Corporate Venturing in Sustainability Transition: Conceptual Framework

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Abstract: Corporate venturing serves as a bridge between the innovative potential of startups and the scale and resources of established corporations. Corporate venturing has become an increasingly important mechanism for facilitating sustainability transitions, but its unique attributes in the sustainability context are yet to be adequately addressed. In response, this study seeks to fill this gap by proposing a conceptual framework that emerges from an integrative literature review and qualitative content analysis of 42 scholarly articles. The five primary themes that emerged as essential are innovation, ecosystems, partnerships/networks, transition/transformation, shared value creation, and new business models. The proposed framework contributes to the theoretical conversations around sustainable corporate venturing and offers practical insights for practitioners seeking to integrate corporate strategies with sustainability objectives. This study lays a foundation for future empirical and theoretical research by synthesizing fragmented perspectives and offering structured guidance.

1 INTRODUCTION

The urgent need to achieve climate neutrality by 2050 and meet the 2030 Sustainable Development Goals (SDGs) has placed significant pressure on corporations to transform their operations. Regulatory frameworks such as the European Union's Corporate Sustainability Reporting Directive (CSRD), launched in January 2024, aim to enhance corporate transparency and accountability, expanding sustainability reporting requirements to over 50,000 companies. The European Commission emphasizes the urgent need for a fundamental economic transformation, with EU companies seen as pivotal in driving this shift toward achieving climate neutrality by 2050 (European Commission, 2021).

Despite this, global business progress in the transition to sustainability has been stagnant for the past three years, according to the UN Sustainable Development Solutions Network (2024). While corporations recognize the potential competitive advantage of integrating SDGs into their strategies (United Nations Global Compact, 2023), many still face considerable challenges. In the meantime, the overall sustainability transition of the global economy has been slower than planned due to its unprecedented complexity (McKinsey Global Institute, 2022).

Corporate venturing (CV), a form of corporate entrepreneurship, has emerged as a critical mechanism for enabling corporate sustainability transitions. CV bridges startups' innovative potential and established corporations' scale and resources, allowing businesses to pursue sustainability goals with greater agility (Mac Clay et al.; 2024; Kolte et al., 2023a). Corporate Venture Capital (CVC) programs are increasingly being employed, with companies allocating 10-15% of their capital to investments in sustainable businesses (Döll et al., 2022). However, despite growing interest in CV, there is still a lack of cohesive frameworks on how it can be optimally leveraged to drive sustainability transitions across different industries and geographies. Namely, there is limited empirical evidence on the influence of sustainability on CV (Laibach et al., 2023) and little understanding of sustainability transition-related challenges (Wunder & Maula, 2024; Tandon et al., 2024). The literature

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presents a range of competing frameworks for managing these transitions (Wunder & Maula, 2024; Ytröm et al., 2021; Contini & Peruzzini, 2022), leading to fragmented understanding and inconsistent application across industries (Ghobakhloo et al., 2021; Salomaa & Juhola, 2020; Lahti et al., 2018).

Thus, the problem lies in the fragmented understanding of how CV can be effectively leveraged to facilitate the transition to sustainability within businesses. To fill the gap, the current research poses the following questions:

Q1. What are the characteristics of corporate venturing in the transition to sustainability?

Q2. How can these concepts be categorized according to content analysis in a conceptual framework?

The research aims to conduct a literature review and employ qualitative content analysis, resulting in a conceptual framework. The literature review follows an integrative approach, following the perspective of Kraus et al. (2022), that a literature review should synthesize essential insights and propose fresh narratives and conceptual frameworks (Breslin & Gatrell, 2020; van der Waldt, 2020).

The remainder of the paper is structured as follows: After the introduction, Section 2 presents the research methodology. Section 3 provides insights into the key theoretical concepts. Section 4 discusses the results obtained from the content analysis. Section 5 provides an analysis of the conceptual framework. Finally, Section 6 delivers a discussion with implications for future studies.

The key contribution of this research is a systematic overview of key concept categories related to corporate venturing in the transition to sustainability, resulting in a conceptual framework and thus providing a twofold relevance. For scholars, it identifies future research areas; for practitioners, it provides an overview of a conceptual framework.

2 RESEARCH METHODOLOGY

Given the increasing relevance of sustainability transition and CV, this study employed a literature review and content analysis to examine the existing scientific evidence concerning CV characteristics in the corporate transition to sustainability. resulting in a conceptual framework.

The initial data collection and screening were processed in August - September 2024, using Scopus and Web of Science databases. The search equation for Scopus was (TITLE-ABS-KEY (corporate AND ventur*) OR TITLE-ABS-KEY (corporate AND entrepreneurship) AND TITLE-ABS-KEY (sustainab* AND transformation) OR TITLE-ABS-KEY (sustainab* AND transition)). For Web of Science, advanced search was used with the equation (corporate ventur* or corporate entrepreneurship) AND (sustainab* transformation or sustainab* transition). The search protocol resulted in 103 records from Scopus and 115 records from Web of Science. Following the screening stage, 46 remaining records were assessed for eligibility, resulting in the outcome of 22 records. Additionally, 20 handpicked records using the snowballing technique were added, resulting in a final outcome of 42 thoroughly researched records published between 2010 and 2024. The article selection process and criteria are described in Table 1:

Table 1: Summary of the article selection process.

Identification	Screening	Inclusion
Records identified by applying the search equation	157 records were screened for title and 58 records were excluded In the abstract screening, 54 records were excluded as non-relevant to the scope of the research	46 records were assessed for eligibility – research and review articles, and conference papers with full text available, published in English, were kept
Scopus: 103 Web of Science: 115 Non duplicated records: 157	Outcome: 46	Outcome: 22 Snowballing: 20 Total: 42

The content analysis was performed based on inductive technique (Mayring, 2000) with the assistance of ATLAS.ti, a widely used CAQDAS employed by researchers in different fields (Soratto et al., 2020; Friese, 2019). By applying Atlas.ti, version 24.2.0.32043, the author employed an iterative, inductive process for the qualitative analysis. The process began with open coding, where initial codes were created directly from the data. These initial codes were grouped into broader categories. The outcome was 11 key categories arising from 44 codes applied toward 530 units of analysis. The coding process is depicted in Table 2:

Finally, a conceptual framework was proposed, following Jabareen's (2009); Breslin & Gatrell (2020); Van der Waldt (2020) approach to building conceptual frameworks. This approach involves creating a network of interlinked concepts that jointly offer a comprehensive understanding of the phenomenon.

Table 2: Summary of content analysis.

Coding	Revision and Finalization of the Coding Frame	Summarization and Interpretation
Inductive coding process	Re-reading coded segments and finalizing the category system, ensuring it accurately reflects the data	Summarizing findings in each category Drawing insights
Outcome: 44 codes out of 530 units of analysis	Outcome: 11 categories	Outcome: Findings applied to the conceptual framework

3 THEORETICAL FOUNDATION OF KEY CONCEPTS

3.1 Corporate Venturing

The academic literature lacks a unified definition of CV, though it is commonly used as a broad term for entrepreneurial activities within established firms (Schuh et al., 2022). Gutmann (2019); Döll et al. (2022) characterize CV as a set of corporate mechanisms designed to accelerate innovation and new business creation, while Tandon et al. (2024); Schuh et al. (2023) describe the entire corporate entrepreneurship as a means for companies to reconfigure existing businesses.

Laibach et al. (2023) conclude that a lack of well-established scientific definitions and blurred boundaries between various types of CV results in a scattered and fragmented body of research.

Kolte et al. (2023b) position CV as a part of the Venture Capital (VC) sector, while Laibach et al. (2023) state that CV's objectives differ from VC funds. As such, CV investors are often less financially driven, instead focusing on aligning investments with corporate strategies (Bianchini & Croce, 2022; Wunder & Maula, 2024). Whereas VC involves minority stakes with minimal integration, corporate involvement is much higher, peaking in joint ventures and acquisitions (Dall et al., 2024). CV is more likely to invest in green ventures, as corporations are more ready to conform to future environmental regulations and standards (Wunder & Maula, 2024). Green ventures generally take longer to reach profitability than other sectors (Mrkajic et al., 2019).

CV space is characterized by a growing heterogeneity of CV modes such as corporate accelerators, incubators, corporate venture capital, strategic partnerships with startups, venture-client model, market-based and science-based collaborations, start-up cooperation programs, venture building, hackathons, open innovation contest platforms, joint ventures, acquisitions, alliances and spin-offs (Gutmann, 2019; Schönwälder & Weber, 2023a; Zucchella et al., 2023; Haarmann et al., 2023, Doll et al., 2022). Although these activities differ, distinguishing between them can be difficult due to their overlapping features (Doll et al., 2022). Corporations may also use multiple mechanisms simultaneously to achieve diverse goals.

Accelerators are organizations, either for-profit or non-profit, that operate within entrepreneurial ecosystems to develop ventures over a short span of time (de Klerk et al., 2024; Woolley & MacGregor, 2021). They provide funding, mentorship, training, and office space with a cohort-based learning experience (Gutmann et al., 2019; de Klerk et al., 2024).

Incubators play a crucial role by assisting startups in refining their business models and strategies while offering essential resources and access to valuable networks (Martins de Souza et al., 2024).

Under the venture client model, the start-up's solutions get integrated into the incumbent's products, processes, or business models (Haarmann et al., 2023). Similarly, Zucchella et al. (2023) point out that the incumbent acts as a commercial partner and client of startups. Corvello et al. (2023) describe the collaboration between incumbents and start-ups to form dynamic ecosystems for value creation.

Corporate venture capital (CVC) is widely recognized as the largest and most influential form of CV. Röhm et al. (2020) define CVC units as wholly-owned subsidiaries of non-financial corporations that invest in start-ups on behalf of their parent company.

Since the 1990s, the significance of CVC has steadily grown across all sectors, including the circular economy, becoming a major driver of global innovation (Kolte et al., 2023; Benkraiem et al., 2023). Research shows that CVC boosts market valuation and patent production, and contributes positively to both innovation and financial outcomes (Ceccagnoli et al., 2018).

2023 global CVC funding totalled around $102.4 billion (CB Insights, 2023). Major global investment areas included artificial intelligence, biotechnology, and renewable energy, while Europe strongly emphasized healthcare and sustainability-driven innovations (CB Insights, 2023). This reflects the growing

importance of sustainability in shaping investment decisions and strategies within the CVC landscape.

The literature is not unanimous in providing a clear-cut concept of CV across dimensions such as its locus, composition, expected outcome, and return. CV activities can be categorized based on various contextual dimensions, such as objectives, technology and financial sources, and the degree of dependence on the parent company (Schuh et al., 2022).

There is a distinction between internal and external CV, which Reihlen et al. (2022) believe must be studied separately. Internal CV refers to the origination of innovations within the organization. In contrast, external CV focuses on supporting ideas originating outside the organization (Gutmann et al., 2019), such as CVC, corporate accelerators, corporate innovation labs, and direct corporate minority investments in the external CV ecosystem. The advantage of external focus lies in accessing external resources more rapidly (Döll et al., 2022).

There is also a distinction between domestic and international venturing based on the geographical locations of new business activities (Shu et al., 2020). Compared to domestic ventures, international venturing provides access to larger markets.

Both private and state-owned companies engage in CV. The reasons for investing differ between large investors and small to medium businesses, and between government-owned and privately owned corporate investors (Hegeman & Sørheim, 2021).

PricewaterhouseCoopers (2022) position the industry as the primary determinant of the intensity of CV value creation. According to Hegeman & Sørheim (2021), large government-owned energy companies are active in CV. The energy sector is one of the leading sectors in the sustainable transformation undergoing rapid change (Zucchella et al., 2023; Livieratos & Lepeniotis, 2017). According to Livieratos & Lepeniotis (2017); Surana et.al. (2023), the fourth wave of CVC came from the IT and financial industries and traditional industries like energy, fossil fuel, transportation and automotive sectors. CV follows a similar pattern to private independent venture capital, primarily investing in sectors with expected short to medium-term returns, such as fintech and software, while showing less interest in long-term deep tech and traditional sectors such as the air industry, chemistry, and construction (Compaño et al., 2022). Over the past three decades, global agricultural value chains have undergone significant structural transformations (Mac Clay et al., 2024; Fairbairn & Reisman, 2024). Agri-food incumbents increasingly rely on startups for innovative technologies to sustain their market dominance (Fairbairn & Reisman, 2024). Hegeman and Sørheim (2021) emphasize that companies are more inclined to pursue corporate venture capital when it is prevalent within their industry.

On the other hand, CV is no longer related solely to a single sector or industry. Climate tech is an example of how businesses use CVs to develop cutting-edge technologies (Silicon Valley Bank, 2023) and confirms that corporates are exploring avenues to address ESG goals. Recent trends in manufacturing industries, such as digitalization and sustainability, require companies to change their products and processes (Schuh et al., 2023). According to Kolte et al. (2023), the significance of CV has been increasing in each sector to the extent of becoming a major force of global innovation.

To demonstrate the rich CV scenery, the author has summarized the CV modes in Figure 1:

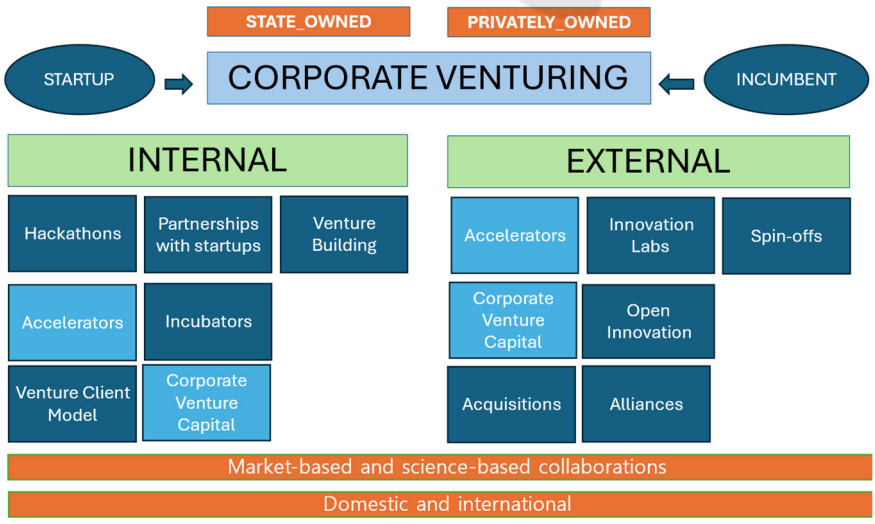

Figure 1: Summary of CV modes (source: author's created).

Mutually beneficial collaboration between a startup and an incumbent in CV occurs when the incumbent seeks to drive innovation, increase agility, or pursue a transformation while the startup gains access to funding and support (Corvello et al., 2023; Zucchella et al., 2023; Schuh et al., 2022). This approach is a low-risk strategy for incumbents to diversify their product portfolios by exploring new, potentially profitable areas while leveraging their competitive advantages (Urbano et al., 2022; Compaño et al., 2022). Through alliance experience and investment intensity, incumbents often supplement a startup's R&D efforts, with startups driving early-stage discoveries and incumbents scaling these innovations to mass markets (Lin, 2020; Mac Clay et al., 2024).

Startups benefit from the incumbents' social and material infrastructure, product expertise, proof-of-concept validation, manufacturing capacity, legal support, design, branding, established distribution channels, and customer networks (Fairbairn & Reisman, 2024; Zucchella et al., 2023). Corporations gain new solutions to enter new markets, access innovation, shift corporate culture, build startup ecosystems, and gain insights into industry trends (PricewaterhouseCoopers, 2022; Shin & Cho, 2020). As a collaborative tool, CV is positioned as a more efficient alternative to research-based spin-offs, covering disciplines from product marketing to management (Bendig et al., 2022a) while enhancing incumbents' innovation efforts (Gutmann et al., 2019; Zucchella et al., 2023). Additionally, CV accelerates skill-building and resource acquisition, supported by incumbents' policies, infrastructure, industry expertise, and technical assistance - contributing to reduced costs and faster time-to-market for startups (Shakeel & Juszczyk, 2019; Zucchella et al., 2023; Kolte et al., 2023).

Effective CV depends on a strong fit between the incumbent and the startup, expressed by trust, commitment, shared enthusiasm, and professionalism (Laibach et al., 2023). The incumbent's reputation and extensive customer base in both local and global markets provide startups with new growth opportunities, especially when products align with the incumbent's long-term vision and add unique value and growth prospects (Zucchella et al., 2023; Laibach et al., 2023; Kolte et al., 2023). Several key principles underlie successful venturing across industries: clear goals, long-term commitment, alignment with core business, operational autonomy, and achieving critical mass (Livieratos & Lepeniotis, 2017).

Less successful CV is present when lacking a clear strategy and objectives, encountering power asymmetry, cultural clashes, or misaligned timelines, as well as when startups collaborate with incumbents' competitors (Jeon & Maula, 2022; Zucchella et al., 2023; Leiting, 2020; Livieratos & Lepeniotis, 2017). The complexity of CV investments further underlines the need for a well-defined investment strategy (Hegeman & Sørheim, 2021; Jeon & Maula, 2022).

To conclude, CV is a large space with diverse mechanisms and modes across an increasing number of industries. The blurred boundaries between CV and traditional venture capital and its heterogeneity in modes result in ongoing scientific research.

3.2 Sustainability Transition

Corporate sustainability has become a buzzword, widely used across industries to signal a company's commitment to transform its operations sustainably. Sustainable corporate entrepreneurship, in particular, is vital in driving economic growth under the increasing climate change (Yasir et al., 2023), and organizations must reconfigure their capabilities and processes to achieve simultaneous economic returns (Tandon et al., 2024).

However, the broad and sometimes ambiguous usage of sustainability-related terms has diluted its meaning. Without a universally accepted definition of corporate sustainability, there is a need for a shared understanding of sustainability criteria (Provasnek et al., 2017).

Large companies are increasingly turning to CV as a tool to contribute to the sustainability transition (Hegeman & Sørheim, 2021). This approach is crucial for companies transitioning to a "sustainability upgrade" across their products, processes, and organizational structures while maintaining their competitive market positions (Schaltegger et al., 2016).

Sustainability transitions are systemic and complex, requiring the participation of a wide range of stakeholders in a collaborative way (Ystrom et al., 2021). The system perspective approach acknowledges that sustainability challenges are complex, interconnected, and span multiple scales and actors. Sustainability transition entails embedding environmental, social, and economic objectives into an organization's core (Boons et al., 2013). Sustainability transitions are non-linear processes of systemic change (Loorbach et al., 2017) demanding significant investments and the formation of new partnerships and capabilities (Tandon et al., 2024).

Given the complex and multidimensional nature of the sustainability concept, the author identified the

sustainability transition as the most suitable angle to explore sustainable CV and effectively address the research objectives.

4 CONTENT ANALYSIS

The 42 academic articles retrieved from the literature review were used for the qualitative content analysis, producing 530 units of analysis.

The units of analysis were then organized into 44 codes and consequently grouped into 11 categories (see Table 3). The table provides an overview of categories, descriptions based on established definitions, an absolute count of codes per category, and a relative frequency weight:

Table 3: Overview of categories (author's created).

Category	Description	Count (n), frequency (%)
Innovation	Developing and implementing new products, solutions and processes	146, 28
Ecosystems, Partnerships and Networks	Interconnected sectors, organizations, individuals, and resources that interact and co-evolve	98, 18
Transformation and Transition	A fundamental or evolutionary change in a company's operations, structure, culture, or strategy to improve performance and adapt to emerging market trends	64, 12
Shared Value	Creating business value by addressing social, environmental and economic matters of the entire society	64, 12
New Business Models	A new business model is an innovative way to create, deliver, and capture value that challenges traditional practices	35, 7
Knowledge Transfer	Sharing the individual or collective knowledge, skills, and expertise from one entity to another	32, 8
Financial Returns	Monetary gains or losses that an investment or business operation generates over a certain period	27, 5
Culture and Reputation	Certain organization's shared values, beliefs, and norms resulting in a company's reputation	25, 5
Competitive Advantage	The ability to outperform the organization's competitors by offering distinctive value to its customers	22, 4
Patents	A government-granted legal right that gives an inventor exclusive rights to make, use, and sell their invention for a set period in return for publicly disclosing the invention	13, 2
Strategic Renewal	Refreshing the organization's operations through strategies, capabilities, and resources	6, 1

Among the 11 identified categories, Innovation, Ecosystems, Partnerships, and Networks, and Transformation and Transition emerged as the top three, comprising 60% of the total weight. Innovation, the most prominent category at 28%, includes 13 codes ranging from broad innovation concepts like new technologies, product, and process innovations to specific sustainable innovation types such as cleantech, eco, green, and environmental innovation. Ecosystems, Partnerships, and Networks, representing 18%, encompass 7 codes highlighting collaboration among various actors within a system-level, multilevel perspective, emphasizing a shareholder-oriented approach. Transformation and Transition, the third largest category at 12%, includes 4 distinct codes focused on transformations and transitions at local, industry-wide, and global scales.

5 CONCEPTUAL FRAMEWORK

This section provides a detailed analysis of the conceptual framework following the guidelines for designing conceptual frameworks (Breslin & Gatrell, 2020; Van der Waldt, 2020; Jabareen, 2009). The

proposed framework captures key features of CV in its transition to sustainability and outlines primary and secondary categories (Figure 3). Primary categories represent fundamental elements of a sustainability-focused CV, while secondary categories may vary in presence and combination. The framework suggests that CV transitioning to sustainability is defined by its emphasis on innovation, partnership networks and ecosystems, transformative and transitional perspective, shared value creation, and adopting new business models.

Innovation.

Innovation in the context of a sustainable CV exhibits broad interpretation and characteristics.

Provasnek et al. (2017) call innovations as changes introduced to the market that can be new, incremental, radical, or disruptive.

CV provides access to the latest technologies from AI, climate tech, and robotics (Silicon Valley Bank, 2023). Many incumbents are unfit to create radical innovation since their capacity is optimized for incremental innovations (Schuh et al., 2023). Reuter and Krauspe (2023) consider CV a lever for corporate innovation, while Kolte et al. (2023) call it a means for incumbents to innovate in highly volatile conditions. CV may also merge the capabilities of the incumbent research units with those of their funded start-ups (Benkraiem et al., 2023) or serve as an open innovation platform (Pinkow & Iversen, 2020).

As the innovation hubs, CV are expected to deliver radical innovations (Schuh et al., 2023) and enhance company awareness of such trends as sustainable and digital technologies (PricewaterhouseCoopers, 2022; Laibach et al., 2023).

Hockerts & Wüstenhagen (2010) and Bendig et al. (2022) refer to green innovation as one of the key factors in achieving a green transition. Green innovation encompasses developing products, services, and processes that support sustainable development, often measured by the number of green patents (Karimi Takalo et al., 2021; Tang et al., 2023; Li, 2022). The study by Benkraiem et al. (2023) indicates that incumbents are financially incentivized to support green innovation while Wunder & Maula (2024) note strategic objectives and dedicated focus on sustainability as key drivers. In terms of transformative innovations, different green innovation types such as green energy and eco-innovations in the renewable energy sector (Hegeman & Sørheim, 2021; Provasnek et al., 2017); bio-based and sustainable technologies (Laibach et al., 2023), cleaner technologies to reduce GHG emissions (Benkraiem et al., 2023) come up. Benkraiem et al. (2023) attribute green innovation to radical innovations, and Jing & Zhang (2023); Hegeman & Sørheim (2021) position it as the means to achieve sustainable growth and gain access to innovative clean technologies.

The term "cleantech" is now widely recognized as a significant investment category characterized by its public good nature (Bianchini & Croce, 2022). Radical cleantech, such as new energy technologies, demands substantial capital in product development and commercialization and long lead times (Michelfelder et al., 2022; Hegeman & Sørheim, 2021; Benkraiem et al., 2023). Consequently, startups need the financial investment coming out of CV, and Mäkitie (2020) points out the significance of the vast resources of established firms to potentially accelerate sustainability transitions.

Sometimes innovations coming out of CV can result in sustainable mass market transformation (Hübel et al., 2022), described as radical sustainability innovations (Olteanu & Fichter, 2022) and transformative innovations (Hörisch, 2018), while often they are just niche innovations (Schönwälder & Weber, 2023). One of the reasons for that is related to ownership rights, as startups often maintain ownership of their product or service (Zucchella et al., 2023). However, on occasion, small isolated innovations can result in indirect transformative influence on mass markets, such as business model replication by other players in the market (Schaltegger et al., 2016).

Ecosystems, Partnerships and Networks.

The reconfiguration of the incumbent's capabilities and processes to concurrently achieve economic returns and social and environmental value requires the development of new partnerships and capabilities (Tandon et al., 2024). Effectively, it results in a long-term structural change within the stakeholder setup and networks. They can even involve the coevolutionary interaction between competitors in a market (Schaltegger et al., 2016) and actor constellations for the coevolution of the business environment (Stöhr & Herzig, 2022). Hörisch (2018) emphasizes that forming multiple alliances and partnerships increases the incumbent's likelihood of finding matching sustainability partners.

Sustainability requires changes across different ecosystems. According to Leiting (2020), ecosystems vary in size and can be interconnected or nested in larger meta-ecosystems. However, collaboration with

stakeholders in these ecosystems can present significant challenges. Tandon et al. (2024) note diverse interpretations of sustainability transitions due to disparate goals. On the one hand, sustainability being cross-functional brings different actors together to generate profitable ideas (Dhanda & Shrotryia, 2021); on the other hand, they need to align on joint and shared measurements and metrics. Di Vaio et al. (2022) believe that sustainability transition is effective when the perspectives of both internal and external stakeholders are aligned. The government as a stakeholder can get involved through a regulatory framework such as policies, carbon credit markets subsidies, and feed-in tariffs (Hegeman & Sørheim, 2021). A study by Westman et al. (2022) revealed that sustainable entrepreneurs encounter significant constraints when trying to contribute individually to sustainability transitions; hence, the role of partnerships and ecosystems is notable.

Transition and Transformation

Over the last few years, CV has become an enabler of sustainability transformation, with 57% of all newly founded European companies in the consumer goods sector being green startups (Sheppard et al., 2023).

The growing focus on ESG issues is transforming global business, making sustainability a critical priority and a competitive advantage (Martins de Souza et al., 2024). Sustainability transformation refers to a systemic change within a company resulting in sustainable business models, effective sustainability measures, and ecological and socially sustainable markets (Schaltegger et al., 2023; Dijkstra-Silva et al., 2022); thus, being a holistic and stakeholder-driven approach. The interaction between startups and incumbents drives industry sustainability transformations (Hockerts & Wüstenhagen, 2010).

Sustainability transitions offer strategic opportunities for businesses (Schaltegger et al., 2023). CV plays a significant role in this transition and acts as a catalyst to improve environmental performance and pursue green innovation as part of incumbents' corporate performance strategies and incumbents' strategic renewal (Benkraiem et al., 2023; Laibach et al., 2023; Yang, 2019; Shin & Cho, 2020; Tandon et al., 2024).

Shared Value

The hyper-transformation requires the entire business world to restructure its way of working (Dhanda & Shrotryia, 2021). According to Schaltegger et al. (2016), a business that contributes to sustainable development must create value for all stakeholders.

As a result, companies pursuing sustainable models must account for a broader range of values and stakeholder interests (Magnusson & Werner, 2023).

Various studies show that CV has the prevalence of strategic objectives over financial ones, which seek to generate measurable social or environmental impact or shared value (Döll et al., 2022; Laibach et al., 2023; Kolte et al., 2023). This dual focus is a new business value creation paradigm. CV programs allow the achievement of sustainability-related objectives either voluntarily or imposed by legislation (Battisti et al., 2022). However, Di Vaio et al. (2022) consider the sustainable enterprise's intention to create long-term social impact to be the key factor. Tandon et al. (2024) stress the importance of integrating sustainability into a firm's core strategy, as delivering shared value also improves incumbents' image and reputation (Gutmann et al., 2019; Kolte et al., 2023).

New Business Models

Laibach et al. (2023) claim new disruptive business models to improve the incumbent's capabilities, while Dhanda & Shrotryia (2021) note a fundamental shift from traditional business models to new ones.

A sustainable business model contains the company's sustainable value proposition to stakeholders and generates, distributes and captures economic value while preserving or regenerating natural, social, and economic capital (Schaltegger et al., 2016; di Vaio et al., 2022), addresses the needs of all stakeholders and integrates both systems-level and firm-level perspectives (Dhanda & Shrotryia, 2021) and has a long-term horizon (Geissdoerfer, 2019). According to Neumeyer & Santos (2018) its development requires a supportive entrepreneurial ecosystem due to its complexity. The circular business model is somewhat similar and is designed to create and capture value under an ideal resource usage state (Lahti et al., 2018). George & Schillebeeckx (2022) consider the development of circular and regenerative business models as an economic value multiplier.

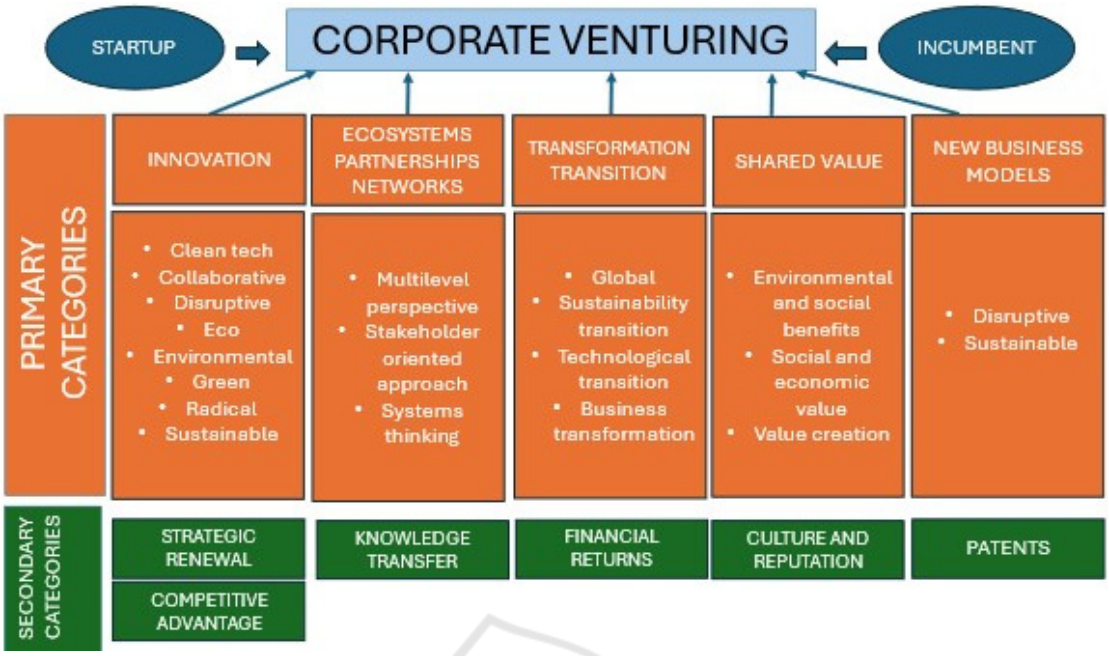

Figure 2: Summary of CV modes (source: author's created).

6 CONCLUSIONS AND IMPLICATIONS FOR FUTURE STUDIES

This study analyzed 42 articles on sustainable corporate venturing, identifying key concepts in the literature, providing categorization and a conceptual framework. The framework suggests that CV transitioning to sustainability is defined by its emphasis on innovation, partnership networks and ecosystems, transformative and transitional perspective, shared value creation, and the adoption of new business models. The five key categories can be claimed as "compulsory" categories of a sustainable CV. The remaining 6 categories can supplement key categories in different combinations and weights. This framework fills a key gap in the literature by systematically categorizing the core and supplementary aspects of sustainable corporate venturing. These elements complement and broaden the systemic approach to sustainability transitions, highlighting interconnectedness and collaboration across multiple stakeholders.

Each of the five key categories is more dimensional and complex than those typical of a conventional CV.

Under the innovation category, next to generic product and process innovation, radical, disruptive, and transformative innovations impact entire industries and create new ones.

Sustainable CV differs from conventional ventures in forming more complex networks, aligning stakeholders from competitors to social organizations, and fostering collaborative ecosystems to achieve long-term sustainability impact.

A meaningful sustainability transition can happen at the meso and macro levels. CV emerges as a significant catalyst in this transformation, shifting broader ecosystems such as industries, consumer societies, supply chains, and regulatory frameworks towards sustainable development.

Shared value has become a new business value-creation paradigm and is paramount to repositioning companies as responsible players in the market. Thus, they can meet evolving regulatory and societal expectations and ensure the lasting success of their businesses.

Finally, new business models focusing on sustainability represent both an ethical obligation and a strategic necessity for modern corporations.

This framework provides practitioners with a practical guide for leveraging CV to drive sustainability transitions. Organizations can apply this framework to assess and refine their CV strategies, ensuring they align with long-term sustainability objectives.

Future research could validate the proposed conceptual framework to confirm its relevance

beyond the researcher's perspective. Employment of longitudinal analysis across diverse industries could assess how the identified framework categories evolve over time and influence various sustainability metrics. Additionally, comparative studies across different corporate sectors and geographical regions could provide insights into contextual variations. Finally, investigating the interdependencies between these categories and other organizational factors, such as leadership, could offer a more comprehensive view of the mechanisms driving successful sustainability-oriented transition enabled by CV.

While the research offers a thorough understanding of a sustainable CV framework, some limitations exist. First, the study was limited to English-language articles indexed in Scopus and Web of Science, potentially overlooking relevant research in other languages or databases. Second, the analysis focused on studies from 2010 onwards, which might have missed important historical research. Third, relying on qualitative methods may limit the generalizability of findings to other contexts. Next, the content analysis carries inherent subjectivity that could influence the analysis. Lastly, the conceptual framework possesses a subjective interpretation by the researcher and lacks empirical evidence.

In conclusion, this research highlights the importance of adopting a sustainable CV as a potential strategic approach to achieving corporate sustainability goals. By connecting innovative startups with established companies, CV can drive industry-wide shifts toward sustainable practices, supporting global efforts to combat climate change.

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