions embodied in the reported dimension-level score asymmetries.

For policymakers, the findings indicate that awareness-raising alone is insufficient to invoke change, what shifted SME behaviour in the pilot was structured, consultant-supported, co-designed assistance. Policy support should therefore fund intermediary-delivered CDR toolkits, embed CDR criteria within existing digitalisation funding instruments, and align SME-facing guidance across the GDPR, AI Act, and CSRD directives to reduce the perceived and actual cumulative compliance burden on SMEs. These implications must nonetheless be read against the study’s limitations. In short, the pilot involved a small purposive sample (n=5 Romanian SMEs within a wider four-country pilot), intensive consultant support, peer-learning conditions, and self-assessed maturity scores. Thus, the findings support analytical as opposed to statistical generalisation across comparable SME contexts and longitudinal research across larger and more varied samples is necessary to establish whether the roadmaps produced translate into sustained organisational practice.

5 Findings and conclusions

CDR implementation across EU SMEs has advanced conceptually and regulatorily. However, embedding CDR principles and practice within organisational strategy remains largely optional and evidence suggests this optionality is becoming untenable. Participating SMEs expressed intent to adopt CDR, but survival-driven resource constraints consistently override that intent, exposing a structural gap between aspiration and operationalisation (Lobschat et al., 2021; Dörr, 2025). Specifically, in answering our research question, the evidence indicates that CDR principles can be operationalised in European SMEs only when they are translated into resource-proportionate, co-designed roadmaps delivered through structured intermediary support. In addition, adoption is enabled by prior CSR familiarity, leadership buy-in, and alignment with recognised global objectives, and adoption is further constrained by resource and skills deficits and by regulatory incentives that privilege “hard-law” compliance over values-driven dimensions. The Romanian pilot data exemplifies this, showing not a failure of awareness, but a rational response to regulatory incentives. Thus, the implication for driving responsibility is uncomfortable to move beyond the traditional negative and punitive incentives of “carrot and stick” regulation, liability and insurance. Instead of this traditional approach SMEs should be positively incentivised by societally beneficial outcomes beyond public relations, reputational preservation, talent retention/attraction and prioritising shareholder value. If ethics alone drove organisational behaviour, CDR would already be embedded.

SMEs require targeted, operationally grounded CDR toolkits that translate principles into actionable, resource-proportionate steps (CDR EUROPE Project, 2023; COEUS Project, 2024). The economic logic of CDR offers a more durable lever than ethics alone as positioning CDR as a driver of reducing operational risk, strengthening procurement positioning, and building customer trust, reframes it from compliance burden to strategic asset. SMEs, resource-constrained and operationally exposed, require structured support.

Scaling CDR therefore demands what Sinclair (2025) terms 'collaborAction': a coalition of researchers, practitioners, policymakers, regulators, and SMEs co-designing mandatory, implementation-ready frameworks. As Watson and Hessami (2025: 3) warn, AI “may escape our grasp if we do not approach it with care” CDR is not the panacea, but it is a necessary condition for ensuring that organisations can

12

choose to be responsible for the digital and democratic society rather than undermining it. This paper advocates for continued collaboration to develop the practical training, tools and fundings schemes necessary to support achievement of this necessary condition.

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