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# Maturity levels of sustainable corporate entrepreneurship: The role of collaboration between a firm's corporate venture and corporate sustainability departments

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[Correction added on April 25, 2022, after first  
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## Abstract

To shed light on how incumbent firms implement sustainable corporate entrepreneurship (SCE) processes, this study investigates how organizations connect sustainability and venture departments. Based on qualitative interviews with 14 experts from 12 multinational corporations headquartered in Germany, we identified five maturity levels of SCE with increasing cross-functional collaboration: Non-Existent, Occasional, Expert, Collaboration, and Strategic Collaboration. Using secondary interview data from seven multinational companies headquartered outside Germany, we find initial support for these collaboration types in an international context. Results indicate that a company's general approach to innovation is associated with its SCE maturity level: companies with dedicated entrepreneurship units are more likely to have a higher level of SCE focus. Furthermore, the likelihood of working on radical innovations for sustainability seems to increase as soon as venture experts collaborate with sustainability managers, which, in turn, increases the chances of initiating sustainability transitions.

## KEYWORDS

corporate sustainability, corporate venture, cross-functional collaboration, maturity model, sustainable corporate entrepreneurship

## 1 | INTRODUCTION

According to the Intergovernmental Panel on Climate Change (IPCC) special report (IPCC, 2021a), a level of 1.0°C of global warming has been reached compared to pre-industrial levels. The report (IPCC, 2021b) stresses the importance of addressing urgently the triggers of global warming, as the current development is leading to more extreme weather events. These tendencies have an impact on not only society as a whole but also corporations. Larsen (2006) finds that 70% of firms reported that weather extremes have had a negative impact on their operating and financial performance. Taking into account that corporations own most of the productive resources

globally (Porter & Kramer, 2019), extreme weather conditions affecting cross-category supply chains are expected to cost \$970 billion between 2018 and 2023, according to a study based on 6937 companies (CDP, 2018).

Against this background, the concept of Innovation for Sustainability provides initial guidance for organizations of the private sector on becoming sustainable, as researchers have drawn the concept mainly from research streams addressing sustainability-oriented innovation (Adams et al., 2016), sustainability transitions (Markard et al., 2012), and the development of new sustainable business models (Boons & Lüdeke-Freund, 2013). As we will elaborate later in this paper, a promising opportunity for potential sustainability transitions

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comes from a higher focus and success of incumbent companies on radical innovation for sustainability. Mainly radical innovations in early development phases have the potential to challenge established socio-technological systems and to initiate fundamental socio-technological transitions (Markard et al., 2012). Therefore, this study is motivated by the goal that the private sector can contribute to a sustainable transition of the economy by developing new solutions and business models that address triggers for climate change.

In general, research shows that corporate sustainability action has increased (Hörisch et al., 2020; Ritala et al., 2018). The question, however, is where radical innovations and new business models emerge in large corporations. A reference is provided by the framework of Wolcott and Lippitz (2007), which illustrates that successful companies establish dedicated departments with resource authority for innovation and business creation (corporate entrepreneurship). In this context, corporate venture (CV) building units are dedicated units to create and implement new business models for their parent companies through incremental and radical innovations (Hill & Birkinshaw, 2014). Studies highlight that CV units such as corporate accelerators help large organizations innovate faster and have become a source of business model innovation (Urbaniec & Žur, 2021). Therefore, it is not surprising that more than 90% of large corporations belonging to Germany's primary stock index (DAX) have dedicated CV building units (e.g., incubators, accelerators, and venture capital; mm1, 2019).

Extant research provides evidence that corporate entrepreneurship activities can contribute to a sustainability transition of corporations. For instance, studies in the clean-tech sector provide evidence that corporate entrepreneurship, which comprises corporate venturing (Kuratko & Audretsch, 2013), has a positive effect on firms' environmental and financial performance (Dickel, 2018; Niemann et al., 2020). Likewise, a study among large and medium-sized Austrian firms confirms that economic innovation performance positively correlates with sustainability innovation performance (Rauter et al., 2018). However, in many companies, separate organizational functions have been responsible for sustainability management and corporate venturing, which poses the challenge of overcoming a restrictive functional focus and silo thinking (Bocken & Geradts, 2020). To gain a better understanding of the implementation of a sustainable corporate entrepreneurship (SCE) process, further research is required "to make entrepreneurial processes inside companies accessible" (Provasnek et al., 2017, p. 532). Thus, this study mainly focuses on shedding light on how the two strands of entrepreneurship and sustainability converge in large corporations.

Particularly, this investigation addresses the following three research questions:

- RQ1: To what extent do incumbent corporations use cross-functional collaboration between CV and sustainability units to facilitate SCE?
- RQ2: Which modes of SCE can be identified in business practice based on the level of cross-functional collaboration?
- RQ3: Does the general corporate entrepreneurship mode influence which SCE mode a company applies?

To answer these research questions, we analyze expert interviews from both primary and secondary data sources. The primary data encompass interviews with 14 CV, innovation, and sustainability experts from 12 leading innovation- and sustainability-oriented German companies in various industries. To verify these findings in other countries and organizations, we analyze secondary qualitative data from seven large multinational corporations based in other countries (seven interviews).

With regard to the first and second research questions, we explore whether and how sustainability experts work together with innovation and CV managers. We identify five types of organizational SCE strategies that vary on the degree of cross-functional collaboration between CV and sustainability units: Non-Existent, Occasional, Expert, Collaboration, and Strategic Collaboration. To answer the third research question, we cluster the companies according to an established corporate entrepreneurship model (Wolcott & Lippitz, 2007) and examine differences in the applied SCE mode. The findings indicate that organizational ownership (firms with dedicated venture/entrepreneurship units) as an entrepreneurial capability increases companies' SCE maturity level.

Furthermore, we replicate the conceptual model (RQ2) and confirm the association between the modes of corporate entrepreneurship with the SCE maturity (RQ3) using secondary qualitative data. Thus, the SCE maturity model is applicable for multinational firms in other countries as well.

## 2 | LITERATURE REVIEW

### 2.1 | Incumbents' contribution to sustainability transitions

Innovation is a key driver to contribute to sustainability (Klewitz & Hansen, 2014; Schaltegger & Wagner, 2011). However, large companies have been criticized for their mainly passive response and their reluctance to invest in more radical sustainable business model innovations (Ritala et al., 2018). Indeed, many companies' sustainable innovation efforts are directed at increasing eco-efficiency (lowering production costs; Ritala et al., 2018). In contrast, new entrants are typically depicted as driving radical niche innovations (Berggren et al., 2015; Christensen, 1997). For instance, Hockerts and Wüstenhagen (2010) argue that industry transformation toward sustainability seems to be mainly stimulated by start-ups' disruptive sustainability innovation.

More recently, extant research supports a more nuanced view of established firms' role (Köhler et al., 2019), as they can be active on both levels—that is, retaining their incremental innovation activities as well as engaging in niche innovations (Berggren et al., 2015). Research has proposed the implementation of radical innovation centers as a potential solution (Leifer et al., 2001), which today manifests as CV units within large corporations (Maine, 2008; mm1, 2019). Furthermore, niche innovations are only one building block necessary for a broader transition to create economies of scale. In this process,

established firms can facilitate market expansion beyond narrow niches (Berggren et al., 2015) and push the sustainable transformation of a sector to the next level. For instance, sustainable entrepreneurs often face various financing issues (Lüdeke-Freund, 2020), but large firms can overcome these issues using their privileged access to financial resources (Birkinshaw & Hill, 2005). Thus, for incumbent firms to fully exploit their financial and innovative capacities, they must overcome institutional inertia and develop processes to create more radical sustainable innovations. Researchers have encouraged a focus on sustainable (corporate) entrepreneurship to generate more radical innovations, namely, building business model innovation and new ventures (Klewitz & Hansen, 2014).

## 2.2 | Modes of corporate entrepreneurship

The term “corporate entrepreneurship” refers in a broad sense to existing firms' activities to discover and pursue new business opportunities (Bierwerth et al., 2015). It encompasses three types of efforts: CV, which describes the establishment of new companies or investment into existing firms; innovation, which is generally understood as the development and launch of new products, procedures, or systems; and strategic renewal, which pertains to significant changes of existing businesses to achieve a rejuvenation or redesign of a firm's business strategy (Kuratko et al., 2015; Sharma & Chrisman, 1999). All three types of corporate entrepreneurship positively impact firms' performance (Bierwerth et al., 2015).

Incumbent corporations use various pathways to foster corporate entrepreneurship (Buckland et al., 2003; Wolcott & Lippitz, 2007). For instance, some companies establish dedicated business units (the focused mode), while others approach business creation by embedding entrepreneurship into the corporate culture (integrated mode) or rely on individuals for driving innovation (ad hoc mode; Buckland et al., 2003). In addition, companies' corporate entrepreneurship mode differs in the level of resource authority (ad hoc vs. dedicated funding of business creation projects; Wolcott & Lippitz, 2007). According to Wolcott and Lippitz's (2007) framework, firms follow four dominant models of building new businesses, taking on the role of opportunist, enabler, advocate, or producer (see Table 1).

In the opportunist model, corporate entrepreneurship is not actively managed: these firms have no dedicated unit for creating new businesses, and projects are funded in an ad hoc manner. In contrast, enabler companies encourage entrepreneurial proactivity through economic support and senior leadership attention, although without formal organizational ownership. Advocate companies have

innovation and venture experts to promote entrepreneurial endeavors, which must win the support of existing business units to achieve funding (Wolcott & Lippitz, 2007; Table 1). Breuer (2013) considers the producer model the most capable of evoking disruptive innovation: this model involves forming a dedicated department with its own resources, which drives corporate entrepreneurship across the organization.

Within the corporate entrepreneurship literature, researchers describe nine CV modes (for a review, see Gutmann, 2019) that differ, for instance, according to venture units' internal versus external orientation (i.e., looking for internal opportunities vs. investments in external firms; Hill & Birkinshaw, 2008). However, as these frameworks only refer to CV, we use Wolcott and Lippitz's (2007) more comprehensive framework to describe companies' general strategy to foster corporate entrepreneurship.

## 2.3 | Innovation for sustainability and SCE

Innovation for sustainability is regarded as both a process and the result of efforts to increase economical, ecological, and social elements of value creation (Adams et al., 2016). It can be differentiated by innovation type (process, organizational, and product; Klewitz & Hansen, 2014), dominant target (ecological and/or social, coupled with economic; Hansen et al., 2009), and level of disruption (incremental vs. radical; Bocken et al., 2019).

In relation to sustainability-oriented innovation practices within firms, Klewitz and Hansen (2014) identify three categories: process, organizational, and product innovations. Process innovations lead to a redesign of operations within the value chain (e.g., resource efficiency in production). Organizational innovations encompass the application of environmental management standards or accounting tools. Product innovation is aimed to improve the sustainability performance of products (e.g., through the use of more sustainable materials; Klewitz & Hansen, 2014). Interestingly, Klewitz and Hansen (2014) observe that these innovation practices do not occur in isolation; an innovation effort at one level can lead to changes on another level (e.g., redesign of product requires local sourcing, which in turn leads to changes in the supply chain). However, process, organization, and product innovations do not automatically result in radical business model innovation. Only firms with a strong innovation focus, which seek to realize competitive advantages, and sustainability-rooted firms, which aim to contribute to sustainable development, will develop more radical innovation paths (Klewitz & Hansen, 2014).

**TABLE 1** Wolcott and Lippitz (2007) Four corporate entrepreneurship modes

Corporate entrepreneurship mode	Organizational ownership	Resource authority	Corporate entrepreneurship focus
Opportunist	Low: Diffused	Low: Ad hoc funding	Low
Enabler	Low: Diffused	High: Dedicated funds	Medium
Advocate	High: Focused	Low: Ad hoc funding	
Producer	High: Focused	High: Dedicated funds	High

In this context, SCE encompasses not only existing corporations and transformations of their corporate structures (Sommer, 2012) but also radically new models created by founders, intrapreneurs, and stakeholders to enable, for instance, product-service systems (Hockerts & Wüstenhagen, 2010). Thus, sustainable entrepreneurship is characterized as an approach to address environmental and societal challenges by implementing a successful business and endorsing “sustainable development through entrepreneurial corporate activities” (Schaltegger & Wagner, 2011, p. 224). Because of their innovative capacities, sustainable entrepreneurs represent a key transformative force for the sustainable economy, shaping markets and society through sustainability-oriented business models (Schaltegger et al., 2016; Schaltegger & Wagner, 2011). Common descriptions of business models emphasize the relevant element of value creation for firms and their clients through new value propositions. However, whereas conventional business models focus on value in use, or symbolic or economic value for stakeholders, sustainability-oriented business models extend the meaning to ecological and social value (Freudenreich et al., 2019). In addition, successful sustainable business models promote sustainable progress as well as create competitive advantages (Schaltegger et al., 2012). Thus, corporate interest is growing in developing sustainable business model innovations (Bocken & Geradts, 2020). Whereas sustainable entrepreneurship is also applicable to start-up ventures, SCE evolves within existing business entities (Provasnek et al., 2017).

To drive sustainability, sustainability-oriented innovations must be successfully implemented (e.g., new processes inside organizations and market launch of new products; Klewitz & Hansen, 2014). Baldassarre et al. (2020) propose executing small-scale pilots (prototypes) to implement and test business ideas early on as an approach to bridge the so-called design–implementation gap. In this vein, a recently developed stream of research has explored business experimentation for sustainability as a concept to accelerate transitions toward sustainability (Bocken et al., 2021). Exploratory business model experimentation in large corporations mainly takes place in dedicated CV units (Birkinshaw & Hill, 2005). Thus, CV units might play an important role in developing sustainable business models in the context of sustainability transitions.

Existing models in the sustainable innovation literature shed light on sustainability's contributions. For instance, Bocken et al. (2014) classify eight sustainable business model archetypes, such as maximizing resource efficiency (e.g., lean manufacturing) and creating value from waste (e.g., cradle-to-cradle design). Miles et al.'s (2009) SCE typology focuses on the resulting changes for the organization—that is, whether SCE results in product innovation, process innovation, or strategic innovations (e.g., shifts in the firm's value proposition or domain of business). However, these typologies are mostly outcome oriented and do not consider different entrepreneurial approaches to achieve these results. Likewise, in Provasnek et al.'s (2017) proposed matrix, SCE is just one emerging type (companies implementing both sustainability and entrepreneurship activities), and the model does not distinguish other SCE types. Therefore, the researchers stress the need to make entrepreneurial processes visible. Overall, we can conclude that none of the existing theoretical models in the sustainable

entrepreneurship literature describes the various approaches to sustainable corporate entrepreneurship with regard to the underlying organizational and entrepreneurial processes.

## 2.4 | The role of cross-functional collaboration for SCE

The solution to addressing the complexities of sustainability challenges is, in most organizations and research, a higher level of specialization, which entails specialized corporate functions, professions, and tools (Schaltegger et al., 2013). However, the inherent strengths of specialization give rise to the subsequent difficulty of reintegrating fragmented and partial information. In addition, disciplinary and functional specialization does not sufficiently consider system dynamics, interconnections, or holistic solutions (Schaltegger et al., 2013). Atiq and Karatas-Ozkan (2013) point out that sustainable entrepreneurship is not limited to a single function but spans the whole organization. Furthermore, from an entrepreneurial perspective, collaboration among employees is seen as an integral part of corporate entrepreneurship and the creation of entrepreneurial cultures (Ribeiro-Soriano & Urbano, 2010). Cross-functional collaboration (e.g., forming cross-functional teams) ensures that the internal knowledge and skills diversity is leveraged to enhance an organization's innovation development capacity (Ferdousi, 2012). Other studies highlight agile team building (forming and disbanding teams quickly) as a key competence for flexible, high-performing companies (Rahnama & Van Durme, 2017). In contrast, a restrictive functional focus (“silo thinking”) can lead to a lack of collaboration and shared ownership of a sustainability agenda and has been identified as a strategic barrier to creating sustainable business model innovations (Bocken & Geradts, 2020). Conversely, cross-functional collaboration can also be a success factor that inspires sustainable innovations (Bocken & Geradts, 2020).

Another driver of sustainable innovation is collaboration with other organizations (Konietzko et al., 2020). For instance, large corporations often collaborate with start-ups to stimulate corporate entrepreneurship and the organization's strategic renewal (Rigtering & Behrens, 2021). Furthermore, corporations with high sustainability innovation performance engage more in open innovation with customers and have more external collaboration partners (e.g., universities and nongovernmental organizations; Rauter et al., 2018). The present study is aimed to uncover the entrepreneurial processes within the organization (Provasnek et al., 2017); thus, we focus on internal collaboration between organizational functions.

In practice, companies typically have varying levels of cross-functional collaboration: some companies may pursue a specialization strategy, in which sustainability experts belong to a separate organizational function, whereas others might pursue a collaborative strategy, in which sustainability experts are an integral part of entrepreneurial activities. Therefore, our research analyzes SCE modes based on the level of cross-functional collaboration—that is, whether and how CV managers in large corporations collaborate with internal sustainability experts.

### 3 | METHODS

We chose an exploratory qualitative research methodology (Corbin & Strauss, 2008), because little is known about how corporations interconnect entrepreneurial practices with internal sustainability competencies and SCE still constitutes a novel field (Atiq & Karatas-Ozkan, 2013; Provasnek et al., 2017). We selected a qualitative research method because it is sensitive to the organizational context and dynamic processes (Pettigrew, 1992), such as SCE activities. In addition, qualitative data offer the opportunity to analyze potential causal relationships, complex patterns, and context-specific variables. Moreover, because research on SCE is still in its early stages, we decided to explore the subject with data from multiple case studies, which is most appropriate when little is known about the phenomenon (Edmondson & McManus, 2007).

We included cases from two sources. First, we gathered primary qualitative data from semi-structured interviews with 14 experts from 12 large multinational corporations belonging to Germany's primary stock index (DAX and mDAX companies). Second, we included secondary qualitative research based on existing interviews conducted by an innovation consulting and venture building company in seven international companies. We then analyzed the interview transcripts using qualitative content analysis (Mayring, 2014).

#### 3.1 | Sample selection and data collection

For the primary data collection, we focused on German companies, as Germany is the largest European economy and one of the highest-performing countries according to the climate change performance index: greenhouse gas emissions have decreased and ambitious net zero targets have been set on a national level (Burck et al., 2021), which exerts higher pressure on companies to improve their climate performance and contribute to this transition. We adopted a purposive sampling technique by identifying companies with high sustainability and innovation performance according to publicly available rankings (for a similar approach, see Bocken & Geradts, 2020). As a measure of sustainability performance, we utilized the STOXX Global ESG Leaders index (STOXX, 2019), which is based on ESG indicators provided by Sustainalytics. The index comprises 431 companies out of more than 20 countries and has been used in previous studies on corporate sustainability (Diez-Cañamero et al., 2020). As an indicator for innovativeness, we selected the brand eins ranking (2019), which evaluates more than 500 German companies across 20 industries.

We conducted semi-structured in-depth interviews with top-level and senior managers in CV and corporate sustainability departments. By interviewing professionals from both departments, we aimed to generate an integrated perspective from dedicated sustainability and CV departments, counteracting potential bias or prejudice effects of interview partners. From the 17 companies identified as sustainability and innovation leaders (see Section 4.1), we recruited professionals from 12 companies, thus reaching a participation rate of over 70%. For two companies (Adidas and Deutsche Post), we conducted

interviews with managers from both units; thus, we interviewed 14 experts in total. We concluded the interviews after reaching the theoretical saturation point, at which minimal incremental findings were being generated (see Eisenhardt, 1989; Mason, 2010). To gain an overarching understanding of how organizations enable SCE, we strove to interview upper management-level employees who oversaw potential SCE activities within their respective organizations. We used the professional networking portal LinkedIn to identify contacts in the respective companies. In addition to the name of CV units (see mm1, 2019), we used the following attributes as search terms: <business model> OR <business model innovation> OR <company building> OR <open innovation>; <sustainability manager> OR <sustainability>. Table 2 illustrates the corporate unit classification and titles of the interviewed 14 top-level managers. The classification list comprises four attributes: CV, corporate sustainability, integrated,

**TABLE 2** Corporate unit and titles of interviewees

Interview Nr.	Corporate unit	Corporate title
Primary data: German firms		
G1	CV	Digital innovation manager
G2	CV	Venture Capital & Private Equity
G3	CV	Senior innovation manager
G4	CV	Director M&A/CVs
G5	CV	Head of start-up lab
G6	CV	Head of PMO and validation
G7	CV	Partnerships & acceleration manager
G8	CV	Chief digital officer
G9	Sustainability	Group corporate responsibility
G10	Sustainability	Senior expert business development communications and sustainability strategy
G11	Integrated	Director Social Entrepreneurship & Customer Success
G12	Integrated	Director brand strategy and sustainability
G13	Integrated	Head of Digital Transformation & Sustainability
G14	Generic innovation	Strategy & innovation manager
Secondary data: International firms		
INT1	CV	Head of Innovation & new Technologies
INT2	CV	Global head of innovation
INT3	CV	Head of strategy, Digital & Innovation
INT4	Sustainability	Chief sustainability officer/CSO
INT5	Sustainability	Chief sustainability officer/CSO
INT6	Integrated	SVP, growth & impact
INT7	Integrated	Director business leader global, circular economy innovation

and generic innovation. The CV attribute pertains to a business function dedicated to at least one of the main CV focus dimensions described by mm1 (2019): accelerator service, CV capital, start-up cooperation program, or venture building. The sustainability attribute comprises functions or positions dedicated to sustainability, and the integrated attribute includes units in which CV and sustainability are integrated into one functional unit. We created the category generic innovation to classify one innovation position in which the corresponding organization had no dedicated CV unit (see Table 2).

We conducted interviews in German or English between April and July 2020 via phone calls or web conferencing tools. Interview duration was 27 min, on average, with the longest interview lasting 52 min and the shortest 10 min. The interviews were dialogue based, meaning that we used an interview guide to cover all relevant topics but did not direct the interviewees in a specific direction (Gioia et al., 2012). First, we asked each interviewee to indicate how their organization addresses corporate entrepreneurship activities in general. We then asked them to describe how their organization (i.e., the sustainability or CV unit) addresses SCE initiatives, and if and how sustainability specialists work together with innovation or CV managers. We recorded and transcribed all conversations.

Next, we compared our results with secondary qualitative data to test whether our conceptual model could be applied to other large international companies headquartered outside Germany. To do so, we obtained access to existing transcripts provided by a corporate innovation and venture development service company that had performed interviews for internal purposes in August 2020. We analyzed the transcriptions of seven interviews with top-level and senior managers in CV or corporate sustainability departments from seven large multinational corporations (see Table 2). To ensure comparability of the primary and secondary data, we confirmed that the international sample included companies that were comparable to the German firms in terms of revenue, number of employees (see Table A1), and sustainability performance. Two of the international companies are listed in the STOXX Global ESG Leaders index: Fortum (0.33) and Orsted (0.34). Thus, their sustainability performance is on a par with the top five German firms (see sustainability scores in Table 3). Although we could not compare innovation performance directly, as the brand eins innovation ranking only covers German firms, firms from the international sample are listed in international innovation rankings (e.g., Visa belongs to the world's most innovative companies; Forbes, 2018).

### 3.2 | Data analysis

Our analysis proceeded in several steps, which followed mixed procedural techniques with both inductive and deductive steps (Mayring, 2014). We used the qualitative research software Atlas.ti to apply an iterative and inductive process. For the self-collected

interview data (14 interviews), we first performed open coding by working through the texts line by line (Mayring, 2014, p. 80). One researcher conducted the initial coding, while a second researcher cross-checked the classification to lower subjectivity. We discussed divergent classifications case by case to assign the final code. Then, we linked multiple first-order concepts through axial coding to main categories. During this explorative stage, we used an inductive and interpretative approach to analyzing the data, focusing on interview passages that described the collaboration between CV and sustainability experts, as well as those that provided information regarding the SCE focus. The coding process was an iterative process of assigning second-order themes, describing different characteristics, comparing cases, and refining the coding scheme. We discovered several characteristics, which we organized into the following properties: existence of SCE projects, mode of SCE projects (ad hoc vs. planned), locus of SCE focus (CV or corporate sustainability units), existence of collaboration between functions, and type of collaboration (strategic vs. expert advice). We attributed a specific code to each of these characteristics and captured the combination of characteristics case by case. We then summarized the second-order themes into a conceptual maturity model.

After the inductive steps of analysis, we used Hill and Birkinshaw's (2008) and Wolcott and Lippitz's (2007) models to define categories and categorize companies' corporate entrepreneurship approach (deductive category assignment). Again, one researcher conducted the initial coding, while a second researcher cross-checked the emerging classification to lower subjectivity. We purposefully screened the data to cluster the cases according to the frameworks. Correspondingly, we examined the interviews for attributes that provided indications of the Wolcott and Lippitz (2007) dimensions (resource authority and organizational ownership) and the Hill and Birkinshaw (2008) dimensions (e.g., internal vs. external explorer). After assigning the attributes within these dimensions, we classified the individual cases according to Wolcott and Lippitz's (2007) four models; however, we could not match individual cases to the Hill and Birkinshaw models, mainly due to deficiencies in information (e.g., the participants did not make meaningful statements because they had awareness gaps). Finally, to verify the robustness of our findings and the SCE maturity model itself, we replicated the inductive and deductive coding steps described previously for the secondary interview data (seven interviews) kindly shared by a corporate innovation and venture development service company.

## 4 | RESULTS

### 4.1 | Sustainability and innovation leaders

The 12 companies from our sample belong to Germany's primary stock market index (DAX and mDAX), representing eight industry sectors (average annual sales: \$57 billion; 130,000 employees on average, see Table 3).

**TABLE 3** Selected German companies (sorted according to their sustainability performance)

Company	Sector	Sustainability performance <sup>a</sup>	Innovation performance <sup>b</sup>	Annual sales (bn euro)	Number of employees	CV activities <sup>c</sup>
Osram Licht <sup>d</sup>	Industrial goods & services	0.40	1	4.1	25,934	A, CVC
E.on	Utilities	0.35	2	30.3	70,000	A, CVC
Allianz	Insurance	0.34	4	130.6	147,000	A, CVC
Deutsche Telekom	Telecommunications	0.33	4	75.7	211,000	A, CVC, VB
Deutsche post	Industrial goods & services	0.33	1	61.6	165,781	A, VB
Siemens	Industrial goods & services	0.26	3	86.9	385,000	A, CVC, VB
SAP	Technology	0.23	4	27.6	100,330	A, CVC, VB
Adidas	Personal goods	0.21	4	21.9	59,900	A, CVC, SC
BASF	Chemicals	0.21	3	62.7	117,628	A, CVC, VB
Fraport <sup>d</sup>	Industrial goods & services	0.20	1	3.5	22,500	—
Covestro	Chemicals	0.20	1	12.4	15,700	VB
Daimler	Automotive	0.09	4	167.4	271,370	A, CVC, VB

<sup>a</sup>Weighting factor based on the overall sustainability score (STOXX Global ESG Leaders, 2019).

<sup>b</sup>Ranking from one-star (bottom 25%) to four-star rating (top 25%; brand eins, 2019).

<sup>c</sup>A = Accelerator; CV = corporate venture; CVC = corporate venture capital; SC = start-up cooperation; VB = venture building (mm1, 2019).

<sup>d</sup>mDAX companies (all other companies are listed in the DAX index).

## 4.2 | Maturity phases and level of collaboration in SCE

Based on the qualitative data analysis, we empirically identify five maturity stages of collaboration to foster SCE: *Non-Existent*, *Occasional*, *Expert*, *Collaboration*, and *Strategic Collaboration* (see Table 4).

Companies in the Non-Existent cohort were not working on any SCE projects; consequently, no cooperation between functions existed. In contrast, companies in the Occasional segment had individual SCE projects (e.g., idea management initiatives or process improvements) that developed in singular organizational units. Companies belonging to the Expert category were already focusing on SCE initiatives in either their CV or corporate sustainability units, and the lead unit driving SCE initiatives involved the counterpart in the SCE projects for expert advice. In companies belonging to the Collaboration category, both CV and corporate sustainability functions worked hand in hand on SCE initiatives but were still functionally separate entities. Companies belonging to the Strategic Collaboration segment focused on SCE projects by combining sustainability and venture experts into a single functional unit. Consequently, both functions worked together strategically and operationally in an integrated manner. In our sample, most of the companies consolidated in the Non-Existent (three companies), Occasional (four companies), and Strategic Collaboration (three companies) categories; only one case reached the Expert and one the Collaboration stage.

The extent of collaboration between CV and sustainability departments varies in how the functions work together to drive SCE initiatives and is determined by the extent to which organizations engage in SCE initiatives. In the Non-Existent and Occasional segments, no touchpoints between the functions were present, and SCE initiatives were an emergent phenomenon. Only from the Expert

segment onwards, SCE initiatives were continuously under consideration by one of the units and first collaborative touchpoints were generated. At this stage, SCE was not strategically anchored top-down; rather, one of the units (in our sample, the venture unit) drove SCE initiatives intentionally, involving the other function for expert advice. An interviewee belonging to an organization within the Expert segment remarked, “[I] approach the sustainability team to get their insights. First of all, feedback on the idea, if they think it is the right way to go [...], or if they are supporting it” (Partnerships & Acceleration Manager, G7). The level of cooperation increases significantly when an organization anchors SCE strategically. One interviewee from the Collaboration segment reported that innovation and sustainability experts worked together on project-based tasks and also strategically discussed their collaborative activities (see Table 4). In the Strategic Collaboration phase, both functions are fully integrated, and thus, the firm reached the highest level of cooperation. In addition to internal collaboration, companies at the Strategic Collaboration level collaborate with external partners and customers, as described in the following quote:

*[There are] three components to that: one is around helping our customers run sustainably; the other one is around innovating for impact and in co-innovation; and [in the third component], we include new business models, and then just partnering [...] with different NGOs and social enterprises. (Director Social Entrepreneurship & Customer Success, G11)*

*[A business unit] has done such a business-model exploration with the University of St. Gallen. (Director Brand Strategy and Sustainability, G12)*



**TABLE 4** SCE types based on the level of cross-functional collaboration (primary data; German firms)

SCE collaboration type	Further examples from data
Non-existent	<p>Interviewer: “Do you also have a mandate to get into the topic of new business models that are focusing on the topic of sustainability, so with social or environment impact?” Interviewee: “Very exciting, this was never a topic for us.” (head of PMO and validation, G6)</p> <p>Interviewer: “How do you work? Do you bring in experts for sustainability topics, e.g. sustainability managers, who have a profound knowledge in certain dimensions of sustainability? Or do you bring them in permanently [...]?” Interviewee: “At the moment neither of these [things] are happening.” (head of PMO and validation, G6)</p> <p>Interviewee: “This connect [interaction with sustainability experts] did not exist. No.” (Digital innovation manager, G1)</p>
Occasional	<p>“In the last year, we also started to drive topic-specific batches or define challenges.” (head of start-up lab, G5)</p> <p>“We have supported one or two topics [sustainability] beyond our normal batches through our normal programme.” (head of start-up lab, G5)</p> <p>“Yes; limited, but yes. We are paying a premium on sustainability goals that digitize, simplify, and optimize many things. We also have projects with us where we support the SDGs, so be it projects with external parties or within the company.” (senior innovation manager, G3)</p>
Expert	<p>“The idea is sustainable, sustainability-related, and ill approach the sustainability team to get their insights. First of all, feedback on the idea, if they think it is the right way to go, or if they think this is a crazy idea, or if they are supporting it. And yeah, so it is basically to get validation.” (partnerships &amp; acceleration manager, G7)</p> <p>“Especially on the process. Whats the situation in the market? If this is aligned to their goals, you know, were also checking now with the sustainability responsibilities in the business to check whether it fits their strategy, their business purpose, and so on. So, [...] its really about getting support and also validation.” (partnerships &amp; acceleration manager, G7)</p>
Collaboration	<p>Interviewer: “That means that you are not only in exchange for individual projects [with sustainability experts], but [...] you are also strategically in exchange on how to work together?” Interviewee: “Yes.” (chief digital officer, G8)</p> <p>“I would say that when projects arise between the two of us [sustainability and innovation functions], its more like 50/50.” (chief digital officer, G8)</p>
Strategic collaboration	<p>“And then in brand strategy theres the function of sustainability, innovation, and business models and I do that, so to speak, together with my team.” (director brand strategy and sustainability, G12)</p> <p>“I head the area of digital transformation and sustainability in one of our business units.” (head of Digital Transformation &amp; Sustainability, G13)</p> <p>Interviewer: “This means that you have in your team experts in the field of sustainability and on the other hand in the field of digital transformation?” Interviewee: “Yes, that is correct.” (head of Digital Transformation &amp; Sustainability, G13)</p> <p>“Overall, we are not hierarchical or committee-oriented in our working methods, but work very permeably, this means not in silos.” (head of Digital Transformation &amp; Sustainability, G13)</p> <p>Interviewer: “Does this mean that you have within your team experts on business models or business model innovation and experts on social entrepreneurship or lets say sustainability in the context of social opportunities?” Interviewee: “Yes, we do. And we also have a design-thinking approach that allows us to ideate with customers, with teams that have specific expertise on business model innovation. And, they also have tools and methodologies so that they can focus on business model innovation, the UN sustainable development goals and measurement at the same time.” (Director Social Entrepreneurship &amp; Customer Success, G11)</p>

*No, that [external collaboration] is already part of what we do. I had mentioned [start-up partner] as an example.*  
(Director Brand Strategy and Sustainability G12)

Furthermore, cooperation with customers had already taken place in early business model innovation phases, such as the idea-finding phase: “We also have a design-thinking approach that allows us to ideate with customers, through teams that have specific expertise on business model innovation” (Director Social Entrepreneurship & Customer Success, G11).

One of our interviewees (Director Social Entrepreneurship & Customer Success, G11) drew attention to the importance of setting different goals throughout the innovation process. First, in the ideation phase, the teams should be equipped with tools and methodologies to focus on business model innovation *and* sustainable development goals (SDGs). Then, when building and testing the idea, scaling (e.g., access to new industries or new populations) is an important target to ensure that transformation happens and delivers value.

Finally, for the success measurement, companies should adapt key performance indicators (KPIs) to the specifics of the venture projects itself (e.g., creating jobs and carbon reduction).

Notably, we did not observe an association between companies' sustainability performance (STOXX ESG score) and their SCE maturity level. For instance, in Table 3, the three companies belonging to the Strategic Collaboration segment are in the bottom half in terms of level of sustainability performance.

### 4.3 | Conceptual SCE maturity model of CV and corporate sustainability collaboration

We developed a conceptual maturity model that serves a descriptive purpose (Röglinger et al., 2012). The model discloses our as-is assessment under consideration of the business units' increasing cross-functional collaboration and SCE focus. Figure 1 describes the five maturity stages in terms of increasing cross-functional collaboration

between CV and sustainability departments (categories sorted from left to right). The vertical columns represent the observed increasing degree of SCE focus, which manifests itself in five levels: from no SCE projects (Non-Existent), to singular, random projects (Occasional), to focused projects driven by one of the units (Expert), to the strategic anchoring of SCE projects and the continuous collaboration of both departments (Collaboration), and finally to the full integration of the departments and potential collaboration with suppliers and customers in the SCE context (Strategic Collaboration). The stronger the cross-functional collaboration of both departments, the more initiatives the interviewees mentioned. Thus, the dotted line in Figure 1 outlines the SCE value gap, which decreases as cooperation and SCE focus increase.

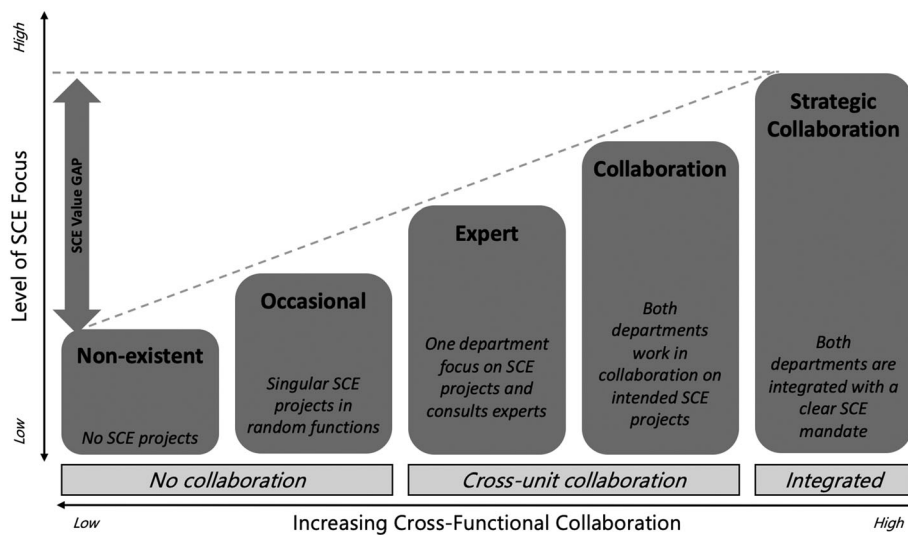
#### 4.4 | Types of collaboration and interrelation to Wolcott and Lippitz's four models of entrepreneurship

We next classified the CV and innovation units according to Wolcott and Lippitz's (2007) four models of corporate entrepreneurship. We

found that two companies used the opportunist model, two companies the advocate model, four companies the enabler model, and four companies the producer model (see Table 1).

To analyze whether the corporate entrepreneurship type and SCE maturity levels are associated, in Table 5 we summarize how often we observed Wolcott and Lippitz's (2007) corporate entrepreneurship models in the respective SCE maturity stages.

In the three more advanced maturity segments (Expert, Collaboration, and Strategic Collaboration), five companies used the producer/advocate model. Producer and advocate companies are characterized by focused organizational ownership (dedicated corporate entrepreneurship units). In contrast, all six companies with diffused organizational ownership (opportunists and enablers) had only reached the first two stages, Non-Existent and Occasional SCE. Only one company deviated from this pattern, a producer company in the Non-Existent segment (Table 5). Consequently, we conclude that a connection exists between the Wolcott and Lippitz (2007) dimension focused organizational ownership (producer or advocate model) and higher cross-functional collaboration level in the SCE context.



**FIGURE 1** SCE maturity model of CV and corporate sustainability collaboration. SCE = sustainable corporate entrepreneurship; CV = corporate venture

**TABLE 5** Number of firms allocated to the five SCE maturity levels and four corporate entrepreneurship types (Wolcott & Lippitz, 2007)

SCE maturity levels	Corporate entrepreneurship mode (based on Wolcott & Lippitz, 2007)		
	German firms (n = 12)	International firms (n = 7)	Predominant corporate entrepreneurship mode
Non-existent (∑ 5)	Opportunist: 1 Enabler: 1 Producer: 1	Opportunist: 1 Producer: 1	Opportunist/enabler
Occasional (∑ 4)	Opportunist: 1 Enabler: 3	—	
Expert (∑ 3)	Producer: 1	Producer: 2	Advocate/producer
Collaboration (∑ 3)	Advocate: 1	Advocate: 1 Producer: 1	
Strategic collaboration (∑ 4)	Advocate: 1 Producer: 2	Producer: 1	

Note: SCE = sustainable corporate entrepreneurship.

The second dimension of the Wolcott/Lippitz model (resource authority) plays a subordinate role: both enablers and producers have a dedicated corporate pool of money for entrepreneurship, but no enabler company overcomes the second stage of the SCE model (see Table 5). Thus, resource authority of the venture department does not seem to lead to higher SCE maturity. Furthermore, both producer and advocate companies have a focused organizational ownership but different funding models (whereas producers have dedicated funds, advocates have ad hoc funding). Like producers, advocate companies were able to reach the two highest SCE maturity stages (Table 5). Thus, we see no clear advantage of the producer model with resource authority over the advocate model.

In summary, the data suggest that companies with a focused organizational ownership could have stronger cross-functional collaboration between sustainability and CV units. In contrast, the funding type (resource authority) does not seem to influence the level of SCE collaboration.

#### 4.5 | Cross-country analysis of the SCE maturity levels

We also identified the five maturity levels through the secondary interview data with representatives of seven international companies from heterogeneous industries (see Table 2 and Table A1). All companies could be clearly assigned to one of the five SCE maturity stages (see Table 5 and Table A2). Thus, the international analysis indicates that the levels of the developed SCE maturity model are also evident among large corporations headquartered in other countries.

We also classified the corporate entrepreneurship type of the validation companies. Again, we see a pattern: companies with a focused organizational ownership approach (producer or advocate) typically reach higher SCE collaboration levels (Expert to Strategic Collaboration; Table 5). As in the primary data, we found one exception: a producer company in the Non-Existent segment (see Table 5).

To further investigate the outlier phenomenon, we reviewed commonalities of the two deviating companies, which have a producer model (high corporate entrepreneurship focus) yet only achieve a Non-Existent level in the SCE maturity model. Both companies have one aspect in common: they focus primarily on optimizing the supply chain and existing processes as part of their sustainability 2030 strategies:

*We are working on a baseline to evaluate where we are right now, and how does our core work contribute towards the SDGs. (Global Head of Innovation, INT2)*

*We set goals around our key areas [...] but we do not really have a strategic common goal [shared goal between the CV and sustainability departments] yet. (Global Head of Innovation, INT2)*

Both companies' primary focus is to examine and optimize existing processes, products, and services toward sustainability. Apparently,

this optimization mindset does not leave room for a focus on new business models, despite the existing CV infrastructure in both cases.

## 5 | DISCUSSION

Extending corporations' entrepreneurial processes toward SCE can lead to disruptive sustainable innovations and business models (Belz & Binder, 2015), which stresses the importance for both companies and society. As it is demanding for companies to build capabilities in either sustainability or entrepreneurship, the implementation of SCE processes is particularly challenging (Provasnek et al., 2017). We contribute to the growing SCE literature by reflecting the linkages of functional departments in both disciplines (sustainability and entrepreneurship) based on in-depth expert interviews. First, the ranking analysis shows that sustainability and innovation leaders exist across industries, which allows the investigation of SCE processes in different industry branches. Second, we develop a conceptual maturity model of different SCE types depending on the cross-functional collaboration level. Although we selected a sample of sustainability and innovation leaders, we find that all stages of SCE are present: from Non-Existent (no strategic focus on SCE projects) to Strategic Collaboration (functional integration of sustainability/entrepreneurship units and a high focus on sustainable business models). Third, our results indicate that companies with a producer or advocate model of entrepreneurship (Wolcott & Lippitz, 2007), characterized by having dedicated entrepreneurship units (high organizational ownership), are more advanced in terms of their SCE maturity.

### 5.1 | Implications

Our findings theoretically extend the SCE research stream in two main respects. First, in contrast to established outcome-focused models (Bocken et al., 2014; Miles et al., 2009), we developed a maturity model that describes what processes and structures are employed by large corporations to stimulate sustainable business model innovation. Building on existing research (Atiq & Karatas-Ozkan, 2013; Bocken & Geradts, 2020; Schaltegger et al., 2013), our model demonstrates the critical role of cross-functional collaboration is a driver of SCE: managers within organizations with a higher degree of cross-functional collaboration can implement more SCE projects.

Second, we shed light on the relationship between companies' general entrepreneurship orientation and their SCE maturity level. In contrast to Hockerts (2015), we cannot corroborate through our research that corporations with a higher sustainability performance are more likely to show a greater degree of sustainable business model innovation. Instead, the organizations' preparedness for corporate entrepreneurship seems to be a driver fostering SCE, as has occurred in the clean-tech sector (Niemann et al., 2020). This finding further underscores Atiq and Karatas-Ozkan's (2013) assumption that sustainable entrepreneurship requires a strong entrepreneurial culture within the organization. Our data reveal that it is primarily the sense of ownership rather than the dedication of financial funds that drives SCE. Thus, a focused

organizational structure with designated units for entrepreneurship and building new businesses (producer, advocate model) is a valuable asset, enabling the implementation of SCE processes. This finding lends support to Bocken and Geradts (2020), who also report that autonomous entrepreneurship units support building the dynamic capabilities for sustainable business model innovation. Theoretically, our findings are in line with the agency perspective, which states that an agent must exist to bring forth the required innovation (Lüdeke-Freund, 2020).

In terms of managerial implications, we conclude that the existence of a CV unit with focused organizational ownership is an important prerequisite to foster SCE projects. The primary explanation lies in the necessity for companies to have access to methodological expertise and tools that enable them to innovate business models in the context of sustainability. However, apart from building dedicated venture teams, we recommend taking additional steps to achieve a more strategic SCE focus. First, a cross-functional collaboration of CV and sustainability units should be enabled. Thereby, companies can consolidate fragmented knowledge and increase SCE activities. Second, we recommend organizations setting sustainability-related targets for these units and establishing a clear responsibility to initiate sustainable business models.

Conversely, companies should not rely on diffused organizational ownership, as this approach leads to a lack of collaborative efforts and, consequently, to a shortfall in SCE projects. Interestingly, resource authority does not seem to be fundamental to the delivery of SCE projects, which means that budget authority in the SCE context does not necessarily have to be transferred to the authority of cross functional CV units. This phenomenon may increase the motivation for companies to implement dedicated units, as predefined budgets do not need to be decided and accrued in advance. The focus of the dedicated team however, is of relevance, as our research suggests that only companies that focus on exploratory opportunities (“explore,” Hill & Birkinshaw, 2008) and not only on optimizing their supply chain or existing processes (“exploit,” Hill & Birkinshaw, 2008), irrespective of their competences, embark on SCE projects. For this reason, we recommend companies to establish a clear objective to focus not only on optimizing existing business but especially on new business opportunities (creating, discovering validating and accelerating entirely new concepts that are foreign to an organization).

Apart from the organizational structure, another managerial recommendation is to build teams with a diverse set of competencies: teams should consist of both venture/innovation experts with specific competencies (e.g., design thinking and digital transformation) and sustainability specialists. As our data show, CV units usually offer dynamic capabilities but need expert advice on sustainability-related topics. Various CV managers mentioned the need for collaborative innovation with sustainability experts due to the complexity of sustainability challenges. Another benefit of SCE projects, which practitioners may have underestimated, is that some company representatives argued that the integration of sustainability experts into projects promotes the resilience of project teams, as a focus on sustainability provides a kind of purpose.

When looking at different stages of the innovation process itself, another recommendation is to adapt a goal-setting approach, which is

specifically tailored for SCE projects: (1) ideation phase: focusing on innovation and sustainability goals; (2) idea building and testing: leveraging scale effects; and (3) success measurement: project-specific KPIs to measure the transformative impact (e.g., carbon reduction and social indicators). This recommendation is in line with research that highlights the necessity of simultaneously setting and validating important goals, (e.g., value proposition, technical feasibility, financial viability, and sustainability) of a new business idea at an early stage (e.g., pilot-testing stage; Baldassarre et al., 2020).

Policymakers should leverage these findings by encouraging and supporting companies to invest more in exploring sustainable business models through dedicated cross-functional teams. For instance, this initiative could be inspired by exchanging and sharing best practices. Another option would be to offer free professional development for employees in order to qualify existing employees in the exploration of new business models. Our research has shown that especially companies at the more advanced strategic collaboration level tend to cooperate with external partners, whereas companies with a lower level of internal collaboration also reported less external collaborations. Thus, policy makers should consider how to foster such networks. Formats that facilitate cross-industry exchange, such as annual events or seminars, could be beneficial in this regard. Other avenues could be offering open innovation initiatives, starting with hackathons, for example, or connecting start-ups and large corporations. Perhaps the output of SCE projects could also be promoted, for example by granting tax incentives for the formation of new sustainable enterprises, or by creating overall monetary incentives to establish initiatives in this direction.

## 5.2 | Limitations and future research

We used interviews as a source of data, which might be susceptible to certain biases (e.g., leading questions), although we tried to mitigate these effects by using a topic guide for the interviews with open-ended questions and independent coders for the analysis. Although qualitative research is adequate to explore new phenomena, another path for future research could be to develop a scale that measures the five maturity levels of our conceptual model and conduct quantitative research to study firm's SCE processes and the impact of cross-functional collaboration on innovation for sustainability.

Another limitation is that although we selected the cases based on objective criteria, we recruited interviewees from either CV or sustainability functions, which might have influenced results. However, for two companies, we recruited more than one interviewee to triangulate data from different employees and functional roles. We compared these interviews and found a satisfactory consistency level. Furthermore, in all companies, we interviewed professionals from upper management levels, who have access to a rich pool of information, oversee various projects and should be able to give insights into the corporate strategy and the collaboration between units. As we interviewed only a limited number of corporations, further research is needed to validate the quantitative relevance of the identified maturity phenomena, as well as the existence for small- and medium-sized

companies. Even though we extended the sample through a set of international firms, the primary focus on German-listed companies is a limitation of the study that needs further research in an international context. A larger sample would also allow to consider individual and organizational factors that may influence cross-functional collaboration (e.g., environmental mission; Dickel, 2018; management support for cross-functional teams; Ferdousi, 2012).

Another limitation is we used the Wolcott and Lippitz (2007) model to assess companies' entrepreneurial mode. We acknowledge that other models classify CV units at a more granular level and may allow a more in-depth analysis of the implications of different CV variables. For instance, Hill and Birkinshaw (2008) propose that CV units differ in their strategic orientation (e.g., exploration vs. exploitation focus), which could be a useful categorization and should be gathered during the interview stage. As the present study focused on collaboration within the organization, we encourage further research on how firms can become more flexible and transition to more sustainable business models, for instance, by collaborating with other businesses, either established firms (Konietzko et al., 2020) or start-ups (Rigtering & Behrens, 2021). Furthermore, we encourage researchers to examine the extent to which sustainable radical innovations and sustainable business models coming from established corporations challenge established socio-technological systems and trigger sustainability transitions.

### 5.3 | Conclusion

This article contributes to SCE research by elaborating on how companies create a breeding ground for SCE initiatives. We find that the collaboration of functions with different competencies and capabilities depends on existing CV structures. The likelihood of working on successful radical innovations for sustainability seems to increase as soon as CV experts collaborate with sustainability managers. Organizations, which foster cross-functional collaboration, also increase the likelihood of radical innovation. Arguably, a higher focus and success of incumbents on radical innovation for sustainability increases the chances of initiating sustainability transitions.

Thereby, our study fills substantial gaps in the literature addressing the need for more sustainable business models and driving sustainability transitions on a larger scale. The developed conceptual model can serve as a fruitful base for further research and guide companies in their transition toward sustainable business strategies.

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## APPENDIX A

**TABLE A1** International firms covered by secondary data

Company	Sector	Annual sales (bn euro)	Number of employees	Headquarters
Inmarsat	Space industry	1.5	1500	United Kingdom
Visa	Payment technology	23.0	19,500	United States
Danske Bank	Banking	10.8	22,006	Denmark
IKEA	Retail	41.3	211,000	Sweden
Fortum	Electricity generation	5.4	8300	Finland
Ramboll	Engineering	11.4	15,500	Denmark
Orsted	Electricity generation	67.8	6526	Denmark

**TABLE A2** SCE types based on the level of cross-functional collaboration (secondary data; international firms)

SCE collaboration type	Further examples from data
Non-existent	<p>Interviewer: “Are you in interaction with the sustainability department?” Interviewee: “Well no, not enough. Im one of the bad employees who dont do it enough. Its [colleagues] mission to make this work across different departments and key accounts. And really using sustainability to sell more. We set goals around our key areas (liveable cities, etc.), but we dont really have a strategic common goal yet. But for sure, innovation needs to become more sustainably minded. We need to find more ways and methods to meet clients” needs for sustainable solutions. I think we have some overlap, [...] specifically around the creation of new tools and processes. (global head of innovation, INT2)</p> <p>“The sustainability department sits somewhere in the corporate affairs office of [company]. We are in no way involved in that. We work with solutions. We work with business and making money. The other department takes care of the sustainability agenda, environmental footprint, branding, etc.” (head of strategy, Digital &amp; Innovation, INT3)</p>
Expert	<p>Innovation is treated as a separate category. But also works as a default. We innovate by looking at new technologies (telemedicine/e-health). We consider how satellites can be greener in production and launch by briefing teams to look at constellations. (chief sustainability officer/CSO, INT4)</p> <p>Interviewer: “Are you in interaction with the sustainability department?” Interviewee: “Yes, were in contact with them. Were discussing donations, sponsorships and funding with them. [...] well, we have a vision for a cleaner energy world, and this is present all over the company. All the innovations that we work on in our department are for a cleaner world. The specific focus areas we have this year are storage, flexibility, mobility services, sustainability, and resource efficiency. [...] I am responsible for innovation and internal venturing and work as part of a wider business unit, which is responsible for looking for new technologies and business models through scouting start-ups.” (head of Innovation &amp; new Technologies, INT1)</p>
Collaboration	<p>“There is some relationship between innovation and impact. There are eight innovation centres/labs in Miami. In Argentina, we are working with the growth and scale of businesses delivering impact.” (chief sustainability officer/CSO, INT5)</p> <p>“[there are] two separate budgets connected to sustainability: There is a line budget, following the line functions. Both group sustainability and for the [company] lines; costs related to functions, but also for development. The line budget is dedicated towards more traditional sustainability efforts. The innovation money, supporting business development to find new business models.” (director business leader global, circular economy innovation, INT7)</p>
Strategic collaboration	<p>“Transition from CSR being a marketing tool and integrating into the overall strategy.” (SVP, growth &amp; impact, INT6)</p> <p>“The SDGs [sustainable development goals] are a part of the [companys] overall strategy; how we do lending, transaction services, all to support our customers. [...] dedicated projects, like working with start-ups, to drive more sustainable projects. How to give back to society.” (SVP, growth &amp; impact, INT6)</p>