DOCTORAL THESIS

Sustainable Ventures and External Financing

Empirical Insights on the Financing Access Gap

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Till min familj

Abstract

Reaching sustainable development is one of the most pressing concerns of our time. From an industry perspective, this calls for a sustainable industrial transformation, including a foundational shift in long-standing practices and social norms that currently set unsustainable industry trajectories. High expectations have redirected the focus to sustainable ventures with the potential to address sustainability challenges as entrepreneurial opportunities while integrating sustainability goals into their core values. These ventures not only have the potential to challenge but also to surpass incumbent firms in contributing to radical innovations and sustainability solutions, positioning them as key catalysts and entrepreneurial pioneers in the forthcoming sustainable industrial transformation. However, a key factor in enabling these ventures to succeed lies in their ability to secure financing to sustain and grow their businesses.

Despite the rapid growth of sustainable financial markets and a growing interest among financial actors in leading the industrial transition, the actual financing reaching sustainable ventures remains scarce. Sustainable ventures tend to misalign with current sustainable finance frameworks and deviate from the type of investment that financiers typically prefer. These circumstances represent a critical shortcoming and a significant impediment for sustainable ventures seeking to realize their full potential in generating sustainability impacts.

In complement to traditional entrepreneurial finance, which regularly explains financing gaps through agency-based reasoning and information asymmetric problems, this thesis argues for the need to further investigate the social underpinnings of this financing gap, suggesting that current theorizing may not fully explain the financing access gap faced by sustainable ventures. From a socialized perspective, information may not be missing but rather contested. Drawing on the sustainable entrepreneurship and entrepreneurial finance literature, the theoretical framework of this thesis integrates perspectives from organizational identity theory, reference points theory, and the dynamic capabilities view, with the purpose of *advancing understanding of access to external financing in sustainable ventures.* More specifically, this thesis seeks to understand how sustainable ventures' organizational identity, performance reference points, and dynamic capabilities relate to access to external financing.

This thesis adopts a qualitative research approach implemented through a multiple case study strategy. 53 case companies representing finance-seeking sustainable ventures, and their associated financers were selected based on theoretical sampling. Data were mainly collected from 109 semi-structured interviews, supplemented by secondary data. Data were analyzed

following a stepwise and iterative coding process to identify emerging codes, themes, and overarching categories, inspired by the method of Gioia et al., (2013). To ensure a comprehensive analysis, the cases were considered holistically rather than in isolation.

This thesis integrates the findings of four appended studies into a framework for understanding the finance access gap and the (mis)alignment between sustainable ventures and external financiers in financial exchange situations. As a theoretical lens, organizational identity theory[1] is used to analyse the study's findings as a coherent set of values (hybrid identity), practices (performance reference points), and routines (dynamic capabilities) that tends to shape the self-defining identity of sustainable ventures and, furthermore, to inform the identity interpretations made by external financiers.

The framework reveals an almost dichotomous misalignment between the ventures' self-defining identities and the identity interpretations of private debt and equity financiers. This identity misalignment tends to negatively influence funding decisions, expressed as pending or declined funding.

Conversely, the framework identifies a strong identity alignment between the ventures' self-defining identity and the identity interpretations of corporate debt and equity financiers. This alignment thus tends to positively influence funding decisions, leading to pending or accepted funding, although the funding is associated with a significant risk of losing ownership and control.

Moreover, the potentially contradictory identity interpretations of financiers tend to trigger critical identity work in sustainable ventures, who seek to balance the financier's conflicting identity expectations and identity change demands while strengthening their self-defining identity, including maintaining sustainability-driven values and aspirations.

From a socialized perspective, the sustainability-driven identity of sustainable ventures seem to significantly constrain their access to external financing, primarily because they are interpreted as misaligned with private debt and equity financiers' perception of a financially viable funding prospect. Furthermore, they are categorized as outside the scope of conventional financing frameworks and practice. Specifically, these financiers expect ventures to display conventional industry practice or "business as usual" to increase fundability. This represents a serious shortcoming because such expectations conflict with the very values, practices, and routines

[1] (see Albert & Whetten; 1985; Corely et al., 2006; Pratt et al., 2016; Whetten, 2006).

that define the venture's self-defining identity and that are held to be vital to achieve measurable and positive sustainability outcomes beyond the principles of “reducing harm”.

This thesis contributes to the emerging literature on sustainable entrepreneurship by proposing a framework for understanding the financing access gap, which seems to prevent sustainable ventures from growing and expanding. Moreover, this thesis contributes to organizational identity theory, reference points theory, and the dynamic capability view by demonstrating how sustainable ventures' hybrid identity, multiple reference points, and sustainability-oriented dynamic capabilities tend to be associated with access to external financing in adverse ways. In addition, the findings carry novel implications for both policy and practice and offer empirical insights that may enhance the development of better metrics and models to support the advancement of sustainable venturing and the leverage of potentially transformative innovations and new sustainability solutions.

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Appended Studies

Study 1 Vincze, Z., **Hällerstrand, L**., Örtqvist, D., & Rist, L. (2021). Strategic corporate sustainability in a post-acquisition context. *Sustainability*, *13*(11), 6017.

Study 2 **Hällerstrand, L**., Reim, W., & Malmström, M. (2023). Dynamic capabilities in environmental entrepreneurship: A framework for commercializing green innovations. *Journal of Cleaner Production.*

Study 3 **Hällerstrand, L**., & Malmström, M. (202X). Squaring the circle: The identity work (mis)match in the venture-financier exchange**.** *Submitted to a peer-reviewed academic journal.*

Study 4 **Hällerstrand, L**., & Malmström, M., & Wincent, J. (202X). Impact Investors, Reference Points for Gender Equality, and Improved Conditions for Women´s Entrepreneurship. *Submitted to a peer-reviewed academic journal.*

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Part 1

1. Introduction

This chapter presents an overview of the research context and explains the motivation for undertaking this study. It describes the specific area of investigation of this thesis, and it discusses the research problem to be addressed. The overall purpose and specific research questions of the thesis are then presented.

1.1 Background

1.1.1 Sustainability challenges

Sustainable development is widely regarded as one of the most pressing concerns of our time. The definition formulated in the United Nations (UN) declaration, Our Common Future (World Commission on Environment and Development, 1987), concisely captures its importance: "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*" (p. 43). Nearly four decades later, sustainability-related challenges are recognized more than ever before (van Vuuren et al., 2022), with mounting evidence of social inequalities, climate change, ecosystem degradation, and biodiversity loss, all of which have wide-ranging negative impacts on the global ecological system and, thus, on human society (Steffen et al., 2018). Indeed, global governmental and science-based sustainability reports stress the need to take action and to accelerate sustainability-driven innovations to change this threatening course without delay.

As a timely example, the Intergovernmental Panel on Climate Change, IPCC, (2023) report emphasizes the need to sharply reduce carbon dioxide emissions, which research has repeatedly shown are causing rising global temperatures and triggering widespread losses and damage to society and nature. This is portrayed as "*a rapidly narrowing window of opportunity to secure a livable and sustainable future for all*" (p. 25). The report calls for measurable action in all sectors of society to halve CO2 emissions by 2030. Similarly, global sustainability research warns of the risk of large-scale and irreversible environmental changes, causing ecosystem tipping points with severe consequences for life on Earth as we know it today (Bai et al., 2024; Rockström et al., 2023). All of this supports the UN conclusion that "*we must be the generation to end extreme poverty, win the race against climate change, and conquer injustice and gender inequality*" (UN, 2024a). In short, accelerating sustainable transformation in the current decade

has been demonstrated to be imperative to ensure a prosperous future for all (UN, 2024b; van Vuuren et al., 2022).

In supporting policy and practice, sustainability frameworks, such as the UN Sustainable Development Goals (SDGs), the Science-Based Targets Network, SBTN, (2024), and the Planetary Commons (Rockström et al., 2024), have been developed to inform and guide implementation of a sustainable transformation. These frameworks aim to translate science-based targets into a coherent set of actionable and measurable objectives that can serve as critical reference points against which progress can be assessed. This is to achieve real-world and long-term sustainability impacts[2] while acknowledging the need to meet social, ecological, and economic goals in parallel (Reyers et al., 2018). One timely example is fulfilling the Paris Agreement (UN, 2015) to limit global warming to 1.5 degrees Celsius. This measure will require substantial decarbonization, including intensified upscaling of alternative and renewable energy sources. All of these hold out the prospect of transformative effects on mitigating carbon emissions. Against the backdrop of the currently increasing use of fossil-based fuels, such as coal, oil, and gas, which represents more than 80% of the global energy production (International Energy Agency, 2019), such a transformation requires a foundational shift in the entire fossil-based industrial landscape. Sustainability-driven innovations alongside the proactive implementation and adoption of new energy solutions are, therefore, found to be at the very core of closing such carbon emission gaps (Geels et al., 2017; UN, 2019). Similarly, in dealing with the scale and scope of the industry and societal energy needed, innovations to ensure social inclusiveness and gender equity alongside such energy transformation are held to be of equal significance (Carroll, 2022; Lieu et al., 2020; UN 2023a).

1.1.2 The need for a sustainable industrial transformation and the role of sustainable ventures

From an industry perspective, meeting these grand sustainability challenges calls for a sustainable industrial transformation (Sachs et al., 2019), stemming from the need to replace dominant norms, beliefs, and practices that currently shape and maintain unsustainable industry conventions (Rockström et al., 2023). Such transformation calls for proactive and long-term commitment from industry actors to play leading roles in contributing to collaborative, cross-industrial, sustainability-driven and, thus, new sustainable industry best practices. Furthermore,

[2] Sustainability impact refers to long-term, system-level changes in social, technical, and natural environments that contribute to sustainable development. It encompasses micro-, meso-, and macro-level phenomena beyond organizational boundaries, focusing on the broader interplay of industry, society, and the environment (Fichter et al., 2023; Johnson & Schaltegger, 2020).

this means contributing with positive sustainability impacts beyond the principles of reducing harm.

While acknowledging the major role of large industries in implementing sustainable practices on a global scale (Ranängen & Lidman, 2020), much policy trust and high expectations have turned the focus to recent sustainable ventures and their agency in addressing sustainability challenges as entrepreneurial opportunities (Sarasvathy et al., 2020). These types of venture are viewed as well suited to drive radical innovation beyond the limitations of incumbent vested interests and established path dependency (Fichter et al., 2023) and, thus, to accelerate the industrial transformation needed (Johnson & Schaltegger, 2020).

Indeed, the European Commission, EC, (2021) stresses in its report, "Strategy for Financing the Transition to a Sustainable Economy", the importance of advancing support and investment in these types of venture because they reflect the innovative capacity to proactively respond to emerging sustainable challenges in their industry niches and in a local–global context. The promise of sustainable ventures is, therefore, attached to their ability to internalize sustainable, impact-generating goals in the entrepreneurial process while prioritizing such goals in parallel with seeking financial gains (Stål & Bonnedahl, 2016). Indeed, in the emerging conceptualization of sustainable ventures, implementing sustainability frameworks are increasingly seen as central to their overall venturing purpose in providing a key criterion toward which their behavior is directed (Hummels & Argyrou, 2021). In the upcoming literature on sustainable entrepreneurship, these ventures exhibit an essential distinction from conventional venutres (Belz & Binder, 2017; Muñoz & Cohen, 2018a; Terán-Yépez et al., 2020) in their implementation of sustainable entrepreneurship, which is "*focused on the preservation of nature, life support, and community in the pursuit* of *perceived opportunities to bring into existence future products, processes, and services for gain, where the gain is broadly construed to include economic and non-economic gains to individuals, the economy, and society*" (Shepherd & Patzelt, 2011, p. 142). Importantly, these sustainable ventures aspire to challenge unsustainable and long-standing industry practices when developing norm-breaking industry solutions aligned with achieving sustainable industry transformation. This means that they act at odds with social norms (cf. Cialdini, 1998) because they do not conform to shared beliefs in long-standing industry practices, informal rules, and conventions. Instead, they aim to facilitate the formation of new and sustainable industry best practices. These norm-breaking attributes of sustainable ventures are, therefore, a necessity to drive transformative industrial change and deliver on the promise to act as agents of change (Meek et al., 2010). Subsequently,

sustainable ventures of this kind have been found to take pioneering positions in their industries (Hummels & Argyrou, 2021), Therefore, these ventures may act as agents of significant change (Köhler et al., 2019) that may spur and even surpass incumbent firms in contributing to radically new industry practices with a potentially transformative effect (Geels, 2019; Hockerts & Wüstenhagen, 2012; Schaltegger et al., 2016; Schaltegger et al., 2018; Trautwein, 2021) while demonstrating the benefits of adopting new sustainable social norms in industry.

While accounting for the promise of sustainable ventures and their potential catalyzing role in accelerating the sustainable industrial transformation, there is arguably a need to include the entire pool of sustainable ventures and all their entrepreneurs to stand the best chance of succeeding. The underuse of intelligence and competence that sustainable ventures build on mean that opportunities are missed and the potential to succeed with the transformation is lost (cf. Adams & Funk, 2012; Bart & McQueen 2013; Guzman & Kacperczyk, 2019). Approaches that include the entire pool of sustainable ventures regardless of the gender of the entrepreneurs are, therefore, needed to stand the best chance of succeeding in the industry transformation (UN, 2023b). These arguments run parallel with the importance of gender equality in the sustainable industry transformation because the pooled resources of both women's and men's intelligence and competence are needed. Therefore, the industry transformation envisaged arguably requires that attention be given to innovations by women entrepreneurs and to innovations that promote women's entrepreneurship and leadership. Creating equal opportunities for women entrepreneurs to contribute to industry transformation, especially in decision-making roles, and sustainability-driven innovation are critical actions needed to accelerate the scale and scope of, for instance, industrial decarbonization (Carroll, 2022; Lieu et al., 2020). Sustainable ventures, with the capacity to drive such innovation processes and aligning both social, environmental, and economic value creation in their venturing purpose, therefore, carry the potential to facilitate large-scale industry transformation (UN, 2024c).

1.2 Research problem

1.2.1 The Financing access gap in sustainable ventures

An integral part of making sustainable ventures thrive and leverage their potential for sustainability impact generation is to gain entry to financial markets and, thus, access to external financing. The resource-intensive nature of sustainable ventures (Bertello et al., 2022; Madsen et al., 2008; Vernay et al., 2020), in combination with insufficient accrued financial resources to grow their ventures organically, means that sustainable ventures regularly require significant access to a mix of external financing (Bertello et al., 2022; Vernay et al., 2020). Access to

private debt and equity financing, which constitutes the majority of financial markets, is therefore central to the success of such ventures because it provides the necessary financial support to maintain and expand the operation of these ventures (Busch et al., 2021; de Lange, 2016; Trippel, 2020). Lacking access to financing is, therefore, seen as a real constraining factor for sustainable ventures to deliver on their sustainable promise (Hoogendoorn et al., 2019; Schmelter & Strese, 2024). Indeed, the extensive financing gap (European Commission, 2021) that seems to be facing these types of venture represents a serious shortcoming, which addresses the need for an increased commitment from financial market actors to financially support implementation of the sustainable industry transformation (Fichtner et al., 2024; Gianoncelli & Gaggiotti, 2021; Orlitzky et al., 2016; UN, 2024d).

As a response to such calls, sustainable finance markets, which refer to the intersection of finance and sustainable development goals (Cunha et al., 2021), demonstrate rapid growth with an increasing interest from financial actors who aspire to take a leading position in funding the industrial transformation (Barber et al., 2021; Hehenberger et al., 2019; Ziolo, 2021). However, the provision of sustainable finance in practice is found to be significantly below what is needed (Organisation for Economic Co-operation and Development, OECD, 2022; Eurosif, 2022). The actual channelling of funding to sustainable ventures remains scarce (Beltrame et al., 2023). A recent report, for instance, indicates that up to half of all new ventures demonstrate the potential to positively contribute to achieving sustainable development goals, but they lack the external funding, such as debt and equity financing, to do so (OECD, 2024).

Aligned with the European Commission (2021) definition of sustainable finance as an evolving process of considering environmental, social, and governance (ESG) factors in financial and investment decisions, representative statements from market-leading banks indicate their commitment to sustainable finance initiatives, such as complying with ESG investment frameworks while aspiring to finance "*real world sustainability impacts through our corporate customers*" or support "*SMEs sustainability transformation with green loans and advice – in achieving lasting reduction of CO2 emissions*". However, recent findings by Fichtner et al. (2024) draw attention to the problem that the most commonly used ESG investment frameworks, in fact, omit sustainability impact criteria, focusing instead on a negative sustainability risk assessment. Similarly, Eurosif (2022) concludes that sustainable finance frameworks in practice face considerable challenges because even the most ambitious transparency framework, exemplified by the Sustainable Finance Disclosure Regulation

framework (SFDR)[3], tends to be "*ill equipped to fulfill this function currently*" (p. 5). This is because, out of a mere 4% of the so-called Article 9 or deep-green funds available on European financial markets, more than 30% report high and increasing exposure (>5%) to non-sustainable industries, such as the fossil fuel industry.

Indeed, estimates of the sustainable investments needed to support the sustainable industry transformation exceeds $10 trillion annually from 2030 to 2050 (World Research Institute, 2024), yet less than 0.5% of the total investment targets positive, impact-generating investments (Eurosif, 2018), and merely 2% of the total venture capital available reaches women-founded ventures (e.g., Malmström et al., 2018, 2024). These circumstances point to a serious shortcoming – exposing a financing access gap – in facilitating the sustainable industrial transformation, with a risk of perpetuating the investment priority for incumbent industries. Thus, prolonging unsustainable practices and social norms in the industry. Indeed, the alarmingly low level of "impact" investment reflects the fact that most sustainable financing tends to be directed at attempts to "do no significant harm" (Cunha et al., 2021; Fichtner et al., 2024; Lambillon & Chesney, 2023). This means applying negative screening principles to reduce investing in industries with a significant, negative sustainability impact instead of investing positively in innovative solutions for real transformative change. Nevertheless, these system-level flaws representing the financing access gap for sustainable ventures do not fully demonstrate how the gaps arise and unfold.

While investment principles that aim to avoid harm may hold value, such approaches are insufficient in themselves to direct investment toward creating a positive sustainability impact (Busch et al., 2021; Orlitzky et al., 2016; Schoenmaker & Schramade, 2019). Similarly, to facilitate gender-equal participation in a sustainable industrial transformation, an increasing recognition of the particular shortcomings of investment in women-founded sustainable ventures (Malmström et al., 2024) is needed to inform both policy and practice (UN, 2024e). Increased utilization of both men's and women's capabilities and experiences – thereby, expanding the pool of competencies involved in the industry transformation – helps promote sustainability-driven innovation and transformation processes by including gender-diverse perspectives, skills, and problem-solving approaches (García-Sánchez et al., 2023; Le Loarne-Lemaire, 2021). Such an approach challenges historical path-dependency and conventional norms, supporting critical thinking and improved decision-making processes. Indeed, the scale

[3] See Eurosif (2022)

and scope of the industrial transformation needed represents a paradigm shift (Bai et al., 2024; Rockström et al., 2017) because it fundamentally challenges the social norms and conventions of incumbent industries, including long-standing conventional financing practices. Taken together, the above arguments highlight a critical need to further understand the financing access gap and the financing practices that currently seem to hamper the growth and sustainable impact generation of sustainable ventures.

1.2.2 Lacking or contested information for assessing sustainable ventures

The majority of entrepreneurial finance studies have relied on agency-based reasoning – including the challenges associated with information asymmetry and adverse selection – to explain the financing access gap facing innovative ventures at large (Bellavitis et al., 2017; Denis, 2004; Rao et al., 2023). Research in this field has provided important insights. However, recent studies indicate that such theorizing may not fully explain the financing access gap associated with sustainable ventures (Hall et al., 2010; Lagoarde-Segot, 2019; O'Neil & Ucbasaran, 2016). From a socialized perspective, information may be contested rather than missing. This is exemplified in the fact that sustainability impact criteria are typically omitted in sustainable investment frameworks (Fichtner et al., 2024; Hehenberger et al., 2019), indicating that a core attribute of sustainable ventures may be perceived as potentially beyond conventional investment interests and priorities. Similarly, sustainable ventures tend to be categorized as diverging from the ideal “type” of venture that financiers will readily fund (Battilana et al., 2017; Fischer et al., 2020) based on their combination of sustainability impact generation and profit seeking as two goals that are not conventionally expected by financiers to sit well together (Wry & York, 2017). Importantly, this implies that the sustainability-driven motives of sustainable ventures seem to be at the core of venture–financier financial exchange situations (Bunduchi et al., 2023; Cesinger et al., 2022; Moss et al., 2011; Whetten, 2006; York et al., 2016). This suggests that multiple, and potentially conflicting, views of sustainable ventures may exist (Battilana et al., 2017; Fischer et al., 2020; Gioia et al., 2000; Wry & York, 2017). This thesis theorizes that these various views have social explanations, which may provide a deeper understanding of the financing access gap.

By drawing on recent research work that shows social explanations in financial decision making, the influence of social norms and cognitive perceptions tends to bias financiers’ decision making against funding ventures despite demonstrating an equal level of fundability (e.g., Malmström et al., 2018). Although financiers’ funding decisions are typically based on institutionalized assessment criteria and formalized processes, the subjective interpretation of

individual financiers may steer perceptions of a venture as a fundable in-group member or a non-fundable out-group member. Such in-group and out-group classifying mechanisms may better explain the absence of external financing for sustainable ventures (Akerlof & Kranton, 2000; Alsos & Ljunggren, 2016). Therefore, it seems reasonable to assume that, when sustainable ventures act to access financing, they may be perceived by financiers as deviating from the social norm. They fall outside the conventional business cases that investors prioritize and are perceived as non-fundable ventures. That is to say, they are categorized as belonging to an "out-group" different from the financier's standard clients (Wry & York, 2017). The views held by financiers of sustainable ventures and the norm-breaking attributes of their sustainable entrepreneurship (Haldar, 2019) are, therefore, posited in this thesis as being at the core of the financing access gap. Thus, the financing exchange situations between sustainable ventures and external financiers are thus proposed as triggering various conclusions on whether ventures are fundable or not. However, despite the increasing interest in social explanations, there remains a scarcity of studies that focus on social explanations of sustainable ventures' financing experiences (Bergset, 2018; George et al., 2023).

Considering the urgency in facilitating the development of sustainable industry practices that has built up in less than a decade, further understanding of the financing exchange situations and the potential social explanations hampering sustainable ventures' access to external funding is needed. This represents an important research gap and is a timely reminder of the shortcomings that remain in practice. Empirical studies with a socialized perspective in extension to conventional financial theorizing is, therefore, needed to better capture the social explanations that go beyond information asymmetry and to disentangle the complexities and distinctive challenges that seem to be facing sustainable ventures in seeking finance (Broman & Robèrt, 2017; Haldar, 2019). This includes the need for nuanced and in-depth empirical studies, beyond conventional industry contexts, to provide further understanding of how sustainable ventures in new industrial settings manage their access to financing in practice and how such practices can be effectively supported (Bidmon & Knab, 2018; Horne & Fichter, 2022; Rip & Kemp, 1998). Indeed, for policy interventions to be implemented effectively and meaningfully, further empirical and context-specific understanding is essential in order to ensure that sustainable ventures can mobilize sufficient financial resources to allow them to thrive beyond exclusion. In addition, given that sustainable ventures are regularly denied access to external financing, the expectations placed on them to deliver significant sustainability impacts strengthens the need for better insights into how policy can efficiently design support

for sustainability agency at the firm level. Specifically, there is a need for new insights into what may be perceived as "normal", common industry practice and financially viable venturing and, thus, being perceived as fundable (Maldonado-Bautista et al., 2023). This underscores the need for policy to mitigate the influence of misalignment in sustainable venture-external financier exchange situations, which seems to be present in practice yet finds limited support in research-based knowledge, which indicates a knowledge gap to address.

1.2.3 Theoretical perspectives on external financing in sustainable ventures

Based on the sustainable entrepreneurship literature and the norm-breaking attributes of sustainable ventures, the theoretical framework of this thesis integrates perspectives of sustainable ventures values, practices and routines through the lens of organizational identity theory, performance reference points theory, and a dynamic capability view to explore social explanations for the external financial access gap facing sustainable ventures. This thesis identifies and builds on three main implications of sustainable venutres sustainability-driven and norm-breaking attributes in this exploration.

First, sustainable ventures are assumed to integrate sustainable development goals as a prioritized organizational core value alongside financial value creation. Such duality is commonly associated with holding a hybrid organizational identity (Albert & Whetten, 1985; Whetten, 2006), including two potentially conflicting yet inseparable synergetic organizational core values in parallel. Stemming from organizational identity theory, holding a hybrid identity when engaging in processes to access external financing may be challenging to sustain since it may give rise to conflicting stakeholder interpretations (Kouamé et al., 2022) and be perceived as conflicting with conventional financiers´ profit-driven ambitions (Gaweł, 2012; Muñoz & Cohen, 2018a). Maintaining identity hybridity is, however, critical to ensure long-term organizational survival (Battilana & Lee 2014; Cesinger et al., 2022) because it refers to the core of organizational sense making and the self-definition of "who we are as an organization" and "what we aim to achieve" (Corley et al., 2006). Yet, research on how sustainable ventures construct and maintain their organizational identity during finance-seeking situations, and how the organizational identity of sustainable ventures relates to access to financing, remains scarce (Cesinger et al., 2022; Pratt et al., 2016). This scarcity highlights an important shortcoming in knowledge, which needs to be addressed to enhance financing opportunities for sustainable ventures, while strengthening their role as potential sustainability catalysts and agents of change (Hörisch et al., 2017). Indeed, contextualised and in-depth studies on how the organizational

identity of sustainable ventures relates to access to external financing are needed (Kouamé et al., 2022; Muñoz & Cohen, 2018a; O'Neil & Ucbasaran, 2016).

Second, practicing sustainable venturing commonly implies setting performance reference points that are aligned with sustainable development goals and associated with sustainability impact generation – for example, integrating sustainability frameworks, such as the UN sustainable development goals (SDGs) to guide firm-level objectives. Such objectives and reference points may include a long-term perspective on firm performance along with short-term financial gains, while opting to contribute to future generations' well-being and social benefits (Trautwein, 2021). Drawing on reference point theory, sustainable ventures, therefore, tend to use multiple performance reference points along with conventional financial performance reference points to guide their venturing practice (Nason et al., 2018). Such reference points may, therefore, extend beyond conventional financiers' frameworks and assessments of short-term financial targets and related reference points (Joseph & Gaba, 2015), potentially causing additional challenges in finance-seeking situations. As shown in the literature exploring multiple, socially derived reference points, these types of reference point are less institutionalized among financial actors and, therefore, given less weight or even neglected in investors´ evaluative processes (Joseph & Gaba, 2015; Wry & Haugh, 2018). A commitment to sustainability impact generation targets and reference points, therefore, deviates from the assessment praxis of conventional financiers (Shinkle, 2012), which may hamper access to financing. Prior research on how sustainable ventures commit to multiple, socially derived reference points, along with how such reference points tally with conventional financiers' investment decisions, is therefore important, albeit limited. This addresses an important research gap in understanding how sustainable ventures, given their hybrid identity, set performance reference points and may excel in generating real sustainability outcomes while gaining access to external financing (Fisher et al., 2020; Schmelter & Strese, 2024).

Third, sustainable ventures are found to pursue unmet sustainability challenges as a source of entrepreneurial opportunity creation (Sarasvathy et al., 2020) This may require a unique set of organizational processes and routines to compete in emergent sustainability markets (Amui et al., 2017). Drawing on the dynamic capability view (Eisenhardt & Martin, 2000; Teece, 2007), sustainable ventures may develop sustainability-oriented dynamic capabilities that extend beyond a conventional industry setting to include the development of sensing, seizing, and reconfiguring capabilities, which create and commercialize innovative, sustainable solutions. For example, these may involve the innovation of new carbon-capture technologies that

enhance industrial decarbonization (Schaltegger et al., 2018). or the development of women's health technologies – the so-called femtech – to enhance gender equality in society (Warty et al., 2024). As a core premise, such capabilities typically challenge incumbent industry and long-standing industry best practices (Binder & Belz, 2015; Terán-Yépez et al., 2020) and, therefore, diverge from conventional organizational routines and processes developed to maintain competitiveness in established markets. Such sustainability-oriented dynamic capabilities may, therefore, deviate from financiers' expectations of incumbent industry best practices and conformity with established social norms in industry (Demirel & Kesidou, 2019). Furthermore, acting on sustainability challenges as business opportunities may contrast with external financiers' investment focus on conventional entrepreneurial opportunities in incumbent markets (Georgallis & Lee, 2020). Prior research on how sustainable ventures develop dynamic capabilities and how these capabilities may influence access to external financing, however, remains scarce. Understanding how sustainable ventures develop competitive advantages in sustainability markets while attempting to balance the potentially conflicting interests of financiers remains an underexplored research area (Lee et al., 2022; Liboni et al., 2022; Knoppen & Knight, 2022).

From a conventional financing perspective, the norm-breaking venturing attributes of sustainable ventures seems very much like “putting a round peg in a square hole”. The sustainability-driven deviation from conventional “business as normal” or traditional entrepreneurship may be seen as critical in understanding the sustainable venture–external financier exchange situation. Such deviation seems to involve added and unique challenges for sustainable ventures when seeking access to external finance (Maldonado-Bautista et al., 2023). To better provide guidance and support for ventures pursuing norm-breaking sustainable entrepreneurship, we need to empirically investigate how such ventures may access external financial resources to build long-term competitive advantages and manage the sustainable industry transformation (Demirel & Kesidou, 2019). Of special concern is the need to augment our understanding of how such ventures conduct their external financing, since they typically operate under conditions where access to financial resources is constrained (Certo & Miller, 2008; Hoogendoorn et al., 2019; Malmström et al., 2024; Rao et al., 2023).

The goal of transforming industries into sustainable pathways is essentially norm breaking, which means there is a lack of fit between sustainable ventures’ undertakings and what conventional financiers traditionally consider financeable ventures. This points to the need to better understand how these purpose-driven ventures navigate their venturing and deal with

financial resource mobilization (Ferreira et al., 2022; Fisher et al., 2020). Despite increased scholarly attention (Johnson & Schaltegger, 2020), there remains a dearth of corresponding empirical studies that provide an in-depth understanding of how external financing in sustainable ventures is achieved in practice (Demirel et al., 2019). This is a serious shortcoming because we know that external financing – in itself, a complex process – is further complicated by the discrepancy between self-interest and the public realm of collective interests (Maldonado-Bautista et al., 2023). To succeed in infusing sustainable ventures with supportive policy plans, we need a thorough understanding of how sustainable venture may overcome their additional financial constraints (Hoogendoorn et al., 2019). We need to obtain further insights into the micro-dimensions of how sustainable industry transformations are brought forward in practice (Hörisch, 2015; Johnson & Schaltegger, 2020). Therefore, we must take a "closer look" at how sustainable venturing plays out in practice (Farla et al., 2012) and how it can be supported. This should add valuable insights to the theoretical discussion and remedy the general lack of socialized perspectives on sustainable venturing and access to external financing.

1.3 Research purpose

Given the need for further in-depth understanding of sustainable venture–financier exchange situations and the hampering effect that seems to be facing sustainable ventures in finance-seeking situations, the overall purpose of this thesis is to advance *understanding of external financing in sustainable ventures.* More specifically, to increase understanding of how sustainable ventures' organizational identity, performance reference points, and dynamic capabilities relate to access to external financing. The research purpose is addressed in the underlying research questions presented below:

RQ 1: How can sustainable ventures construct their organizational identity, and how may such identity construction relate to access to external financing?

RQ 2: How can sustainable ventures set performance reference points and how may such performance reference points relate to access to external financing?

RQ 3: How can sustainable ventures develop dynamic capabilities and how may such dynamic capabilities relate to access to external financing?

Below, Table 1 outlines the three research questions and the contribution of the four appended studies. The gray shading in each box indicates the extent to which each research question is addressed in the respective studies, with darker shading representing more comprehensive coverage. These research questions, along with the findings from the empirical studies, have been integrated into a framework to understand the (mis)alignment in sustainable venture–external financer exchange situations, which is discussed in detail in Chapter 5.

Table 1. The level of contributions from each of the appended studies.

Research questions	**The studies´ contribution to the research questions**			
	S 1	**S 2**	**S 3**	**S 4**
RQ 1: How can sustainable ventures construct their organizational identity, and how may such identity construction relate to access to external financing?				
RQ 2: How can sustainable ventures set performance reference points and how may such performance reference points relate to access to external financing?				
RQ 3: How can sustainable ventures develop dynamic capabilities, and how may such dynamic capabilities relate to access to external financing?				

2. Theoretical Background

This chapter presents the theoretical background for this thesis. First, the literature on sustainable entrepreneurship and external financing in sustainable ventures is presented, followed by perspectives from organizational identity theory, performance reference points theory, and a dynamic capability view.

2.1 Sustainable entrepreneurship in sustainable ventures

At the intersection of sustainable development (WECD, 1987) and entrepreneurship, sustainable entrepreneurship refers to entrepreneurial activity aimed at addressing sustainability challenges and driving the development of innovative solutions to transform unsustainable industry practices (Anand et al., 2021; Belz & Binder, 2017; Johnson & Schaltegger, 2020). Unlike traditional entrepreneurship, which emphasizes economic value creation in response to an unmet customer demand on financially viable markets (Kirzner, 1973), sustainable entrepreneurship extends the normative foundation of conventional entrepreneurship by incorporating social, environmental, and economic value creation as goals of equal priority (Muñoz & Cohen, 2018a). While several definitions of sustainable entrepreneurship have been proposed (see e.g., Di Vaio et al., 2022; Gast et al., 2017), they reflect the yet emergent and multidisciplinary nature of the research field (Terán-Yépez et al., 2020) and the integration of both social and environmental entrepreneurship in a for-profit setting (Muñoz & Cohen, 2018a; Muñoz & Cohen, 2018b). For the purpose of this thesis, sustainable entrepreneurship refers "*the focus on the preservation of nature, life support, and community in the pursuit of perceived opportunities to bring into existence future products, processes, and services for gain, where the gain is broadly construed to include economic and non-economic gains to individuals, the economy, and society*" (Shepherd & Patzelt, 2011, p. 142).

Drawing on this definition, sustainable entrepreneurship posits that ventures implementing such entrepreneurship have the agency to introduce commercially viable and potentially transformative sustainability innovations as central to their value creation (Schaefer et al., 2015). Much like the processes of creative destruction (cf. Schumpeter, 1942), Schaltegger et al. (2023) exemplify this type of venturing and innovation as the co-existence of for-profit and sustainable value creation, aligned in the commercialisation of new technology solutions of replacement of fossil-based technologies – or, as suggested by Orser et al. (2018), the innovative

application of gender-equitable investment principles to mitigate gender-discriminatory incumbent industry practices.

Particular attention has been directed to entrepreneurial ventures that are proactively internalizing sustainability frameworks and associated targets within their entrepreneurial processes (Anand et al., 2021; Belz & Binder, 2017) by addressing grand sustainability challenges as entrepreneurial opportunities (Schaltegger et al., 2018). These ventures will be referred to hereafter as sustainable ventures.

From a purpose-driven venturing perspective, sustainable ventures are found to be value laden (Anand et al., 2021; Pinkse & Groot, 2015; Thelken & de Jong, 2020) and committed to firm-level achievements to correct or alter what is perceived as unsustainable industry practices. Sustainable ventures are, therefore, associated with a proactive contribution to a sustainable common good (Pinkse & Groot, 2015; Vedula et al., 2022) – beyond the immediate boundaries of the firm, regulatory compliance, and what is currently demanded by the market – while making a profit. Acting on sustainability challenges as entrepreneurial opportunities are, however, understood as more complex than acting on opportunities solely driven by economic gain (Sarasvathy et al., 2020) as it implies organizational insurgency (Muñoz & Dimov, 2015) and acting counter to conventional social norms in industry (Muñoz & Dimov, 2015; O´Neil et al., 2009; Pacheco et al., 2010). In that capacity, sustainable ventures are increasingly recognized as important agents of change (Dean & McMullen, 2007; Johnson & Schaltegger, 2020; Muñoz & Cohen, 2018a; Terán-Yépez et al., 2020).

Taking stock of the emerging literature on sustainable entrepreneurship, sustainable ventures may be distinguished from conventional ventures in three norm-breaking and functional ways. First, sustainable ventures are founded on the principle of extending sustainability-driven values and aspirations beyond profit-seeking behavior (Anand et al., 2021; Dean & McMullen, 2007; Pinkse & Groot, 2015; Thelken & de Jong, 2020). The coexistence of social, environmental, and economic values is perceived as synergetic and generative intrinsic values (Thelken & de Jong, 2020). Additionally, it serves as a response to fulfilling sustainability needs and collective interests (Di Vaio et al., 2022; Parrish & Foxon, 2009) rather than merely economic self-interest (Vedula et al., 2022).

Second, sustainable ventures are distinguished by their emphasis on achieving long-term sustainability objectives in parallel with financial returns. This extends their performance reference points by including multiple, socially derived targets, such as contributing to societal

benefits and the welfare of future generations (Belz & Binder, 2017; Farny & Binder, 2021). Additionally, it requires integrating an "empirically informed and collectively shared understanding of the 'bigger picture' regarding relevant sustainability challenges" (Schaltegger et al., 2018, p. 6), adapted into tangible firm-level targets. This includes applying firm-level performance measurements based on sustainability-oriented reference points (Nason et al., 2018), such as contributing to both social and environmental impacts in parallel.

Third, sustainable ventures are associated with approaching sustainability challenges as viable sources of entrepreneurial opportunity creation (Cohen & Winn, 2007; Hehenberger et al., 2019; Vendula et al., 2022), which typically extends the scope of conventional entrepreneurial opportunities and associated markets. This is exemplified by the proactive mitigation of market failures, such as gender inequality, poverty, ecological degradation, and climate change, that are integrated into ventures' core value-creation processes (Hoogendoorn et al., 2019). Addressing these market failures as entrepreneurial opportunities by developing innovative technologies to replace fossil-based practices (Johnson & Schaltegger, 2020; Schaltegger et al., 2018) or social innovations to address gender equality in finance (Orser et al., 2018) necessitates a new set of sustainability-oriented dynamic capabilities (Knoppen & Knight, 2022). These capabilities tends to be crucial to gain competitiveness and thrive in emerging markets characterized by rapid change (Knoppen & Knight, 2022).

From a sustainability perspective, these three norm-breaking attributes of sustainable ventures tend to be central to their ability to positively contribute to real-world, measurable sustainable impacts. Thus, to fulfil their purpose as entrepreneurial catalysts to accelerate the forthcoming sustainable industrial transformation. The same norm-breaking attributes, however, seem to pose additional challenges in finance-seeking situations and to deviate with the expectations and interests of conventional financial stakeholders (Muñoz & Cohen, 2018a). These conflicts may arise from differing interpretations of what constitutes a financially viable venture eligible for external financing (Hoogendoorn et al., 2019), highlighting diverging views between sustainable ventures and financiers in finance-seeking situations, which calls for further inquiry (Austin et al., 2006; Moro et al., 2020).

While prior research in the entrepreneurial finance literature has provided valuable knowledge on financing of conventional for-profit entrepreneurial ventures, there is a lack of in-depth, contextualized research on how sustainable ventures manage their financing (Demirel et al., 2019). Furthermore, there is a need for increased understanding of how sustainable ventures, given their norm-breaking attributes, associate with financiers' perception of a financially

attractive business case in finance-seeking situations (Mansouri & Momtaz, 2022). As Hall et al. (2010, p. 441) note: "*while the case for entrepreneurship as a panacea for transitioning towards a more sustainable society is alluring, there remain major gaps in our knowledge of whether and how this process will actually unfold*" and how it influences access to external financing. Sustainable ventures and financing will be further discussed in the following segment.

2.2 External financing in sustainable ventures

Sustainable ventures engage in seeking access to external financing to build the financial resource base necessary to establish and grow a financially viable venture. This process typically includes identifying, attracting, and combining various internal and external sources of financing (Brush et al., 2001; Hoogendoorn et al., 2019). Thus, external financing can be viewed as a dynamic and continuous process characterized by multiple iterations involving complementary financial stakeholders who meet the venture´s financial needs as it aspires to grow (Bellavitis et al., 2017; Brush et al., 2001).

Most entrepreneurial ventures rely on self-funding from accumulated earnings (Singh et al., 2024), or bootstrap financing (Malmström & Hällerstrand, 2023) as alternatives to external financing. However, for sustainable ventures, bootstrap financing and internal financing may be insufficient, which is why access to external financing, such as private debt and equity financing, generally becomes crucial to enable venture growth (Bellavitis et al., 2017; Muñoz et al., 2018b). Studies report significant challenges for these ventures in sustaining themselves and achieving growth, pointing to the general reluctance of private banks to provide debt funding to sustainable ventures (Hoogendoorn et al., 2019) and the limited availability of suitable equity financing (Wöhler & Haase, 2022). A common assumption concerning such restrained access to external finance has been that sustainable ventures, driven by a sustainability impact-generating purpose, generally do not appeal to external financiers' expectations of financial returns on the assumption that they demonstrate poor financial orientation and spell weak financial returns (Certo & Miller, 2008; Hörisch et al., 2019) Such assumptions may, however, hold less explanatory value in contexts where sustainable ventures demonstrate the same financial viability and return opportunities as their industry peers, despite the additional financial constraints they face (Schmelter & Strese, 2024). Hence, engaging in accessing external financing is what typically sets sustainable ventures apart from conventional ventures.

Furthermore, sustainable ventures are found to have fewer financiers available with whom they can align their sustainability-driven goals (Austin et al., 2006). However, among the narrow and small-scale financial stakeholders, Mansouri and Momtaz (2022) found that, in sustainability-oriented niches of equity crowdfunding, sustainable ventures that scored high on ESG metrics experienced an increase in initial valuation with a positive effect on the investment received. In a similar vein, Vismara (2019) found an increased interest in sustainable ventures among non-professional equity investors with a local community-oriented investment idea. Although new and emerging sustainability-oriented actors in some entrepreneurial finance niches (Block et al., 2018) – exemplified by accelerators, incubators, donation-based and reward-based crowdfunding, corporate venture capital, venture debt funds, and intellectual property-based investment funds – have shown an increase in sustainability-oriented investments, large-scale funding limitations remain for sustainable ventures. These limitations include restricted access to mainstream private financial markets, such as private debt funding and sustainable bank loan finance, which is seen as a prioritized source of external funding for ventures in general (e.g., Cole & Sokolyk, 2018).

While sustainable finance markets are growing (Kumar et al., 2022), recent findings highlighted by Fichtner et al. (2024) reveal that the most commonly used ESG investment frameworks attributed to sustainable finance (Cunha et al., 2021) seem to be omitting the assessment criteria associated with positive and measurable sustainability impacts. Instead, they tend to focus on a negative sustainability risk assessment. The authors refer to this discrepancy as an "*ESG capital allocation gap*", and they underscore the need for a more rigorous approach to sustainable finance that goes beyond risk mitigation to actively promote substantial, positive environmental and social outcomes. Therefore, approaching sustainable finance from the sustainable ventures perspective seems to be associated with considerable challenges (Ahlström & Monciardini, 2021; Van Zanten & Huij, 2024) and misconceptions (Lagoarde-Segot, 2019). An important consequence is a lack of sustainable financing directed toward sustainable ventures with explicit sustainability impact ambitions. Consequently, the missing financing in sustainable venture–financier exchange situations remain a serious shortcoming, and studies show that there is a misfit between them. Prior studies have commonly positioned sustainable ventures as the "wrong" type of entrepreneurial spirit (Choi & Grey, 2008), operating beyond the scope of conventional investment interests (Rao et al., 2023; Schmelter & Strese, 2024).

The conventional explanation for the perceived lack of external financing facing most entrepreneurial and innovative ventures, including sustainable ventures, and the misalignment

in associated venture–financier exchange situations, is based on agency theoretical reasoning and information asymmetric problems (Moro et al., 2017). Therefore, sustainable ventures are assumed to be informationally opaque, meaning there is an inherent lack of verifiable information coming from the ventures' side – namely, a limited historical track record, shortcomings in verified market or technological readiness, deficiencies in publicly available financial statements, and insufficient collateral as security for the funding applied for (Berger & Udall, 1998; Ferri & Murro, 2015). This lack of sufficient information has, therefore, been identified as restricting financiers' ability to properly assess ventures and their financial forecasts. Consequently, this deficiency leads to limited financing opportunities. However, as ventures strengthen their financial and operational status, the adverse response rate is expected to diminish.

Additionally, financiers may proactively apply a variety of supplementary assessment frameworks to overcome the lack of information supplied by the venture, exemplified by extensive due diligence processes, guarantees or pledges of personal collateral, and a mix of transactions and relationship lending frameworks referred to as a "*combination of primary information source, screening and underwriting policies/procedures, loan contract structure, and monitoring strategies/mechanisms*" (Berger & Udell, 2006, p. 2946). Importantly, such assessment frameworks tend to deviate from the financier's conventional assessment routines and are found to rely heavily on the intermediating role of individual financial officers who collect and interpret the additional information and exercise their authority to take a final investment decision based on the information now available (Berger & Udell, 2006). Such decision making is, therefore, found to be significantly influenced by individual, subjective interpretations based on the prevailing social norms among financiers, determining what is perceived as a fundable venture or not (Berger & Udell, 1998). How financiers understand and make sense of sustainable ventures seeking financing is associated with the reasoning of Simon (1955). He reasons that individuals have limited data processing abilities to cognitively manage vast amounts of information, much like the decision-making situation facing financiers. This perspective acknowledges that financiers are often far from rational, are influenced by several sources of potential bias, and are prone to error causing them to act under the constraint of bounded rationality (Busenitz & Barney, 1997). When financiers act according to bounded rationality, they rely on simplified representations of the world, such as the social norms on how ventures' fundability should be understood.

These social norms, therefore, influence the way financiers understand ventures' fundability, and previous research has shown that social norms are generally based on historical experience rather than on current knowledge of the environment (Kiesler & Sproull, 1982). Such social norms serve as the basis for forming shared beliefs that drive financiers' decisions on individual funding applications from ventures. These preconceived shared beliefs may be effective. However, they may lead financiers to false interpretations of reality, concerning, for example, which ventures are fundable or not (Spengler & Strohmer, 1994; Tversky & Kahneman, 1974). When financiers assess ventures applying for funding, they categorize the ventures and their entrepreneurs by how they make sense of the ventures. In this process, financiers aim to understand the venture's potential to deliver on the terms of the funding and, because the financiers operate under conditions of bounded rationality, they share beliefs on how the world works and how different approaches to entrepreneurship may affect the process (Beltrame et al., 2023; Hanssens et al., 2016). Such shared beliefs risk leading financiers to misinterpret venture potential because assessment of individual ventures is based on perceptions of the group to which the venture is categorized as belonging rather than its actual venturing potential. In the absence of established assessment measures applicable to sustainable ventures, which attributes do not perfectly match the established assessment frameworks, these ventures may face greater risk of becoming categorized as non-fundable by the financier.

Sustainable ventures, being inherently norm breaking, deviate from conventional venture financier finance. These circumstances arguably position these ventures in an unfavorable position compared to conventional ventures when encountering financiers. This may provide an explanation as to why such ventures face additional financing constraints. Even in situations where these ventures share full information transparency with financiers and comply with their financial metrics – transaction-based or so-called "hard" and quantifiable data, sufficient credit rating, and so on – financiers may overrule these indicators of fundability in their decision making. Drawing on related studies on the gender gap in entrepreneurial finance, prior research has been pointing to the extensive influence of entrepreneurial stereotyping and gender biases among conventional financiers (Kanze et al., 2017), which tends to unfairly restrict women entrepreneurs' access to external funding (Kanze et al., 2018; Malmström et al., 2018) despite representing equally good investment opportunities as their male peers (Malmström et al., 2024). Thus, this thesis theorizes that the deviation from social norms and conventional expectations of what a conventional financing case should look like in the minds of financiers is linked to shared beliefs of sustainable ventures being non-fundable. These circumstances call

for an alternative explanation to the dominant agentic perspective. However, there is scant knowledge available to help us disentangle the nature of the socialized process that sustainable ventures encounter with financiers when seeking access to external funding. The need for an in-depth, contextual understanding of the perceived misalignment in the sustainable venture–financier exchange situation, therefore, calls for further socialized inquiries. In terms of this thesis, the focus is, therefore, on the norm-breaking nature attributed to sustainable entrepreneurship, employing perspectives on how sustainable ventures construct their organizational identity, set performance reference points, and develop dynamic capabilities to act accordingly.

2.3 Organizational identity and identity work in sustainable ventures

As argued in the sustainable entrepreneurship literature, sustainable ventures are distinguished by their sustainability-driven venturing purpose and by synergistically incorporating social, environmental, and economic values that are held to be of equal importance (Anand et al., 2021; Dean & McMullen, 2007; Pinkse & Groot, 2015). Furthermore, sustainable ventures internalize sustainability frameworks within their entrepreneurial processes, seeking to achieve real-world, measurable sustainability impacts that go beyond economic self-interest. From an organizational identity perspective, this means that sustainable ventures integrate both purpose-driven and profit-seeking core values into the organization, and that this co-existence shapes the venture's identity.

Following Albert and Whetten (1985), organizational identity essentially refers to the central, enduring, and distinctive (CED) organizational attributes that shape the organization's self-referential understanding of “who we are as an organization” (Albert & Whetten, 1985; Ashforth & Mael, 1989; Berger & Luckmann, 1966; Corley et al., 2006; Mead, 1934) and distinguish it from other organizations (Whetten, 2006) (hereafter called self-defining identity). From such a perspective, organizational identity is something that we do and not something we have (Harrison et al., 2018; Shotter, 2010).

From and organizational identity perspective, sustainable ventures may be categorized as hybrid identity organizations (Albert & Whetten, 1985), combining sustainability-driven and profit-seeking values that co-exist synergistically throughout the organization (Fischer et al., 2020; Foreman & Whetten, 2002; Pratt et al., 2016). The organizational identity of these ventures, therefore, combines two identities that are “not expected to go together” (Albert & Whetten, 1985, p. 270) They are described as “defended as inviolate, experienced as incompatible, and

yet found to be indispensable" (Albert & Adams, 2002, p. 36). Thus, the hybrid identity of sustainable ventures may be perceived as including dimensions at odds with each other (Pratt et al., 2016). Accordingly, constructions of organizational identity may be viewed as being "subjectively and inter-subjectively understood" (Lindgren & Packendorff, 2009, p. 30). Consequently, the way these entrepreneurs define and present their venturing, and the way stakeholders, such as financiers, perceive that venturing, are inextricably linked (Hatch & Schultz, 2002; Malmström et al., 2017; Scott & Lane, 2000).

The complexity of holding a hybrid organizational identity suggests conflicting interests in external fund-seeking situations (Grimes, 2010). That is because combining purpose-driven and profit-seeking values is associated with stakeholder ambiguity (Wry & York, 2017). Potentially, trigger investor resistance – as, for example, conceptualized by Pratt et al. (2016) in the setting of investing in social enterprises, family businesses, for-profit, or health care. Importantly, hybrid identity organizations are expected to be formed by and respond to the identity interpretation made by influential external stakeholders (Smith & Besharov, 2019), such as external financiers. How "born hybrids" in for-profit sustainable ventures construct and manage their identity in financial stakeholder exchange situations remains, however, a significant research gap (Pratt et al., 2016), calling for further understanding, including how they manage their organizational identity work.

Organizational identity work relates to the various forms of agentic "work" processes undertaken to create, sustain, and adapt the organizational identity (Kreiner et al., 2015). Kreiner and Murphy (2016, p. 411) describe these as *"comprising discursive, cognitive, and behavioral processes that help individuals and collectives create, sustain, share and/or change organizational identity."* Consequently, the way these entrepreneurs define and present their venturing and the way stakeholders, such as financiers, perceive their venturing are inextricably linked (Hatch & Schultz, 2002; Malmström et al., 2017; Scott & Lane, 2000). Therefore, organizational identity work processes may be understood as contested and negotiated between internal and external stakeholders. Based on these tenets, unpacking a better understanding of sustainable venturing comes from exploring the shared set of "goals, missions, practices, values and actions (as well as a lack of actions) […] that shape the organizational identity and differentiates the organizations in the eyes of its stakeholders from other organizations" (Scott & Lane, 2000, p. 44). Such identity work calls for a distinction between two sides: sustainable ventures organizational self-defining identity (internal side) and the identity interpretation of

others (external side) such as financiers (Kouamé et al., 2022; Kreiner et al., 2015; Leitch & Harrison, 2016; Watson, 2009).

Organizational self- defining identity work reflects the identity of the venture that the entrepreneurs create. It concerns the internal processes of making sense of “what kind of organization it is” and “what it aims to achieve”. From this perspective, attaining the hybridity of sustainable and economic outcomes is essentially linked to sustainable ventures’ self-defining identity (Gast et al., 2017; Gregori et al., 2021). And the identity work processes are linked to repeatedly interpreting, shaping, and reifying “who we are” and “what we do” (Kouamé et al., 2022; Navis & Glynn, 2011). Therefore, ventures’ identity work is central to their endeavors to promote hybridity, which channels their understanding of who they are and what their place in the world is.

Consequently, organizational identity work is not a process that takes place in a vacuum. It is influenced by sustainable ventures’ stakeholders. Indeed, prior research has emphasized the particular challenges in financial resource mobilization, specifically in maintaining identity hybridity while balancing the potentially conflicting identity interpretations of external financiers (Guan et al., 2020; York et al., 2016). Similarly, prior studies in other areas of resource mobilization have demonstrated the challenges associated with conflicting member identification and commitment to an organization (Foreman & Whetten, 2002; Kouamé et al., 2022), ambiguous human resource practices, such as recruitment and selection (Ashforth & Reingen, 2014; Hsu & Elsbach, 2013), and in meeting the potentially conflicting claims of external stakeholders, which carry the risk of mission drift (Grimes et al., 2019).

From an external stakeholder perspective, such as financiers, organizational self-identity echoes stakeholders’ perceptions expressed in the interpretations they make of the sustainable venture’s identity. This involves who the entrepreneurs and their ventures are, and how they are perceived in the context of institutional and normative influences (Anderson & Starnawska, 2008, Watson, 2009). Hence, organizational self-identity work refers to the external interpretations of an organizational identity. Thus, the identity interpretations clarify what it means to be a sustainable venture from the stakeholder perspective. It signifies that stakeholders are able to frame sustainable entrepreneurship in their own way and to clarify what such ventures mean to them (Cope, 2005). Because of this, Lounsbury and Glynn (2001, p. 554) note that a key challenge for entrepreneurs is “to establish a unique identity that is neither ambiguous nor unfamiliar, but legitimate.” An important point of departure is, therefore, that an organizational

identity is socially constructed in a process of mirroring the self-identity in an interplay with stakeholders' interpretations of that identity.

Given the dual motives in sustainable entrepreneurship, sustainable ventures may require breaking with conventional industry praxis and normative expectations of entrepreneurial activities. Such out-of-the-box activities may create additional challenges for sustainable ventures in achieving legitimacy and credibility with their stakeholders (O'Neil & Ucbasaran, 2016; O'Neill & Gibbs, 2016; Pacheco et al., 2010) and in reaching alignment with socially accepted norms and conventions (Delmar & Shane, 2004; Demirel et al., 2019; Meek et al., 2010). The norm-breaking hybrid identity of sustainable ventures may, therefore, impose even harsher restrictions in accessing critical resources, such as financing. When engaging with important financiers, such as banks, these ventures may encounter challenges related to identity work that go beyond the challenges that new ventures in general face when seeking financing in the early stages (Bergset, 2017). Such identity work may be triggered by their use of sustainability-driven and multiple reference points to guide their behavior, which typically extend beyond conventional, financially derived assessment frameworks.

2.4 Performance reference points in sustainable ventures

Aligned with holding a hybrid identity, sustainable ventures may be posited to include multiple reference points (Joseph & Gaba, 2015), incorporating long-term sustainability goals beyond the boundaries of the venture, such as inter-generational well-being and societal prosperity, in combination with firm-level financial targets (Belz & Binder, 2017; Farny & Binder, 2021). Sustainable ventures, therefore, typically integrate systems-level sustainability frameworks and associated goals with firm-level targets (Johnson & Schaltegger, 2020), which extends the conventional scope of financial performance reference points (André et al., 2018).

From a performance reference point view (Cyert & March, 1963; March & Simons, 1958; Nason et a., 2018; Shinkle, 2012), venture behavior is explained by their firm performance in in terms of its goals and its responses to performance feedback, taking action depending on whether the feedback received is positive or negative (Gavetti et al., 2012, Petkova et al., 2014). Performance reference points refer to the "*criterion, which is the specific goal or outcome that is evaluated, and a referent which is the objective of comparison against which the ventures is evaluated*" (Nason et al., 2018, p. 261). In fund-seeking situations, financial goals tend to remain the primary reference points against which entrepreneurial ventures are evaluated (Gavetti et al., 2012; Shinkle, 2012). This is because financial reference points are

institutionalized in conventional financial credit assessment frameworks, and they are readily accessible in annual reports and business plans (Honig & Karlsson, 2004). Financial stakeholders may, therefore, review historical financial statements and assess the venture's standing in its industry including quantifiable financial performance datasets and standard financial statement analysis indicators (Greve, 2003; Petkova et al., 2014).

The assessment of sustainability derived from multilevel reference points is often perceived by financial stakeholders as unconventional, complex, and ambiguous (Joseph & Gaba, 2015; Wry & Hauge, 2018), and lacking reliable benchmark referents (André et al., 2018; Nason et al., 2018). Such assessments may, therefore, extend beyond the scope of conventional financiers' credit assessment frameworks (Joseph & Gaba, 2015). Similarly, traditional financial assessment frameworks may not adequately account for the gain or loss positions in sustainable ventures because their aspirations typically extend beyond financial returns. From a financier's perspective, sustainable ventures may be seen as ambiguous or difficult to evaluate (André et al. 2018).

Indeed, prior research underscores the need for new investment assessment frameworks that better include sustainability reference points as core criteria. However, such frameworks seem to be currently lacking (Busch et al., 2021; Fischer et al., 2020). This gap is often attributed to the perception that sustainability reference points are "fuzzy" (Carè & Wendt, 2018), difficult to quantify (Schlütter et al., 2023), and outside the conventional financial assessment frameworks, which are primarily based on metrics derived from financial reports and forecasts.

This represents a significant shortcoming with serious implications for sustainable ventures since the selected reference points used by financial stakeholders play a crucial role in directing financiers' investment priorities and guiding their final investment decisions (Petkova et al., 2014). Prior research, therefore, emphasizes the need for further understanding of applying multilevel reference points (Joseph & Gaba, 2015), how reference points may be contested and negotiated between sustainable ventures and financiers in fund-seeking situations (Zavyalova et al., 2016), and how setting multiple performance reference points reflects on the development of organizational resources, processes, and routines to operationally act accordingly.

2.5 Dynamic capabilities in sustainable ventures

In line with setting multiple performance reference points, we have learned that sustainable ventures can be distinguished by their organizational ability to target and act on grand sustainability challenges as viable entrepreneurial opportunities (Cohen & Winn, 2007;

Hehenberger et al., 2019; Vendula et al., 2022), including operating in new and emerging sustainability markets. Georgallis and Lee (2020, p. 50) refer to such markets as "*not only concerned with wealth creation but whose raison d'être is to create social value by offering market solutions to social and environmental issues.*" This includes seeking innovative solutions to replace conventional unsustainable industry practices (Conger et al., 2018), exemplified by the development of renewable and bio-based energy sources to replace fossil-based industry trajectories (Schaltegger et al., 2018; Wüstenhagen & Menichetti, 2012) or gender-lens investments to enhance gender equality in financial markets, beyond the exclusion of women entrepreneurs (Aidis et al., 2022). Other examples include sustainable forestry, organic food production, fair trade goods, sustainable building, and recycling (see e.g., Georgallis & Lee, 2020). Importantly, Corbett and Montgomery (2017) raised awareness of the complexity of new market formation processes while pointing to sustainable ventures as pivotal in driving such formations, based on their unique resources and capabilities to act counter to incumbent market conventions.

Drawing on the dynamic capability literature (Eisenhardt & Martin, 2000; Teece et al., 1997), dynamic capabilities may be defined as the venture's processes and routines in which resources are used – specifically, the processes of integrating, reconfiguring, gaining, and releasing resources (Eisenhardt & Martin, 2000; Teece et al., 1997). Thus, the dynamic capabilities perspective focuses on explaining how ventures' capabilities may evolve over time to renew and adapt their resources and competencies in response to both exogenous environmental events and endogenous organizational pressures (Lavie, 2006; Zahra et al., 2006). Consequently, dynamic capabilities are considered strategic activities in which ventures search for new ideas, choose among them, mobilize and modify resources, and then create and capture value (Eisenhardt and Martin, 2000). This is considered industry-specific "best practice". Teece (2007) disaggregates the micro-foundations of dynamic capabilities into sensing, seizing, and reconfiguring capabilities. Sensing capabilities refers to a venture's activities based on scanning, interpreting, and monitoring the surroundings to understand and identify business opportunities and make strategic decisions based on them. Seizing capabilities concerns the mobilization of resources and structures to address a business opportunity through an innovative value proposition that will capture value. Reconfiguring capabilities refers to activities concerned with the continuous and strategic renewal of resources and competencies aimed at maintaining the venture's resource base in line with changes in markets and technologies.

Applying a dynamic capability view on sustainable venturing may, therefore, offer the potential to explore the micro-foundations of how dynamic capabilities can serve as a response to driving potentially transformative change and to compete in emergent sustainability markets. Although prior studies indicate that developing dynamic capabilities is important in achieving competitive advantages in commercial markets (Eisenhardt & Martin, 2000; Kindström et al., 2013; Teece et al., 1997), building dynamic capabilities in sustainable ventures tends to involve additional complexities (Amui et al., 2017; Austin et al., 2006; Liboni et al., 2022). This stems from the often radical and disruptive approach of sustainable ventures to sustainability impact generation (opportunity creation) (Wry & York, 2017) and their ability to start up and grow through commercial activities while pursuing sustainability missions (Demirel & Kesidou, 2019) and purposes (George et al., 2023). It is suggested that the realization and formalization of sustainable venturing depends on developing a unique set of resources and associated sustainability-oriented dynamic capabilities to deploy these resources (Amui et al., 2017; Strauss et al., 2017; Vallaster et al., 2021). Furthermore, these dynamic capabilities tend to deviate from the routines and "best practice" of incumbent industries (Liboni et al., 2022) – in particular, how through conventional means to "*integrate, build, and reconfigure internal and external competencies to address rapidly changing environments*" (Teece et al., 1997, p. 516).

While gaining competitive advantages in emerging markets may be challenging for all types of venture, sustainable ventures may face additional challenges in meeting stakeholder expectations on social and environmental outcomes in parallel with financial returns (George et al., 2023). Rindova et al. (2009, p. 483) refer to such challenges as a *"foundational entrepreneurial paradox,"* which they argue becomes particularly evident in finance-seeking situations because the resource base on which their competitive advantages rest may deviate from financier expectations on conventional business practice. They seek to acquire decisive financial resources while balancing the often-conflicting expectations of external financiers (Austin et al., 2006; Di Vaio et al., 2022; McDermott et al., 2018). Indeed, they aim to attract financial stakeholders willing to invest in sustainability-oriented innovations, beyond established conventions and legislative requirements (Ince & Hahn, 2020). Thus, dynamic capabilities may provide a valuable perspective on practicing sustainable ventures in fund-seeking situations. However, research addressing the relevant specificities concerned with assessing for-profit and sustainability ambitions remain scarce (Amui et al., 2017; Knoppen & Knight, 2020). Thus, new insights into the micro-foundations of dynamic capabilities in sustainable ventures are required, including how such dynamic capabilities relate to access to

external funding in support of venture growth (Günzel-Jensen & Rask, 2021; Lee et al., 2022; McDermott et al., 2018; Wüstenhagen & Menichetti, 2012).

Table 2. Summary of the theoretical background

	Organizational identity	**Performance reference points**	**Dynamic capabilities**
Sustainable Entrepreneurship	- Hybrid identity organizations, by combining sustainability-driven and profit-seeking values as synergetic	- Multiple performance reference points to contribute with substantial sustainability impacts alongside financial returns	- Organizational processes and routines to support radical innovation and to act on sustainability challenges as entrepreneurial opportunities
External Financing	- Combination of potentially conflicting organizational values - Potentially lacking financial attractiveness among mainstream financial actors	- Conflicting with profit-seeking aspiration and financiers' assumption of for-profit maximization - Less institutionalized metrics, within conventional financial assessment frameworks	- Deviating from conventional industry best practice and financers' typical investment interest - Potentially lacking in market attractiveness and competitiveness in commercial markets
Example References	E.g. Albert & Whetten, 1985; Anand et al., 2021; Belz & Binder, 2017; Cesinger et al., 2022; Fischer et al., 2020; Pratt et al., 2016	E.g., André et al., 2018; Farny & Binder, 2021; Hoogendoorn et al., 2019; Nason et al., 2018; Johnson & Schaltegger, 2020	E.g., Amui et al., 2017; Austin et al.,2006 ; Demirel & Kesidou, 2019 Eisenhardt & Martin, 2000; Liboni et al., 2022; Teece, 1997, 2007; Strauss et al., 2017; Schaltegger et al., 2018

3. Research Methodology

This chapter presents an overview of the research methodologies employed in this thesis. The chapter starts by outlining the philosophical positioning, followed by a description of the research strategy, the case company selection, and the data collection. The chapter ends with a description of the data analysis and a reflection on research quality.

3.1 Philosophical positioning

My philosophical positioning pertains to an interpretivist research paradigm, which has informed the ontological, epistemological, and methodological considerations of the thesis. From an ontological perspective, I assume a relativistic rather than an absolute worldview and perceive social realities as constructed through human actions and interactions (Denzin & Lincoln, 2005). Therefore, this is distinct from natural reality. In consequence, I recognize the existence of multiple social realities beyond the one "truth" (Corbin & Strauss, 2008, p. 10). From an epistemological perspective, I align with the assertion that knowledge development is primarily concerned with understanding the world "as it is". This is derived from the meanings ascribed by social actors who construct this reality, including the social processes they create, negotiate, sustain, and modify. Applying an interpretivist research paradigm has provided methodological coherence and clarity, has guided the overall operationalization of the research purpose, and has underpinned the research questions. Below, the approach to theory development is presented in greater detail.

Applying an interpretive research paradigm has influenced the approach to knowledge development in two ways. First, I have adopted a qualitative inductive research approach, inspired by the grounded theory as conceptualized by Corbin and Strauss (1990), and explored external financing in sustainable ventures as a social phenomenon. The focus has been placed on sustainable ventures and their informants' lived experiences and perceived realities in finance-seeking situations. This approach means that the observed data can precede theory development (Gioia et al., 2012), prompted by the need for further socialized understanding and exploration of the complexity of sustainable ventures and the external financing exchange situation in real-life settings (Saunders et al., 2019). Such an approach, in addressing external financing in sustainable ventures, reflects on the research questions by integrating complementary perspectives. These include how *organizational identity*, *performance reference points,* and *dynamic capabilities* relate to access to external funding. Furthermore,

the inductive approach has facilitated a flexible research design, permitting iteration between empirical observations, interpretation, and theorizing on the empirical data collected (Denzin & Lincoln, 2011), including adjustments during the research process based on preliminary results (see section 3.6). This reflects the perspective on external financing in sustainable ventures as being data driven and empirically derived from observations rather than theoretically deducted.

Second, practicing interpretive research has positioned me, as a researcher, as integral to the process of data collection and analysis (de Haan, 2006). It has required me to engage closely with the informants to "enter" their realities (Leitch et al., 2010; Saunders et al., 2019). By focusing appropriately on the informants' experiences and perspectives in a systematically and theoretically relevant way (Gehman et al., 2018), beyond unconscious bias, I have regularly reflected on the research process, documented my thoughts, identified potential biases, and engaged in reflexive discussions with the research team. Likewise, I have reflected on my own position relative to the research context and the participants, including my industry background in entrepreneurship and financing. I find that my empirical experience has positively influenced my interaction with informants. It has served as a source of pre-understanding and trustworthiness while providing familiarity with the specificities that may be associated with external financing in sustainable venturing. Moreover, it has provided access to typical cases, supporting relationship building with key informants, enabling reciprocity in discussions, and promoting observational ability during face-to-face interviews. Importantly, it has supported contextual sensitivity and facilitated my ability to interpret. My main priority has, however, remained on accurately interpreting and giving voice to informant testimonies and experiences beyond unconscious value commitments. As an example, emerging data analysis and associated interpretations have been continuously iterated in the research team to identify and challenge potentially misleading interpretations. Recurring feedback loops with selected informants have been proactively initiated to verify and adjust preliminary results. These feedback loops have served to crosscheck aggregated interpretations and ensure a fair representation of informants' views and experiences.

One example of feedback loops is the round-table seminar, where informants were invited to reflect on and respond to preliminary findings. Another example involves one-on-one conversations with selected informants to discuss evolving findings and adjust the preliminary conclusions accordingly. Next, the overall research design and the research methods applied will be presented in greater detail.

3.2 Research strategy

Guided by the research purpose to *advance understanding of external financing in sustainable ventures* and seeking to address the underpinning research questions (see section 1.3), a case study strategy has been adopted. This case study strategy was considered suitable to address "how and why–oriented" research questions (Merriam, 1998) and to focus on contemporary events (Packard, 2018; Ragin & Becker, 1992), such as the financing access gap that seems to constrain sustainable ventures from delivering on their potential sustainability impact generation. Furthermore, a multiple case study has been selected to comprehensively capture the social complexities associated with the case, which is perceived as less bounded and, therefore, less identifiable as a single case (Denzin & Lincoln, 2011). Moreover, the multiple case study was selected to increase the potential for theorizing, including the identification of patterns and similarities across complementary cases.

With the focus on a socialized understanding of external financing in sustainable ventures, three underpinning units of analysis have been empirically derived (see unit of analysis in Table 3). They include complementary perspectives on how sustainable ventures' organizational identity, performance reference points, and dynamic capabilities relate to access to external financing. Subsequently, four case studies were conducted and synthesized to collectively contribute to a holistic understanding of external financing in sustainable ventures while answering the research questions.

When deciding on the time horizon for the studies, the benefits of longitudinal studies in supporting a process view of external financing were deemed suitable (Denzin & Lincoln, 2011). Consequently, all case studies adopted a longitudinal approach, although the duration of the case studies differed. Case study 1 covered a time horizon of 6 years, while case studies 2 to 4 covered a time horizon of 2 years. Such an approach has facilitated the revisiting of case companies at several junctures, including follow-up interviews with informants while accessing publicly available documentary data, such as annual reports, homepages, media reports, and news. This revisiting of case companies was aimed at building trust and forging relationships and at increasing the depth of insights into case companies, their informants, and their real-life experiences (Goulding, 2002). See Table 3 for an overview of the multiple case study strategy.

Table 3. Illustration of the multiple case study strategy of the thesis.

Multiple case study strategy			
Overall case	External financing in sustainable ventures		
Thesis research questions	How can sustainable ventures develop dynamic capabilities, and how may such dynamic capabilities relate to access to external financing?	How can sustainable ventures construct their organizational identity, and how may such identity construction relate to access to external financing?	How can sustainable ventures set performance reference points and how may such performance reference points relate to access to external financing?
Research strategy	Case studies 1 and 2	Case study 3	Case study 4
Unit of analysis	Sustainable ventures' dynamic capabilities and how they relate to access to external funding	Sustainable ventures' organizational identity and how it relates to access to external funding	Sustainable ventures' performance reference points and how they relate to external funding
Time horizon	6 years resp. 2 years	2 years	2 years

3.3 Case company selection

All of the case companies have been selected by theoretical sampling (Saunders & Lewis, 2017). The applied sampling approach aimed to provide rich data from typical case companies (see sampling criteria in Table 4) (Eisenhardt & Graebner, 2007, Glaser & Strauss, 1967), including contextualized and in-depth data, based on the lived experiences of the informants who are currently seeking external funding to grow their sustainable ventures. The financers associated with the case companies have, however, been selected as the financier that the case companies regularly interact with and/or prefer. Individual sampling criteria reflect the conceptual background and contexts on which the case studies rest and have been applied accordingly. The sampling criteria are outlined in Table 4. With the exception of case study 1, which includes one case company, the sampling process was developed stepwise rather than beforehand. This approach is considered suitable when the aim is to capture the relevance of the cases from the new insights generated rather than their representativeness (Gioia et al., 2013).

Table 4. Sampling criteria for case company selection.

Case study	Sampling criteria
1	• Post-acquisition integration process • Integration of joint corporate sustainability strategies • Acquired party: sustainable venture demonstrating green technology leadership in its industry niche • Acquiring party: global market leader within corresponding industry with internal corporate financing/investment entity • Business to business setting
2	• Green technology-based ventures, actively involved in research and development to create innovations for industrial decarbonization and the replacement of fossil-based products and processes • Actively involved in multiple and parallel green innovation processes and the formation of new cross industrial alliances and joint ventures • Minimum of 3 years of operation, including verified annual reports • Actively seeking external financing to facilitate venturing growth and expansion • Business to business setting • Associated market-leading banks and venture capital investors with a commitment to sustainable finance frameworks (such as ESG frameworks) • Associated corporate financiers with a strategic investment interest in sustainable ventures within their industry niches • Documented ambition/strategic interest to fund sustainable ventures, including technology-based sustainable ventures
3	• Green technology-based ventures, actively involved in research and development to create innovations for industrial decarbonization and the replacement of fossil-based products and processes • Actively seeking external financing to facilitate venturing growth and expansion • Venturing purpose to commit positive and measurable sustainability impacts • Minimum of 3 years of operation, including verified annual reports • Business to business setting • Associated market-leading banks and venture capital investors with a commitment to sustainable finance frameworks (such as the ESG frameworks) • Associated corporate financiers with a strategic investment interest in sustainable ventures within their industry niches • Associated complementary or niche financiers with a strategic investment interest in sustainable ventures • Documented ambition/strategic interest to fund sustainable ventures, including technology-based sustainable ventures
4	• Impact seeking venture capital investors • Actively committed to gender-equal impact generation, including gender equity–related performance targets and reference points • Investment and active ownership in unlisted ventures (all industries) • Minimum of 3 years of operation, including verified annual reports • Actively involved in multiple finance-seeking processes. Business to business setting • Associated partner financiers and investor associations and communities

3.4 Description of the research context and case companies

Based on the sampling criteria 53 case companies were selected. The overall research context of the four case studies has provided an in-depth understanding of the case companies and their aspiration to take a leading position in driving sustainable transformation in their industry niches. The context, therefore, contributes rich data on: i) sustainable ventures actively involved in seeking external financing to support the growth of their ventures while aspiring to contribute with innovative products and processes that have potentially transformative industry effects, and ii) associated market-leading financial actors aligned with sustainable finance frameworks aspiring to take leading positions in the financing of the sustainable industrial transformation, including providing finance for sustainability ventures.

First, the research context, which focuses on sustainable ventures, provides detailed insights into Sweden's bio-based process industry and the development of renewable materials, such as biofuel, biomaterials, biochemicals, and advanced carbon capture, utilization, and storage (CCUS) technologies, all of which have the potential to transform the industry. This context reveals that, while these types of sustainable venture are often well recognized by their industry partners and tend to take leadership positions in their niches, managing such ventures and innovation processes is challenging. Since these ventures aim to replace long-standing fossil-based industrial practices and well-established industry conventions, they tend to act as pioneering and norm-breaking entities and regularly require broad industry collaboration and the formation of new, sustainability-driven value networks beyond traditional conventions.
Sustainable ventures of this kind, therefore, tend to demand high technology specialization, organizational flexibility, and a long-term commitment to achieving measurable sustainability impacts. A key constraint for these ventures, however, is insufficient access to financing. Their growth orientation and resource-intensive nature often require access to external financing, beyond informal or internally accrued financial resources, in order to facilitate continuous expansion. Consequently, the context, including the selected case companies, affords a unique insight into the complexities involved in practicing sustainable venturing. This drive to sustainability as they seek access to external financing to grow their businesses tends to conflict with long-standing industry conventions.

Second, the research context has provided access to the venture capital (VC) industry and an in-depth understanding of the potentially transformative investment practices initiated by the case companies and their motivation to invest with a gender-equity agenda. Notably, their investment practices stand in stark contrast with conventional social norms in their industry

since a mere 1% to 2% of the total venture capital provided is directed to women entrepreneurs. The context, therefore, offers unique access to the case companies and their upcoming investment communities, which are increasingly recognized as important agents of change. This is primarily reflected in a significantly higher degree of investment in women entrepreneurs compared to their industry peers and with often superior financial returns. The context, therefore, provides important perspectives on external financing in sustainable ventures, including the financial constraints experienced, based on engaging in norm-breaking investment principles. The context offers a unique insight into the diversity of sustainability-driven industry settings and contexts exemplified in the life science industry, fem-tech industry, and food-tech industry. These types of investor typically operate as active owners of a portfolio of sustainable ventures, with the commonality that they represent high-potential and sustainability-driven ventures seeking to challenge and replace unsustainable industry practices. The context in which these investors and sustainable ventures operate extends the scope of the context for this thesis by offering unique access to sustainable ventures part founded by women.

Third, the context refers to sustainable finance actors, including leading debt and equity financiers, who seek to take leading positions in the transformation to sustainable industry by making finance available. The financial context of the thesis is a mix of financial actors that the sustainable ventures regularly interact with in their search for external finance. Debt funding through private banks is the preferred financing route of the sustainable ventures. And this has, therefore, been given extended emphasis. The banks included are leading financiers in the Nordic markets, offering a broad portfolio of financial services along with a proactive commitment to well established sustainable finance frameworks. These are exemplified in the implementation of ESG, SRI, and GRI frameworks[4] in parallel with internally developed sustainable financial criteria. Importantly, all of the banks provide financing services and products to small and medium-sized enterprises (SMEs). They stress their aspiration to increasingly extend finance to sustainability-driven ventures. As the sustainable ventures' second funding preference, private venture capital (VC) is included in the financing context. Unlike the banks, these financiers provide equity finance, but they are similar to the banks in being leading actors in their Nordic market niches. All of the VCs are well recognized for their commitment to sustainability and their implementation of sustainable finance frameworks.

[4] Sustainable finance frameworks exemplified as: Environmental, Social, and Governance (ESG) framework, Sustainable and Responsible Investments (SRI), and Global Reporting Initiatives (GRI).

Notably, these financiers target investment in high-potential and growth-oriented sustainable ventures that match their specific investment preferences and industry expertise. Typically, the banks and VCs represented refer to each other as co-financing partners, offering complementary financial products and services to meet the evolving financing needs of sustainable ventures.

As a parallel financial context, corporate debt and equity financiers offer complementary access to external financing, channeled through their industrial partnerships, alliances, mergers and acquisitions (M&A), and founding new joint ventures. This type of financial context tends to differ from the private debt and equity financial context, based on the strategic interests of the financiers. Their objective is often to initiate strategic partnerships with sustainable ventures to gain competitive advantages, such as access to unique innovation processes, products, services, and markets. Importantly, these financiers regularly interact or network with sustainable ventures. They tend to be well informed about the ventures' track records, forecasts, and aspirations. These corporate financiers are perceived not only as potential providers of external finance but also as key suppliers and/or customers in the broader value network. This financial context and these financial actors, therefore, afford a unique understanding of the practice of sustainable finance frameworks, the financiers' interpretation and assessment of sustainable ventures, and the conditions under which they base their decisions to grant external financing.

3.4.1 Description of case company in Study 1

The case company in study 1 included an emerging market multinational enterprise, which acquired – as a form of financing – a Swedish bio-based pulp and papermill recognized for its leadership in sustainability technology. The acquired firm – hereafter referred to as a sustainable venture – was well aligned with the sustainability-driven and innovative environments associated with the Swedish bio-based process industry. The sustainable venture was regularly involved in joint innovation processes in collaboration with complementary technology-developing actors. Furthermore, it was recognized for its innovative capacity in driving leading technology development processes, which were specifically raised as value-enhancing factors during the acquisition process. The acquisition proceeded through intensive financial resource mobilization from the acquired venture, seeking sufficient access to external financing to retain its leadership position in the industry while avoiding the risk of financial insolvency. The post-acquisition setting, therefore, offered unique insights into how the integration process of a joint corporate sustainability strategy unfolded in practice and, by extension, how the acquisition organized through external financing developed and how sustainability-oriented technology development was maintained. The case company provided deep insights into the dynamic

relationship between the parties, including access to the specificities of the corporate sustainability strategies of both the target and acquirer, and how the integration process evolved.

3.4.2 Description of case companies in Study 2 and Study 3

The selected case companies in Studies 2 and 3 represent in total 30 technology-based sustainable ventures actively involved in the development of potentially disruptive CCUS technologies and new bio-based solutions, such as biofuel, bio-oil, biochemicals, and biomaterial. The case companies provided access to rich data and a contextualized understanding of their innovation processes and their association with industry-specific clusters and accelerators. Since the case companies were actively engaged as key partners in developing new and industry-spanning value networks, the cases provided an important understanding of the role of entrepreneurial change agents. Generally, the case companies operated in global markets and were involved in geographically dispersed innovation networks. All of the case companies were based in Sweden, offering close proximity and supported access to their industry contexts. The case companies demonstrated technology leadership in their specific industry niches, exemplified by new patents and recurring industry rewards, confirming their leading positions in sustainability-oriented technology development. Furthermore, the case companies were recognized as key partners in proactively driving explorative innovation processes beyond regulatory compliance and current market demand, typically including broad partnerships and large-scale industry alliances. Notably, the case companies reiterated their commitment to industrial decarbonization and associated sustainability impacts as their main venturing aim, providing a rich understanding of their identity. Likewise, they outlined their sustainability stances in both internal and external communication channels, such as web pages and policy documents, providing pre-understanding of the sustainability profile. Furthermore, the case companies demonstrated unique operational capabilities when applying potentially disruptive innovation processes, often at odds with incumbent industry practices. This supported understanding of their venturing practices and their development of competitive advantages beyond conventional markets. The case companies varied in size and years of operations, but all were categorized as small and medium-sized companies (SMEs) with a high degree of technology specialization. The venutres were predominantly founded by male entrepreneurs with a prior managerial position in large-scale process industries. All of the

ventures were able to demonstrate a solid financial status, exemplified by a high degree of credit worthiness[5].

3.4.3 Description of case companies in Study 4

The selected case companies in Study 4 were represented by 21 venture capital investors who are actively involved in investing in unlisted, early-stage entrepreneurial ventures in varying industries, often related to high-tech industry niches. The 21 case companies provided a rich understanding of the application of radically new investments models, focusing on gender equity in venture capital investments. This is a unique and path-breaking way to invest, since conventional venture capital investments typically direct less than 2% of their invested capital to ventures co-founded by women, demonstrating a lack of gender parity. The case companies, therefore, represent industry leaders in their market niches, providing a significantly higher share of investment in portfolio ventures co-founded by women than their industry peers, confirming their impact investment ambitions. Indeed, the case companies are recurrently recognized for their outperforming financial return on investments and are actively involved in advocating increased investments in women entrepreneurs. The case companies have, therefore, provided an in-depth understanding of the development of investment models and associated reference points, aimed at driving transformative change in financial markets and, by extension, augmenting gender parity in the surrounding entrepreneurial landscape. The case companies typically operate in international partnerships, but they are based in Sweden and often work in association with startup and scaleup communities. All of the case companies include women investors and capital-providing partners highly specialized in finance. This has offered a unique opportunity to further understand the practices of women venture capital investors, beyond the conventional male dominance in venture capital markets. A majority of the case companies have been capitalized by impact investors deploying the accumulated financial returns from their previous ventures and entrepreneurial endeavors. This testifies to their active involvement in financial resource mobilization from both an investor and an entrepreneur perspective. The size and year of operation varies from case company to case company, as does their juridical status. All ventures categorize themselves as small and medium-sized investors – which is supported by their annual financial reports. They are actively involved in ongoing investment rounds, sourcing and selecting new investment prospects.

[5] See UC.se for the underlying financial metric in calculating medium and high credit worthiness.

3.5 Data collection

The primary source of data collection was semi-structured and in-depth interviews with the aim of giving voice to the respondents' lived experiences and personal perspectives (Eisenhardt, 1989; Gioia et al., 2013). Building trust and reciprocity were prioritized during the interview situation, with the aim of promoting openness and allowing informants' views to shape the interview. The vast majority of informants stressed their interest in and support for the study. This was reflected in the richness of their responses, nuanced reflections, and willingness to engage in follow-up questions and feedback loops. The interview technique was adopted to gain understanding of contextual specificities and unique real-life experiences (Saunders & Lewis, 2017) and, therefore, to build a foundation for the empirically grounded explorative case studies. The informants were encouraged to speak openly and to freely raise aspects of particular interest to them. Consequently, the importance of providing confidentiality and ethical responsiveness through the research process was emphasized.

Most of the interviews were conducted online, initially in reaction to the outbreak of the COVID-19 pandemic, and subsequently because new online video meetings technology proved beneficial. Extra care was, however, taken to facilitate personal contact, to supply a comfortable and reliable setting and to ensure a high-quality meeting forum. Typically, the interview began with a short introduction to the research team, the case study, and the interview technique, in order to gain trust and confidence. The interviews lasted on average 55 minutes each (see Table 3). Follow-up interviews were undertaken for clarification purposes when needed including shorter online meetings, email correspondence, and phone calls. For all four studies, an initial theoretical orientation was arranged followed by sensitizing interviews (Flick, 2013) with, for example industrial experts, support organizations, financiers, business accelerators, and research institutes.

3.5.1 Data collection in Study 1

The primary data collection in Study 1 included secondary data. Documentary data were considered superior to interview data because we were reviewing past events (Golden 1992; Welch, 2000), over which we had little control (Yin, 2003). In a supplementary data collection, 15 semi-structured interviews were conducted in 2012 and 2016 with 10 respondents. Further semi-structured interviews were conducted in 2017 with 5 respondents from the acquired company (top managers) with different business backgrounds. The aim of the interviews was to verify the collected documentary information and to close potential information gaps. The

interviewees were selected on the basis of their managerial positions and direct involvement in decision making and long-term strategy development. Table 3 provides an overview of the four studies and a summary of their research methodology.

3.5.2 Data collection in Study 2 and Study 3

The primary data collection in Studies 2 and 3 included 30 and 39 semi-structured interviews, respectively (69 in total) – see Table 3. The interviews were conducted primarily online and over a period of 24 months. Following the case companies over a two-year period established openness and a trustful relationship between researcher and informant, and it facilitated reciprocity and access to in-depth and self-lived experiences (Goulding, 2002).

The informants from the case companies were represented by the founders and top managers, and the financiers were represented by senior credit managers from leading lending institutes, VCs, and corporate debt and equity financiers. In addition, informants from key industrial partners, accelerators, and innovation institutes were represented by senior managers with appropriate expertise. Secondary data were collected from a mix of sources to complement the primary data (Patton, 1999). These included annual reports from all the case companies, their policy documents, and associated funding application forms, public reports, videos, internal reports, internal strategy documents, articles, and web pages. The data collected from various sources informed and supported the coding process and were aimed at triangulation in order to cross-verify the collected data and to enhance comprehensiveness of understanding (Corbin & Strauss, 1990).

3.5.3 Data collection in Study 4

The primary data collection in Study 4 included 25 semi-structured interviews. The interviews were conducted primarily online and extended over a period of 24 months. Following the cases over time facilitated openness and a trustful relationship (Goulding, 2002) and, in addition, provided in-depth understanding of the emerging investor communities within which the case companies were embedded and actively involved. The informants were represented by senior investors who had a major influence on the investment process and investment decisions and who were also capital-providing partners. The majority of the informants had prior experience as entrepreneurs. Secondary data were collected from a mix of sources to complement the primary data (Patton, 1999). These included annual reports of all the case companies, their policy documents, and associated funding application forms, investment decisions, public reports, videos, internal reports, internal strategy documents, articles, and web pages. The data

collected from various sources informed and supported the coding process and were aimed at triangulation in order to cross-verify the collected data and to enhance the comprehensiveness of our understanding (Corbin & Strauss, 1990).

3.6 Data analysis

The data analysis in all four studies followed a stepwise and iterative process of coding and data collection to explore emerging codes, themes, and overarching categories (Charmaz, 2006). It was based on data from typical cases in a real-life setting (Goulding, 2002). A systematic and structured procedure was adopted, expanding from the initial coding of raw data into a higher level of selective coding and conceptualization. The analytical procedure was structured to recognize patterns, similarities, and regularities – and any significant absence of the same (Corbin & Strauss, 1990) – and to derive higher-order themes from lower-order categories. See an example of the data structure outlined in Figure 1. Seeking empirical understanding, the analysis was guided by an investigation of the particularities and specificities. To enhance rigor and theoretical sensitivity, the data were recurrently analysed to confirm their appropriateness. The analysis also included peer-review processes and member checking during feedback sessions. These were usually organized as feedback loops on preliminary results, where the participating informants were asked to confirm their interpretations and suggest modifications. Based on the feedback, the coding structure was updated accordingly. To analyse the data beyond description, the cases were considered as a whole and not in isolation. Complementary sources of secondary data provided a variety of empirically grounded perspectives and relevant aspects that supported emerging interpretations and conceptions. The analysis aimed to generate transferable findings within the boundary condition of the research contexts presented above, based on the representativeness of the cases and the coherence of emerging concepts (Corbin & Strauss, 2015).

Coding was the basic analytical process followed throughout the studies. The three types of open, axial, and selective coding were applied accordingly (Corbin & Strauss, 1990) and carried out in multilayer steps. The practical coding procedure started with first-order coding, which identified keywords, activities, and routines. All sources of data were analysed using the same type of coding scheme, which regulated the process as a whole. The initial steps of open coding included tentative labelling of concepts and emerging categories. The axial coding that followed grouped emerging categories into themes based on similarities and relatedness. A higher level of conceptualization and abstraction of data was analysed using selective coding, identifying

second-order themes and overarching dimensions. The analysis was sensitive to real-life experiences and reflected the respondents' industry embeddedness.

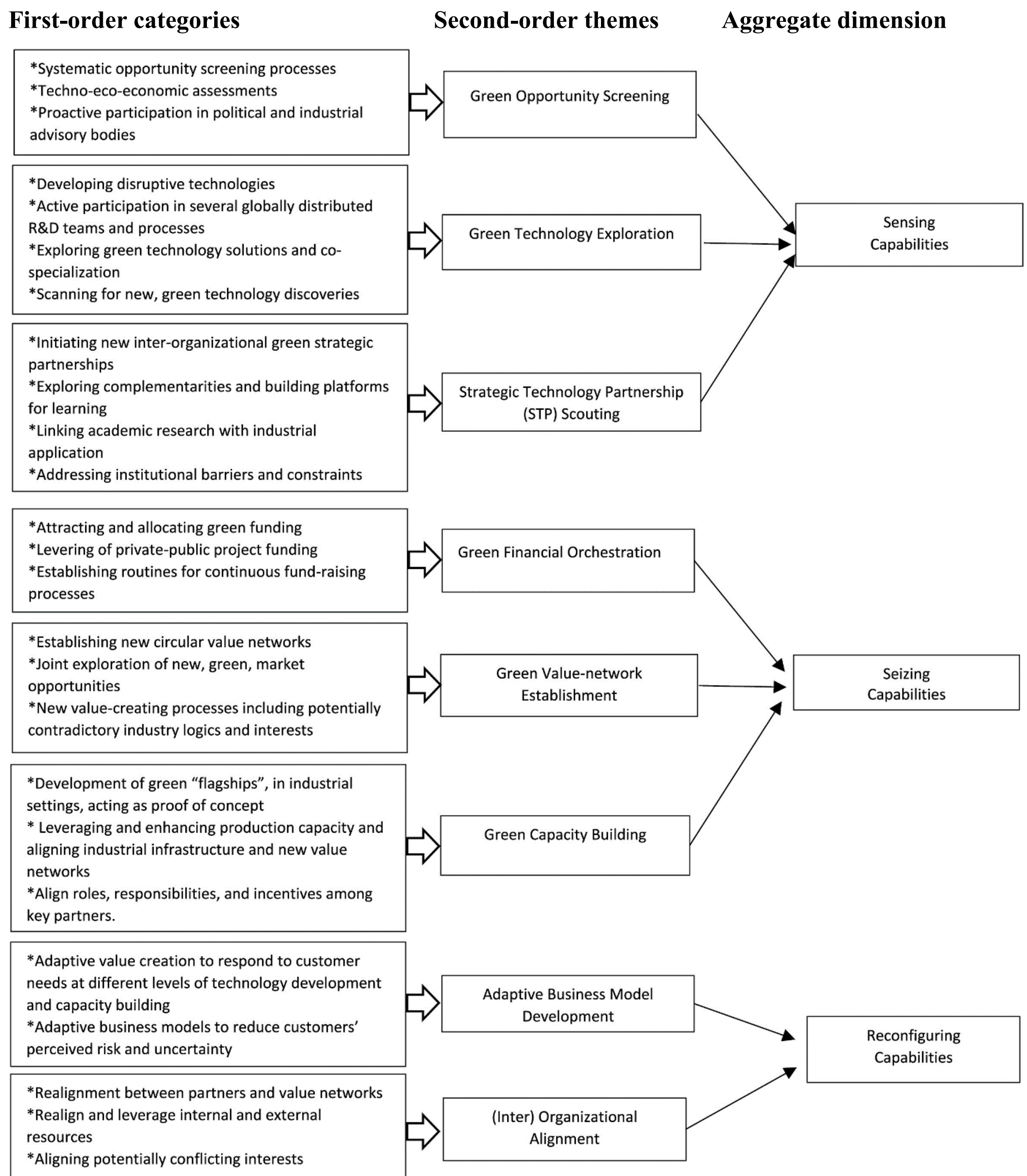

Figure 1. Example of a data structure (see Study 2, section 3.3)

Table 5. Overview of the four case studies and a summary of their research methodology

	Case study 1	Case study 2	Case study 3	Case study 4
Case companies	2 Bio-based process industries in a post-acquisition setting	14 Green technology-based ventures developing renewable and bio-based products and processes	16 Green technology-based ventures developing renewable and bio-based products and processes	21 impact VC investors
Unit of analysis	Post-acquisition integration	Dynamic Capabilities	Organizational Identity	Performance Reference Points
No of interviews	15	30	39	25
Average length of interview	52 min	55 min	53 minutes	58 min
Research approach	Qualitative, longitudinal single case study	Qualitative, explorative multiple case study	Qualitative, explorative multiple case study	Qualitative, explorative multiple case study
Data sources	Documentary data with supplementary semi-structured interviews	Semi-structured interviews, supplementary secondary data	Semi-structured interviews, supplementary secondary data	Semi-structured interviews, supplementary secondary data

3.7 Reflections on research quality

To strengthen the overall research quality of the four case studies and ensure credibility, dependability, and transferability of the research findings, several measures were implemented. First, all of the thesis studies employed triangulation by using multiple data sources, such as interviews, observations, and secondary documents (e.g., annual reports, media coverage) for the purpose of cross-validation, richness in understanding and to enhance the credibility of the research findings (Denzin & Lincoln, 2011). Additionally, member checking (Lincoln & Guba, 1985) was used by returning to the informants to confirm or clarify findings to ensure that interpretations were appropriate and aligned with the informants' lived experiences. Furthermore, feedback loops, such as round-table discussions and one-on-one reviews of preliminary findings, were employed to continuously validate the data and the interpretations.

Second, to strengthen dependability and ensure consistency in the overall research process, methodological decisions, changes, and reflections were systematically documented and recorded, in line with using audit trails (Alvesson & Sköldberg, 2017). This included documenting how the interpretations evolved, what adjustments were made to the research design, and how empirical data informed theoretical conceptualization. To foster self-awareness (Leitch et al., 2010), I continuously recorded and reflected on my personal preconceptions and evolving understanding to mitigate the influence of unconscious value contribution and biases with the aim of strengthening the trustworthiness of the findings,

ensuring they were rooted in and reflective of informants' experiences. Moreover, peer reviewing (Kvale, 1996) and discussions with the research team provided reflexivity by challenging interpretations and ensuring they were grounded in the empirical data.

Third, to enhance transferability (Corbin & Strauss, 2015) a priority throughout the studies has been to provide rich and detailed descriptions of the case companies and their settings, including the specificities of their contexts and their engagement in seeking and providing access to external financing. By offering in-depth contextual information, the aim was to enhance the applicability of the research findings to other settings and further research, while improving the broader relevance of the study.

By applying these measures continuously throughout the thesis studies, the aim has been to strengthen research quality by ensuring transparency, reflexivity, and consistency in the research processes. Furthermore, these efforts sought to enhance the credibility of the research findings, contributing to meaningful and relevant understanding of external financing in sustainable ventures, and the associated financing access gap.

4 Summary of Appended Studies

This chapter summarizes the four appended studies underpinning this thesis. Together, the findings of the studies contribute to the overall purpose of the thesis, while also reflecting the evolving learning process. The chapter briefly presents the research gaps, the research purpose, and the key findings from each study while reflecting on the learning process of deepening understanding of external financing in sustainable ventures, including socialized explanations of the perceived financing access gap. The paper summaries are presented in the same order they were undertaken in this research. Each study builds on insights from the preceding study by exploring in increasing depth how, from the informants' perspective, the financing practices in sustainable venturing are carried out.

4.1 Study 1

Vincze, Z., **Hällerstrand, L.**, Örtqvist, D., & Rist, L. (2021). Strategic corporate sustainability in a post-acquisition context. *Sustainability*, *13*(11), 6017.

In achieving global sustainability goals, large-scale corporations, irrespective of their origin, are strategically positioned to play a significant role (Kolk & Van Tulder, 2010; Pisani et al., 2017). With their market power and globally distributed operations, they have the capability to either accelerate or inhibit the change toward sustainability. Moreover, they can exercise their function as crucial corporate financiers by initiating mergers and acquisitions (M&A) based on their strategic interest in accessing complementary resources, such as sustainability-driven innovation. In so doing, they give support to sustainable entrepreneurial initiatives deemed to offer potential long-term competitive advantages and substantial sustainability impacts at the group level (Salvi et al., 2018). However, knowledge of how strategic sustainability strategies are developed and operationalized in a post-acquisition integration process remains limited (Engert et al., 2016; González-Torres et al., 2020). This is a major shortcoming because such knowledge can provide valuable insights into firm-level sustainability practices as a feature of transformative technology development initiatives, and into the potential challenges and barriers.

This study conducted a systematic investigation of the post-acquisition integration of corporate sustainability strategies (Bansal et al., 2017; Lankoski, 2016) between an emerging market multinational corporation as the acquirer and a Swedish bio-based process industry (i.e., a

sustainable venture) as the target. It examined the concept of corporate sustainability as a central element in the M&A deal valuation, reflecting on the acquirer and the target as possessing complementary sustainability market leadership in their respective process-industry niches.

The study is based on an in-depth longitudinal single-case study, with the aim of providing deep insights into the process of integrating joint strategic corporate sustainability strategies during the post-acquisition integration stage. Furthermore, it seeks to understand the development of commonly shared sustainability frameworks and multiple performance reference points in order to reach sustainability-driven goals at a group level.

The study contributes with a framework for evaluating strategic corporate sustainability integration in a post-acquisition setting. Moreover, the findings indicate that the strategic corporate sustainability positioning of both parties (during the period studied) was strengthened, with the acquirer benefiting to a greater extent than the target. The findings suggest that the target contributed value to the acquirer through the transfer of knowledge, best practices, and complementary resources. In addition, this aligns with the pre-acquisition deal evaluation, assessing the sustainability profile and associated technology development of the target as a valuable asset for investment. Furthermore, it demonstrates that sustainable ventures, as they engage in M&A deals, may be positioned to access a broader market and in this market potentially increase sustainability impacts when aligning with large-scale corporations. However, the findings also highlight that sustainable ventures may face a significant risk of losing momentum in their innovation processes and reaching a wider market beyond the strategic interest of their acquirer, which is highlighted as a potential loss of long-term strategic influence and associated sustainability impacts.

The findings of the study contribute to the overall thesis by advancing understanding of external financing in sustainable ventures in a post-acquisition context. More specifically, it contributes to an in-depth, contextualized understanding of the post-acquisition integration process between a sustainable venture and a global industry partner who is also acting as a leading corporate financier. Specifically, the study provides a unique insight into the valuation and assessment processes preceding the acquisition, including an understanding of the strategic investment interest and associated investment requirements demonstrated by the acquirer. This study provides relevant contributions to all research questions, while contributing most to research questions 2 and 3 (see Table 1).

4.2 Study 2

Hällerstrand, L., Reim, W., & Malmström, M. (2023). Dynamic capabilities in environmental entrepreneurship: A framework for commercializing green innovations. *Journal of Cleaner Production.*

Sustainable entrepreneurship has tremendous potential to deliver radical and disruptive technology innovation that can safeguard our biosphere (Dean & McMullen, 2007; Shepherd & Patzelt, 2011) whilst simultaneously generating economic profits for the ventures initiating such technology innovation (Johnson & Schaltegger, 2020; Terán-Yépez et al., 2020). In fact, these entrepreneurial ventures (i.e., sustainable ventures) are not merely seeking profits and reducing harm but they aspire to influence entire industries to transform into sustainable production practices. Timely examples of new bio-based technologies in sectors such as bioenergy, biofuel, biomaterials, and biochemicals, promise significant industrial decarbonization effects and viable business opportunities. Yet, the hybrid organizational nature of such technology-developing sustainable ventures in seeking profit *and* championing sustainability transformation represents a major challenge (Cesinger et al., 2022; Fischer et al., 2020; Trapp & Kanbach, 2021; York et al., 2016) by imposing contradictory circumstances, tensions, and potentially adverse effects during the commercialization and growth processes, including gaining access to external financing (Belz & Binder, 2017). To successfully navigate these challenges, sustainable ventures must develop agile and dynamic processes and routines (Demirel & Kesidou, 2019) – that is to say, unique dynamic capabilities (Gruchmann et al., 2021; Knoppen & Knight, 2022; Vallaster et al., 2021) as a fundamental element in their venturing success.

While the existing conventional framework for dynamic capabilities is useful for traditional "for profit" ventures, operating in existing markets (Teece et al., 1997; Teece, 2007), it may not adequately capture the unique challenges and opportunities faced by technology-developing ventures who are aiming to achieve sustainability impacts beyond current industry conventions.

However, the extant research on understanding the micro-foundations – namely, the constitutive processes and deeper motives that comprise the unique dynamic capabilities applied by sustainable entrepreneurs, and how they adapted to external influential factors – is scarce (Battilana et al., 2017; Belz & Binder, 2017; Borland et al., 2016; Di Vaio et al., 2022; Liboni et al., 2022; Strauss et al., 2017)

Set against this background, we adopted a dynamic capability perspective to consider the micro-foundations of dynamic capabilities in sustainable entrepreneurship. We asked: What are the micro-foundations underpinning dynamic capabilities in green technology-based ventures? How are these dynamic capabilities cultivated? How do these dynamic capabilities correspond to and co-develop with external factors in flux when disruptive green innovation is commercialized? The study is based on an exploratory case study of 14 green technology-based ventures operating in the Swedish bio-based process industries including, for example, biofuel, bioenergy, biochemistry, and biomaterial sectors.

The study contributes with a conceptualization of the micro-foundations of dynamic capabilities related to *sensing*, *seizing,* and *reconfiguring* capabilities. Moreover, it develops a detailed and comprehensive framework of dynamic capabilities for green technology-based ventures, which links internal dynamic capability building processes with influential external factors in flux. Of significant relevance to this thesis, our finding demonstrates that the development of sustainability-oriented dynamic capabilities tends to be at the core of making these ventures thrive and gaining competitive advantages on emerging sustainable markets while demonstrating new sustainable industry best practice. Access to external financing, however, tends to be a leading factor in hindering the wider commercialization and growth of green technology based ventures, and in explaining why both private and public financial actors, in combination, seem to play an important role in providing the financial resources needed to support sustainable industry transformation. Furthermore, conventional credit and funding assessment practices seem to omit sustainability impact generation as a viable for-profit value proposition, which then positions conventional business-as-usual approaches as more attractive to fund. Our findings show that managing the challenges related to limited access to external financing may indeed require the development of a unique set of seizing *capabilities,* including *green financial orchestration.* Such capabilities tend to be decisive in balancing an often-complex financial setup, including both public and private funding. Additionally, the development of *reconfiguring capabilities* to flexibly engage in continuous and parallel finance-seeking processes tends to reflect the expanding venture's shifting financing demands and the restrained access to traditional private debt and equity financing that it typically prefers.

The findings of the study contribute to the overall thesis by advancing understanding of external financing in sustainable ventures, in the context of managing multiple and parallel financing sources. Moreover, the study provides an in-depth understanding of the micro-foundations and development of dynamic capabilities in sustainable ventures and how these capabilities relate

to access to financing in potentially conflicting ways. Although the findings carry relevant contributions to all of the research questions in this thesis, its most significant contribution is to research question 2 (see Table 1).

4.3 Study 3

Hällerstrand, L., & Malmström, M. (202X). Squaring the circle: The identity work (mis)match in the venture-financier exchange**.** *Submitted to a peer-reviewed academic journal.*

Sustainable entrepreneurship has garnered increased attention as a vehicle for disruptive and norm-breaking "impact" innovations to address major sustainability challenges (Cohen & Winn, 2007; Dean & McMullen, 2007; Johnson & Schaltegger, 2020; York & Venkataraman, 2010). Yet, miniscule amounts of total financier investment reach such impact ventures, imposing severe constraints on advancing sustainable innovation. This is a particular problem since approaching sustainability challenges through entrepreneurial opportunity creation is often resource intensive and highly dependent on external financing (Bertello et al., 2022; Vernay et al., 2020). Access to bank financing is, therefore, central to making such ventures thrive (Barber et al., 2021; Busch et al., 2021; Trippel, 2020). Nevertheless, a recent study by Eurosif (2018) indicates that impact investment strategies (where the potential for large-scale industry transformation lies) represent only 0.5% of the total sustainable and responsible investment strategies (SRI) in European financial markets. We argue that these banking practices make it difficult for sustainable ventures pursuing green innovations to gain momentum and access the financing from banks that they need to thrive. The nature of these sustainable ventures is such that they diverge from the general understanding of conventional for-profit venturing and established frameworks of sustainable banking practice. In other words, they do not conform to the ideal type of venture that banks will readily fund (Battilana et al., 2017; Fischer et al., 2020). In fact, the impact mission of these ventures – namely, achieving measurable sustainability impacts whilst seeking financial profit (Wry & York, 2017) – is representative of a particular type of organizational identity, a so-called hybrid identity (Albert & Whetten, 1985; Pratt et al., 2016). Such hybridity has been found to generate potentially conflicting interpretations (Cesinger et al., 2022; Moss et al., 2011; Whetten, 2006; York et al., 2016), which would suggest that various conflicting views of these ventures' organizational identities exist (Battilana et al., 2017; Fischer et al., 2020; Gioia et al., 2000; Ratinho & Bruneel, 2024; Wry & York, 2017).

Consequently, conflicting interpretations may potentially be at the core of the financing access gap of sustainable ventures. However, to date, research has overlooked how organizational identity hybridity influences the sustainable venture–bank exchange. We lack a clear understanding of the micro-foundations of such organizational identity constructions – that is, the central, enduring, and distinctive (CED) identity referents that shape an organization's self-defining identity (Whetten, 2006) in finance-seeking exchange situations (Hall et al., 2010; O'Neil & Ucbasaran, 2016). This is a major shortcoming because, without understanding the identity construction controversy at its core, sustainability policy and practice development are bound to misfire.

To address these deficiencies, the study aims to investigate how green technology-based ventures seeking bank financing construct their organizational self-defining identity and how this construction corresponds to how banks interpret the organizational identity of green technology-based ventures in bank evaluation situations. Furthermore, this study explores subsequent processes of organizational identity work, which green technology-based ventures undertake to strengthen and sustain their organizational identity during critical finance-seeking processes. The study is based on a multiple case study including 16 green technology-based ventures actively involved in seeking access to financial financing to grow their businesses, and 4 lending institutes with an impact mission.

Drawing on the organizational identity literature, the study presents social explanations for the (mis)match in venture–bank exchange and theorizes that green technology-based ventures' (i.e., sustainable ventures) self-defining identity may cause contradictory standpoints in funding situations. In doing so, we highlight a dichotomous clash between the ventures' self-defining identity and the banks' identity interpretation, forcing the ventures to undertake compromising identity work to increase fundability while striving to remain true to their identity.

This study contributes to the overall thesis by advancing understanding of external financing in sustainable ventures with a specific focus on gaining access to private debt financing. The study also contributes to an understanding of gaining access to complementary financing sources, such as private equity financing, corporate financing, and bootstrapping alternatives. In addition, the paper provides an in-depth understanding of the construction of sustainable ventures' hybrid organizational identity and how financiers' external interpretation of this identity may relate to access to financing in potentially contradicting ways. This study provides relevant contributions to all of the research questions in this thesis, with its most significant contribution to question 2 (see Table 1).

4.4 Study 4

Hällerstrand, L., & Malmström, M., & Wincent, J. (202X). Impact Investors, Reference Points for Gender Equality, and Improved Conditions for Women´s Entrepreneurship. *Submitted to a peer-reviewed academic journal.*

New investors with an explicit impact investment agenda focused on a more socially inclusive capitalism that delivers financial returns (e.g., Dacin, Dacin & Tracy, 2011; Hehenberger et al., 2019) play an important role in reaching sustainable development goals, including transforming financial industries in furtherance of gender equality. These so-called impact investors (Hehenberger et al., 2019) act in accordance with aspirations to achieve long-term sustainability impacts while achieving financial returns on investments. Such investment principles tend to deviate from conventional and established VC investment models in that they pursue investment aspirations beyond "for profit" reference points. Within the context of sustainable entrepreneurship, such impact investors may be categorized as novel entrepreneurial ventures themselves, driven by sustainability-oriented value creation while inducing innovative and potentially transformative investment practices. Moreover, they act as emergent financiers in providing venture capital in support of sustainable entrepreneurial ventures that experience a general reluctance from conventional financial actors, such as banks (Mansouri & Momtaz, 2022). Impact investors challenge the traditional for-profit investment models, including long-standing social norms, and act as important agents of change to mitigate pressing sustainability challenges. In this paper, our focus is on gender inequality in venture capital financial markets. Much like conventional fossil-based industry practices that have had damaging consequences on both nature and society, causing, for example, climate change (Rockström et al., 2023), conventional financial industry practices, including traditional VC investment models, are continuously discriminating against women entrepreneurs, creating gender inequalities. This is evident in the fact that no more than 1% to 2% of the total value of venture capital is allocated to women entrepreneurs and their associated ventures, despite presenting on average equally good business opportunities (Malmström et al., 2024). Although we see progressive attention given to challenges to traditional VC models in the VC scene, we still know little about the reference points used by impact investors – particularly, in the new category of gender equality–oriented investors. Furthermore, there is scant knowledge on how combining gender reference points with expectations of financial returns unfolds in practice (cf. Hockerts et al., 2022; Islam, 2022; Schlütter et al., 2023).

Against this background, we explored *how impact investors apply gender reference points to structure their deal flows and to select their portfolio companies.* The study is set in a dynamic context of emerging gender-equity impact investors actively engaged in developing and showcasing VC investing. These investors have an explicit gender-equity impact agenda that is value creating, both socially and financially. The study adopts an exploratory inductive approach involving 21 venture capital investment firms, categorized as gender-equity impact investors (i.e., sustainable ventures). This study makes several contributions. First, it contributes to the literature on gender and entrepreneurial finance and social impact investment by providing insights into how gender principles may be applied in for-profit frameworks. Furthermore, it contributes by enhancing understanding of: i) how impact investors form reference points and develop metrics when investing in women's entrepreneurship (Nason et al., 2018), and ii) the conditions under which they operate (Chenhall et al., 2013). Second, the study contributes to reference point theory by providing insights into how gender-equity impact investors operationalize their hybrid investment models in practice. Third, we categorize two gender-equity impact investor types who pursued a somewhat different reasoning on reference points – progressive and radical investors. We define and elaborate on these differences, and reason that this distinction may be important for future research.

This study contributes to the overall thesis by advancing understanding of external financing in sustainable ventures with the emphasis on private equity financing as complementary sources of growth capital to support venture expansion. Furthermore, the study provides an in-depth understanding on how sustainable ventures set multiple performance reference points, beyond conventional financial metrics, and how such performance reference points may relate to access to financing. While the study contributes with relevant findings to support all of the research questions in this thesis, its most significant contribution is to research question 2 (see Table 1).

Table 6. An overview of the four Studies and their main contributions to the thesis purpose.

	Study 1	**Study 2**	**Study 3**	**Study 4**
Title	Strategic Corporate Sustainability in a Post-Acquisition Context	Dynamic capabilities in environmental entrepreneurship: A framework for commercializing green innovations	Squaring the circle: The identity work (mis)match in the venture–financier exchange	Impact Investors, Reference Points for Gender Equality, and Improved Conditions for Women´s Entrepreneurship
Purpose	Advance understanding of strategic corporate sustainability integration between the acquiring and acquired parties in a post-acquisition setting	Identifying and conceptualizing the micro-foundations of dynamic capabilities in sustainable entrepreneurship and the development of a framework on how these dynamic capabilities correspond to and are co-developed with external factors in flux	Advance understanding of how green technology-based ventures construct their organizational identity and how this construction aligns with the identity interpretation of banks	Advancing understanding of how impact investors apply gender reference points in their investment decisions and how they structure their deal flows
Main contributions to the thesis purpose	Empirical insights on how sustainable ventures can develop dynamic capabilities and set multiple performance reference points and how they may relate to accessing external financing	Empirical insights on how sustainable ventures can develop dynamic capabilities and how these dynamic capabilities may relate to accessing external financing	Empirical insights on how sustainable ventures can construct their organizational identity and how such identity may relate to accessing external financing	Empirical insights on how sustainable ventures can set multiple performance reference points and how these multiple performance reference points may relate to accessing external financing

5 A Framework for the Financing Access Gap: the (Mis)alignment in Sustainable Ventures-External Financers´ Exchange Situations

This chapter integrates the findings from the four appended studies, which serve as a foundation for the development of social explanations for understanding the (mis)alignment in sustainable venture–external financier exchange situations. Drawing on the conclusions of these studies and insights from the empirical setting, the proposed framework illustrates how sustainable ventures' access to external financing tends to be directed by their self-defining organizational identity, and how external financiers interpret that identity. Furthermore, it is associated with organizational identity work to improve fundability, while balancing external financiers' potentially contradictory identity change demands. In subsequent chapters, the framework will be presented and explained in detail.

5.1 Introduction to the framework

As a reminder, the purpose of the thesis is to *advance understanding of external financing in sustainable ventures* by focusing on three research questions: *1) How can sustainable ventures construct their organizational identity, and how may such identity construction relate to access to external funding? 2) How can sustainable ventures set performance reference points, and how may such reference points relate to access to external funding? 3) How can sustainable ventures develop dynamic capabilities, and how may such dynamic capabilities relate to access to external funding?*

The framework is a response to the thesis's purpose and the research questions. It is the result of an iterative and stepwise process of integrating the evolving findings of the four appended studies to form empirical and theoretical understanding (Weick, 1989). As a common theme, the findings highlight sustainable ventures' hybrid identity, multiple performance reference points, and sustainability-oriented dynamic capabilities as salient identity referents. This includes central, enduring, and distinctive (CED) organizational claims that essentially shape the sustainable ventures' self-defining identity and give meaning to who they are as an organization, aligned with the conceptualization of Whetten (2006). As a theoretical lens, organizational identity theory[6] is used to analyse the findings from the four studies as a set of values (hybrid identity), practices (multiple performance reference points), and routines

[6] (see Albert & Whetten, 1985; Corely et al., 2006; Pratt et al., 2016; Whetten, 2006).

(sustainability-oriented dynamic capabilities) that essentially form sustainable ventures' self-defining identity while also informing the identity interpretations of external financiers. The proposed framework is not intended to be exhaustive in the sense of including all possible identity referents of sustainable ventures. Nor is it intended to be generalizable beyond the boundaries of the empirical context in which the findings rest. Instead, the framework is intended to provide a contextualized, in-depth understanding of access to external financing on the part of sustainable ventures by synthesizing and building on the three identity referents explored across the four studies.

In summary, the framework proposes an understanding based on social explanations of the perceived (mis)alignment between sustainable ventures and external financiers in exchange situations arising out of identity (mis)interpretations. The framework shows the financing access gap as an almost dichotomous identity clash between sustainable ventures' self-defining identities and private debt and equity financiers' interpretation of those identities. Furthermore, it demonstrates how such identity misalignment tends to generally reflect negatively on funding decisions, including significant identity change demands to reduce the orientation toward sustainability. Additionally, the framework shows a general identity alignment between sustainable ventures' self-defining identity and the identity interpretations of corporate debt and equity financiers, which may have a positive influence on funding decisions, including identity change demands to strengthen the orientation toward sustainability. The identity interpretations of external financiers and the corresponding identity change demands may, however, trigger conflicting identity work processes to balance external financiers’ potentially contradicting identity demands, which are expressed as two looping identity work processes (see Figure 2), further explained in Section 5.4.3.

Importantly, all of the sustainable ventures show evidence of fundability in financial key performance indicators, which comply with private and corporate financiers' foundational financing criteria. This compliance includes a viable financial standing reflected in available securities to secure financing and a low-risk classification[7] (see for example, the method section in Study 3, Table 3). Nevertheless, the ventures continue to have restricted access to private debt and equity funding. The sustainability profile of the financiers and their externally communicated statements – for instance, on websites and in annual reports – confirm their

[7] The risk classification is a summary assessment of the company, based on a statistical analysis of information from official database. The risk class indicates the likelihood of the company becoming insolvent within a year. Risk Class 5 represents the lowest risk, while Risk Class 1 represents the highest risk (UC, 2024)

compliance with sustainable finance frameworks including their aspirations to provide financing to support a sustainable industry transition. Therefore, it is surprising that the venture's sustainability-driven identity claims itself seems to trigger resistance on the part of the prospective private financier to providing finance in the belief that such ventures lack profit-seeking ambition, financial returns, and competitive organizational processes and routines (see Figure 2, Private debt and equity financiers' identity interpretation). To increase financiers' perceptions of their fundability, sustainable ventures are typically requested to adopt a strategic reorientation to better align with conventional "business-as-usual" industry conventions. Such a strategic reorientation would essentially require the ventures to forgo their impact ambitions and become more of a conventional venture – in other words, change their organizational self-defining identity.

On the other hand, corporate debt and equity financiers may offer a broader port of entry to external financing while allowing sustainable ventures' self-defining identity to remain intact (temporarily) (see Figure 2, Corporate debt and equity financiers' identity interpretation). Sustainable ventures, however, tend to look on this type of funding as a secondary funding preference, or even as a "last funding resort", due to what they perceive as a significant risk of losing their autonomy, including their majority ownership and control and strategic orientation if they are integrated into the industry sphere of the corporate financier (see Studies 2 to 4). The risk also includes requirements to change their main values, practices and routines, to better comply with the strategic interest of the corporate finances. Furthermore, becoming an exclusive supplier in response to the corporate financiers' demands risks undermining their influence on the wider targeted sustainable industry transformation – namely, their venturing purpose.

In the following section, the individual building blocks of the framework are presented in greater detail, including a visual presentation of the overall framework in Figure 2.

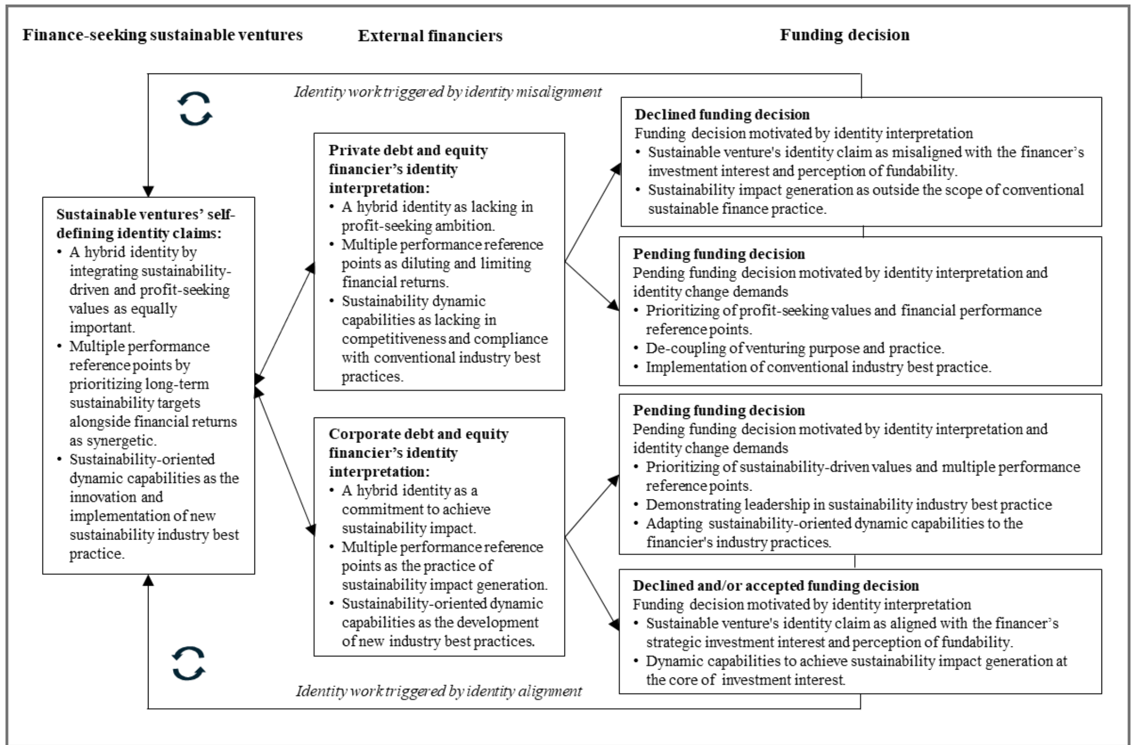

Figure 2. A framework for the financing access gap: the (mis)alignment in sustainable venture–external financers ´exchange situations.

5.2 Building Block 1: Finance-seeking sustainable ventures

Gaining access to external funding is a prerequisite for growth and expansion beyond the limits of internal funding in the form of retained earnings, informal loans from family and friends, and so on, as outlined by Malmström and Hällerstrand (2023). The vast majority of the sustainable ventures included in the four studies, however, remain in a situation of restricted access to private debt and equity financing despite complying with the financier's formal requirements regarding financial status, venturing track record, and sustainability profile. The four studies, and particularly the third study, demonstrate that it is almost impossible for sustainable ventures to gain access to external funding, particularly bank loans, regardless of the venturing stage, financial status, or success rate of the ventures. Such rejectionist responses from external financiers are, indeed, a major constraint that imposes significant limits on the growth opportunities of sustainable ventures and their potential for impact generation. Sustainable ventures, therefore, perceive their "type" of venture – "who they are as a venture"

– as contested in private debt and equity finance-seeking situations. On the other hand, sustainable ventures seem to be experiencing an almost dichotomous response from corporate debt and equity financiers, which typically represent large companies and are included in their industry value networks. These financiers typically acknowledge the venture's sustainability orientation – including their values, practices, and routines – as of strategic investment interest and complementary to their core operations. However, this source of financing is considered by the entrepreneurs as a “double-edged sword”. It may potentially mean considerable leveraging of venturing growth opportunities in consequence of being integrated into resourceful industry partnerships. It may also risk not achieving the large-scale impact that the sustainable venture is aiming for (see Study 1). The power imbalance involved in using this type of financing may significantly threaten the venture's autonomy, ownership, and control and, ultimately, mean a loss of identity, as conceptualized by Whetten (2006).

In synthesizing the findings from the four appended studies, sustainable ventures' self-defining identity referents and associated identity claims, including their hybrid identity, multiple performance reference points, and sustainability-oriented dynamic capabilities, appear to be at the core of external financiers' conflicting interests and, therefore, contested in finance-seeking situations. The following sections present these identity claims in greater detail.

5.2.1 Sustainable ventures' hybrid identity

Sustainable ventures' hybrid identity combines *sustainability-driven and profit-seeking values as equally important.* This type of identity aligns with a holographic hybridity, as conceptualized by Pratt et al. (2016), where sustainability-driven and profit-seeking values co-exist throughout the organization. These values are, therefore, treated as integrated rather than potentially competing values. Importantly, sustainable ventures' hybrid identity seems to rest on a set of foundational sustainability principles or shared beliefs that are positioned to guide venturing activities and provide organizational coherence and sense making (see Study 3).

Sustainable ventures, therefore, place sustainability impact generation at the core of their existence, recognizing it as their primary source of motivation and entrepreneurial inspiration (see Study 2). Socially, they tend to categorize themselves as emergent sustainability agents of change and, in fact, credit their leading roles in their industry niches – including the formation of new sustainability communities and value networks – to their hybrid identity values.

In line with their sustainability-driven values, the overriding venturing purpose of the majority of sustainable ventures seems to be to excel in the innovation processes to drive transformative

industry change that will replace unsustainable business practices and, by extension, transform unsustainable social norms and industry conventions. These sustainability values, therefore, tend to be considered “part of their DNA” and are a source of venturing self-esteem and a commonly shared belief system (See Study 3 for more details). Importantly, organizational autonomy is considered a key condition to enact these sustainability values (see Study 3 and Study 4) and to balance the aspiration to achieve both sustainability-driven and profit-seeking goals.

5.2.2 Sustainable ventures' multiple performance reference points

Aligned with their hybrid identity, sustainable ventures commonly commit to an extensive set of multiple performance reference points, as conceptualized by Nason et al. (2018). These include the implementation of both traditional financial targets and sustainability targets to guide venture practice. Essentially, sustainable ventures perceive *long-term sustainability targets alongside financial returns as synergetic* and guiding their value creation. For example, these can involve the development of new bio-based materials and chemicals, which are aimed at reducing bio-diversity loss and atmospheric concentration of CO2 emissions, while proving financially viable. Similarly, the development of new female health technologies (so called femtech) is associated with the aspiration to advance the cause of inclusive and gender-equal healthcare for women while, in parallel, seeking financial return. Reaching associated sustainability-driven targets is, therefore, perceived as key in demonstrating accountability and gaining market attractiveness. The implementation and enacting of multiple performance reference points are, however, found to be less institutionalized within a conventional industry context, which is why sustainable ventures commonly take leading roles in the formation of new firm-level performance reference frameworks (see Study 4). These include collaborative standardization processes to create industry-common performance reference points against which their value creation and firm performance can be both internally and externally assessed. In a similar vein, sustainable ventures engage in advocacy and public policymaking concerning the development of new market regulations and incentives to stimulate an increase in market demand (See Studies 2 to 4). Therefore, the coupling of venturing purpose with venturing practice, in terms of complying with ambitious sustainability targets, is deemed crucial. Primarily, it is seen as a key condition in achieving real-world sustainability impacts, and it is considered an integral component of the venture's core business. Demonstrating sustainability-driven firm performance is, therefore, perceived as an integral component in leveraging

financial returns, sparking a venture's commitment to developing new industry best practices beyond established conventions.

5.2.3 Sustainable ventures' sustainability-oriented dynamic capabilities

Guided by a set of multiple performance reference points, sustainable ventures develop sustainability-oriented dynamic capabilities to take a leading position in *innovation and implementation of new sustainability industry best practice*. These capabilities include unique processes and routines that enable sustainable ventures to efficiently utilize their resources and competencies to gain a competitive advantage in new and evolving sustainable markets. Findings from the four studies indicate that these dynamic capabilities include a high degree of sustainability specialization and the ability to proactively address sustainability challenges as viable business opportunities (see Studies 2 and 3). Additionally, ventures engage in research-intensive and co-creating innovation processes with the overall objective of developing new sustainability solutions for large-scale industrial applications (see Studies 1 to 4). The development of sustainability-oriented dynamic capabilities, therefore, includes the resource base, competencies, and industry know-how to develop products and processes that can potentially outcompete unsustainable industry practices. Furthermore, it entails the ability to navigate multiple and potentially conflicting stakeholder interests, such as customers' evolving sustainability demands, shifting regulatory requirements, the formation of new and industry value networks, and rapid technology development. The development of a dynamic and responsive organization is, therefore, emphasized as a key condition to gain competitiveness and to adapt to the evolving nature of sustainable markets. Drawing on Teece´s (2007) conceptualization of micro-foundations of dynamic capabilities, this thesis identify the micro-foundation of sustainable ventures dynamic capabilities as they tend to develop: *i) sensing capabilities* to explore new sustainable market opportunities by engaging in systematic opportunity screening, collaborative exploration of sustainability solutions, and the formation of new cross-industrial partnerships; *ii) seizing capabilities* to capture evolving value creation and to enhance capacity-building processes by creating new sustainability-driven value networks; and *iii) reconfiguring capabilities* to maintain a competitive advantage by re-evaluating innovation processes and value creation to respond to customers' evolving market needs (See Study 2).

Furthermore, developing sustainability-oriented dynamic capabilities refers to an important identity referent of sustainable ventures as the materializing of their hybrid identity claims and associated multiple performance reference points in their organizational processes and routines.

The development of sustainability-oriented dynamic capabilities is, therefore, perceived as acting within their organizational character (Whetten, 2006). It is viewed as a valuable precondition in facilitating real-world sustainability impacts and in delivering on their sustainability promise (See Studies 3 and 4).

5.3 Building block 2: External financiers

The second building block focuses on how external financiers interpret the organizational identity of the sustainable ventures in finance-seeking situations. It refers to the two types of external financing source, including *private debt and equity financiers*, such as banks and venture capital (VC) financers, and *corporate debt and equity financiers*, represented by large industrial companies that regularly invest with a strategic interest through internal investment services or investment units, further conceptualized by Bendig et al. (2022). The included external financiers represent financiers who have denied or granted finance to sustainable ventures, or whose decision is pending. In common, the financiers show a commitment to several sustainable finance initiatives, often referred to as environment, social, and governance (ESG) frameworks, to guide their funding decisions. The banks, for instance, present an upfront agenda to financially support the sustainable industry transformation in diverse industries, and the venture capital financiers commonly prioritize engaging with impact-seeking sustainable ventures, adopting pioneering innovation and large-scale solutions. Similarly, corporate debt and equity financiers regularly aspire to take a leading position in financially supporting sustainability pioneers in their industry niches.

In synthesizing the findings from the four appended studies, it seems that the identity interpretation made by external financiers tends to inform their investment decisions in contrasting ways. While private financiers seem to conclude that sustainable ventures are contested and misaligned with their investment interests, corporate financiers tend to perceive sustainable ventures as a strategic asset and well aligned with their investment interests. Indeed, the two types of financiers show significant differences in how they interpret the identity claims of sustainable ventures, and how this interpretation informs their funding decisions. The following sections present their identity interpretations in greater detail.

5.3.1 Private debt and equity financiers' identity interpretation

Private debt and equity financiers are prioritized by sustainable ventures for external financing because of their established roles in financial markets and their large share of the capital market. Debt financing in terms of bank loans is often stressed as the first external choice for financing

because it provides long-term capital while allowing entrepreneurs to retain ownership and control of their ventures (Hoogendoorn et al., 2019). On the other hand, sustainable ventures tend to consider venture capital financing as a secondary source of financing, with the potential to significantly accelerate venture growth but at the expense of relinquishing full ownership and control. While debt and equity financiers represent two different types of financier with differing risk profiles, investment objectives, and investment strategies, their relationship with reference to external financing of sustainable ventures appear s to be interdependent. Bank funding is typically explained as dependent on VC investments and vice versa. The informants, representing both ventures and financers, therefore refer to banks and VCs as synergetic co-investors.

An emerging theme across four integrated studies is that the private debt and equity financiers seem to align in their identity interpretation of sustainable ventures. This similarity may be related to their implied complementary roles as co-financers, or their shared market institutions. They exhibit a critical misalignment between the sustainability-driven identity claims of sustainable ventures and the financiers' identity expectations.

Interpretation of sustainable venture's hybrid identity

The financiers commonly tend to interpret sustainable ventures' hybrid identity as incompatible with profit-seeking ambitions, despite de facto demonstrating sufficient financial standing and credit worthiness. Although the sustainable ventures' potentially transformational sustainability impacts are acknowledged by the financiers, their type of value-driven venturing is regularly perceived as deviating from a financially viable business orientation *and lacking in profit-seeking ambition.* This interpretation suggests that the sustainability-driven values held by sustainable ventures are perceived as placing limitations on their profit-seeking motivation and undermining their actual financial standing. A preconceived shared understanding among financiers is that sustainable ventures typically conflict with the profit-seeking ambitions of the financier, making the hybrid identity of sustainable ventures difficult to assess and perceived as potentially outside the scope of conventional financiers' preferences (see Studies 3 and 4).

Similarly, the financiers interpret sustainable ventures' sustainability values as socially deviant compared to the conventional social norms associated with for-profit venturing. This interpretation tends to be used by financiers to categorize sustainable ventures as an "outgroup" compared to the conventional profit-seeking ventures that financiers typically associate and interact with (see Study 3). As a result, sustainable ventures tend to fall outside their perception of what constitutes a financially attractive venture suitable for external financing (see Studies

3 and 4). Consequently, the financier typically expects sustainable ventures to reorient their venturing values and to clearly demonstrate their profit-seeking ambitions as a first and prioritized venturing value if they are to be considered candidates for future funding.

Interpretation of sustainable venture's multiple performance reference points

Aligned with the financer's interpretation of the venture's hybrid identity as lacking a profit-seeking ambition, financiers tend to perceive sustainable ventures' multiple performance reference points as *diluting and limiting the achievement of financial returns***.** This is because such multiple performance reference points tend to be associated with non-commercial value appropriation, such as environmental or societal benefits, which is typically perceived as beyond the financier's profit-seeking interests, responsibilities, and thus investment focus. Sustainable ventures' implementation of multiple performance reference points tends to reinforce the financier's perception of sustainable ventures as lacking in financial viability, confirming the financiers' categorization of sustainable ventures as falling outside the scope of financially attractive ventures to be viable investment propositions. They tend to perceive sustainable ventures' multiple performance reference points as a strategic direction that reduces financial returns and promotes a not-for-profit agenda. Importantly, the financiers interpret sustainable ventures as strategically misguided in consequence of their sustainability-driven targets and de-coupled from achievable financial returns (see Study 4). Thus, sustainable ventures' multiple performance targets are perceived as lacking in private value-capture mechanisms, which means that sustainable ventures' perceived synergetic relationship between sustainability targets and financial returns tends to be strongly contested. For sustainable ventures to increase their fundability, financiers stress the importance of prioritizing for-profit targets to guide firm behaviour, to demonstrate a strategic redirection, and to give priority to "single" financially derived performance reference points, aligned with a conventional financial assessment framework and conventional venturing practice, (see Studies 1 to 4).

Interpretation of sustainable venture's sustainability-oriented dynamic capabilities

Sustainable ventures' sustainability-oriented dynamic capabilities tend to be interpreted as *lacking in competitiveness and compliance with conventional industry best practices.* They are considered insufficient or even inappropriate to build competitive advantage and to thrive in financially viable markets. Interpreting the capabilities of sustainable ventures through the lens of long-standing incumbent industry frameworks rather than the perspective of sustainability-driven values and aspirations, their resource base and associated processes and routines are held

to be strategically misguided. While acknowledging the merits of sustainable ventures' high degree of technology specialization or sustainability-oriented expertise, financers tend to perceive sustainable ventures' sensing, seizing, and reconfiguring capabilities as complex and not sufficiently attuned to conventional industry routines and long-standing social norms (see Studies 2 and 3). Importantly, financiers perceive the dynamic capabilities of sustainable ventures as potentially incompatible with commercial market demands, while assuming sustainability impact generation is rather associated with a policy-driven market push rather than real market needs. Accordingly, sustainable ventures' dynamic capabilities are perceived as a liability that needs to be reconfigured to achieve market fit and generate interest from private financiers. Typically, financiers recommend that sustainable ventures should restructure its dynamic capabilities to align with established industry routines and conventions.

In summary, private debt and equity financiers tend to interpret sustainable ventures self-defining identity claims – including their hybrid identity, multiple reference points, and sustainability-oriented dynamic capabilities – as contested and lacking in profit-seeking ambition, future financial returns, and compliance with conventional industry best practice. Consequently, sustainable ventures are deemed as either non-fundable ventures or in need of radical identity reorientation – in other words, they need an identity change to increase investment interest from private financiers.

5.3.2 Corporate debt and equity financiers' identity interpretation

As alternative financiers to private financiers, corporate debt and equity financiers are large-scale industrial companies engaging in lending and equity investments to complement their core businesses (Bendig et al., 2022). Typically, these financiers invest with a strategic interest in identifying and exploiting synergies with their portfolio ventures or engaging in strategic partnerships with an eye on future mergers and acquisitions (see Study 1). In common, the financiers are guided by the objectives of improving their internal innovation capabilities, enhancing their operational efficiency, or co-creating complementary products, services, and processes in their value networks. These financiers are represented by well-established, leading industrial actors in their sectors, regularly operating as the strategic partners, customers, and suppliers of sustainable ventures. Typically, these corporate financiers have recognized the potential of sustainable ventures from the start-up stage. They have regularly acted as co-financiers of accelerator programs, incubators and start-up platforms. They may also have been former employers of the founding entrepreneurs. While offering a potential entry to external funding, this source of financing may entail significant challenges for sustainable ventures

pertaining to managing organizational power imbalances, lengthy investment processes, and the risk of losing autonomy including majority ownership and venturing control. Corporate financiers are, therefore, regularly prioritized as secondary or complementary to private debt and equity funding when other funding alternatives are exhausted.

Corporate debt and equity financiers tend to be aligned in their interpretation of sustainable ventures, which may be explained by their interest in seeking strategic partnership and their industry embeddedness. These financiers commonly acknowledge sustainable ventures as a strategic investment interest, which highlights the potential synergetic relationship and alignment between sustainable ventures' sustainability-driven identity claims and financiers' identity expectations.

Interpretation of sustainable venture's hybrid identity

The identity hybridity of sustainable ventures is interpreted as a statement of authenticity, which demonstrates their *commitment to achieving sustainable impacts.* The alignment between ventures' sustainability-driven values and financiers' funding interests positions sustainable ventures as particularly attractive and within the scope of strategic sustainability investments. Although the traditional profit-seeking motivation of sustainable ventures tends to be well acknowledged, their commitment to sustainability-driven values is perceived as a defining characteristic that sets them apart from conventional, mainstream ventures. Importantly, these values reinforces the financiers' perception of their credibility in maintaining sustainability-industry leaders in their niches (see Studies 1 to 3). As a result, financiers perceive sustainable ventures as entrepreneurial catalysts who contribute sustainability novelty, which positions them as future investment prospects. The hybrid identity of sustainable ventures, in combining both sustainability and profit-seeking purposes, is seen as financially attractive and typically resonates with financiers' strategic sustainability orientation. By socially categorizing sustainable ventures as included within the financiers' industry and social context, financiers regularly interact with sustainable ventures to enable relationship building and further understanding of their sustainability-driven motivation and how it aligns with their profit-seeking purposes. Unlike traditional debt and equity financiers, the corporate financiers recognize that the sustainable ventures' focus on creating sustainability value is a critical factor in appraising them as investment potential.

Interpretation of sustainable venture's multiple performance reference points

Aligned with their interest in strategic investment, corporate financiers interpret sustainable ventures' multiple performance reference points as providing organizational coherence and accountability, reinforcing sustainable ventures' commitment to sustainability impact generation. Unlike private financiers, corporate financiers highlight the sustainability-oriented targets and reference points of sustainable ventures as taking precedence and integral to their core value creation. Furthermore, they are well aligned with their hybrid identity associated with the *practice of sustainability impact generation*. With their continued interest in sustainable ventures' potentially disruptive innovation processes and their leading role in driving industrial change processes, financiers recognize that ventures' sustainability aspirations and strategic direction not only are aligned with their sustainability investment frameworks but also are compatible with emerging market demands and correlated with outperforming financial returns. Consequently, ventures' multiple performance reference points and associated practice are interpreted as underpinning their value creation, positioning them as attractive prospects for future investment.

Interpretation of sustainable venture's sustainability-oriented dynamic capabilities

Sustainable ventures' sustainability-oriented dynamic capabilities are interpreted by corporate financiers as key organizational processes and routines that enable ventures to develop competitive advantages in new sustainability markets and to proactively seize sustainability challenges as new business opportunities. Essentially, the corporate financier commonly perceives sustainability-oriented dynamic capabilities and the underpinning resources as key assets at the core of their investment interest. These capabilities are typically seen as providing entry to unique sustainability know-how and expertise, new cross-industrial value networks, front-end technology development, and the securing of future intellectual property rights. Interpreting the capabilities of sustainable ventures through the lens of a forthcoming industrial transformation, they are regularly perceived as contributing to the development of *new industry best practice* (see Study 4). Accordingly, the dynamic capabilities of sustainable ventures tend to be perceived as strategic investment potential and as providing sustainable ventures with a unique competitive edge.

In summary, corporate debt and equity financiers tends to interpret sustainable ventures self-defining identity claims – including their hybrid identity, multiple reference points, and

sustainability-oriented dynamic capabilities – as well aligned with their investment interests, which consequently position sustainable ventures as strategic prospects for future investment.

5.4 Building Block 3: Funding decisions and attached identity change demands to increase fundability

Building on the findings in the four appended studies, financiers' funding decisions appear to be influenced by their interpretation of the venture's identity. This interpretation is inferred from two sources: the motivations underlying their funding decisions, including the stated reasons for choosing to fund or not, and the conditions and requirements attached to both pending and approved funding decisions. “Pending financing decisions” are proposals still under consideration where a final decision has not yet been reached, whereas approved funding refers to decisions to proceed with the proposed funding.

Due to confidentiality considerations, the financiers participating in the studies have shared their funding decisions as blinded cases, with the names and identification numbers of the ventures anonymized. However, the ventures involved have provided access to the actual funding decisions. Notably, all ventures subject to a rejected, pending, or approved funding decision had passed the financier's initial financial assessment, which included a review of their financial and legal standing, as well as an evaluation of their risk classification (see Study 3). This suggests that the funding decisions were not primarily based on concerns about the ventures' legal or financial status. While funding decisions are typically complex, involving a mix of influencing factors and assessment criteria, the sustainability-driven identity of the ventures seems to play a central role in these decisions. From the perspective of private financiers, this identity is perceived as socially deviating and a constraint, leading to categorization of the ventures as an outgroup from the types of venture they typically prioritize for investment, aligned with the conceptualization of Malmström et al. (2017) and Rao et al. (2023). Conversely, corporate financiers recognize ventures’ sustainability-driven identity as a unique asset, placing it at the center of their investment interest. The financiers’ funding decisions will be further outlined in the following section.

5.4.1 Private financiers’ funding decisions

From an identity perspective, the funding decisions of private debt and equity financiers seem to be influenced by the identity interpretation that they make of sustainable ventures seeking access to external financing. This is evidenced by the motivation and identity change demands attached to their funding decisions.

First, an upfront rejection of the investment proposals is commonly motivated by a categorization of the sustainable venture’s sustainability-driven “type” of venture as unconventional (see Studies 3 and 4) and, therefore, as less appealing for private funding. This is explained by the financiers’ perception of the ventures as primarily focused on collective, non-private proprietary value creation to the neglect of profit-seeking values and motivation. Furthermore, they are seen as deviating from social norms and industry conventions, against which potential clients are typically assessed.

Second, pending funding decisions are frequently conditional on undertaking a major reorientation and identity change to reduce the sustainability-driven identity claims and comply more closely with conventional industry standards. Additionally, a decoupling of the venture’s purpose from its values, practices, and routines may be required (see Study 4). As further explored in Study 3, this exemplifies an identity clash – that is, the identity interpretation of private financiers is perceived as a serious misinterpretation by sustainable ventures. Commonly, sustainable ventures strongly oppose these interpretations and associated identity change demands, which they believe undermine their core values, market attractiveness, and competitive advantage. Furthermore, they perceive them as representing a real identity threat, imposing conditions on them to act counter to their foundational purpose to exist and distinguishing identity character. Thus, sustainable ventures experience such identity change demands to be a rejection of “who they are”. This is reflected in expressions of strong feeling that, for example, the demands are ignorant and nigh impossible to implement in practice (see Study 3 for examples). To balance the potentially undermining identity change demands of private financiers, ventures are forced to engage in identity work processes (Kreiner and Murphy, 2016) to increase their fundability while remaining true to their identity.

5.4.2 Corporate financiers’ funding decisions

In contrast to private financiers, corporate financiers tend to attribute the sustainable ventures' sustainability-driven identity as a source of core investment interest. In line with their strategic investment interests, they recognize the ventures’ identity claims as both financially attractive and a unique complementary asset to their core businesses. Sustainable ventures' identity is, therefore, assessed as a strength that positively contributes to their funding decisions. This is evidenced by the motivation and identity change demands attached to their funding decisions. First, by stating the venture's sustainability-driven identity as aligned with their investment interest, irrespective of whether their final funding decision turns out to be positive or negative. Therefore, even a rejection of funding may be perceived as identity confirming since improving

fundability prospects are associated more with enhanced competitiveness, judicious timing, and better navigation of complex and lengthy investment cycles. The venture's sustainability-driven identity, therefore, is generally addressed as an investment interest. Second, it is reflected in corporate financiers' requirements that the venture excels in its identity claims. That is to say, sustainable ventures must further strengthen their values, practices, and routines by developing new sustainable industry best practice, maintaining leadership in their industry niche, and/or sustaining a leading position in disruptive innovation processes and new technology development (see Study 1 and Study 2). This response acknowledges that the sustainable venture's identity claims are valuable assets and at the core of financiers' investment interest. However, they are expected to be fully applicable and compliant with the financier's operations, industry practices, and strategic orientation. Furthermore, sustainable ventures must operate in a state of readiness and function under the control of the corporate financiers. It is in this respect that engaging with corporate financing carries significant implications with regard to maintaining organizational autonomy, ownership, and control. While recognizing the growth opportunity involved in gaining access to external financing, including entry into the corporate financier's industry networks, platforms and resources, the risk involved in becoming potentially obsolete or dismissed as potentially misaligned with the shifting strategic interests of financiers does pose a real identity threat (see Study 3). In contrast to the identity threat triggered by private financiers' funding decisions – namely, to decouple venture purpose from venture practice and to adopt conventional business practices – the identity threat triggered by the corporate financier's funding decision calls into question the venture's future existence. To balance corporate financiers' potentially undermining identity change demands, sustainable ventures engage in identity work processes to strengthen their fundability while striving to maintain the autonomy of their identity.

5.4.3 Identity work processes triggered by identity misalignment and identity alignment

The identity work processes among the sustainable venture, triggered by the financier's motivation and identity change demands attached to their funding decisions, refer to the measures that ventures undertake to maintain, adapt, and strengthen their organizational identity, aligning with the conceptualization of Kreiner et al. (2015), while aiming to increase their fundability.

Two salient identity work processes have been identified. These are indicated in Figure 2 by the arrows linking finance-seeking sustainable ventures to the two types of external financiers and their funding decisions. The first identity work process is *triggered by the identity misalignment*

between sustainable ventures and private financiers. This identity work process is highlighted as challenging to manage because it requires sustainable ventures to make significant changes to their identity. Indeed, they are requested to reduce emphasis on the sustainability-driven values and practices on which their businesses were founded. Furthermore, these demands are seen to undermine the processes and routines to maintain market attractiveness and competitive advantages. This is because they are requested to significantly reconfigure their dynamic capabilities and the associated resource base upon which their current operations are dependent in order to align with established industry best practice. This type of identity change demand is perceived by ventures as practically impossible to implement and is, thus, strongly opposed. Nonetheless, gaining access to external financing remains a fundamental need.

In common, sustainable ventures perceive the private financier's identity interpretation and identity change demands as a serious misinterpretation of their venturing – thus, underpinning the financing access gap. They, therefore, tend to intensify their emphasis on exchanging information, focusing on verifying their profit-seeking ambitions and financial achievements, as exemplified in their regular reporting on financial standing, financial return, and financial forecasts. In parallel, sustainable ventures engage in building their relationship with financiers, seeking to influence the financier categorization of their venturing as an "ingroup" for private financing – thus, becoming socially included and financially justified in its own right while preserving intact their sustainability-driven identity (see Studies 3 and 4).

In parallel, sustainable ventures engage in a mix of complementary financing bootstrapping activities – see, for example, Malmström and Hällerstrand (2024) in "The Palgrave Encyclopedia of Private Equity" for an extensive review[8], including internal and informal financing, to ensure their survival. Such funding is found to significantly strengthen their organizational identity in providing a mix of funding opportunities while retaining ownership and control. However, bootstrap funding is seldom, if ever, perceived as sufficient to support venture growth (see Study 2). In addition, ventures may approach so-called impact investors with an explicit investment agenda to positively support the sustainable industrial transformation in their industry niches, as conceptualized by Hehenberger et al., (2019). This type of private-equity financing is regularly perceived by the sustainable ventures as a novel and a prioritized source of private-equity finance. It is seen as suitably aligned with their identity, and potentially offering entry to private financial markets. However, impact

8 Malmström, M., & Hällerstrand, L. (2023). Bootstrap Financing. In The Palgrave Encyclopedia of Private Equity (pp. 1-7). Cham: Springer International Publishing.

investments remain a small and limited part of the private-equity capital market and tend to target a very small niche of high-growth ventures. They are, therefore, considered a marginalized source of financing, beyond the reach of most sustainable ventures (see Study 4).

The second identity work process is *triggered by the identity alignment* between sustainable ventures and corporate financiers. This identity work process is found to strengthen sustainable ventures' sustainability-driven identity because it includes the request to excel in their sustainability-driven values and practices. Because corporate financiers perceive sustainable ventures' identity as a strategic investment interest, sustainable ventures are often requested to further demonstrate their contribution to developing new sustainability industry best practices and/or their attainment of key positions by developing innovative sustainable technology. Furthermore, sustainable ventures are commonly expected to show transparency and compatibility with the corporate financier's strategic operations so as to demonstrate their potential contribution to the operational synergy effects expected. These types of identity change demand are, however, associated with a significant risk of losing organizational autonomy, ownership, and control. Identity work to balance corporate financiers' identity change demands to adapt to their strategic interest with maintaining their organizational identity intact commonly involves lengthy negotiation processes to agree on future terms and conditions of venture ownership.

Since sustainable ventures typically engage in parallel finance-seeking processes, including both private and corporate financiers, managing potentially contradictory identity work processes is seen as a major challenge by sustainable ventures. In balancing the potentially incompatible identity change demands of financiers, sustainable ventures typically intensify their efforts to build their relationships and refine their information exchange processes to reduce the perceived misalignment between their self-defining identity and the interpretation of that identity by private financiers. In striking a balance in their identity alignment with corporate financiers, they seek to maintain their autonomy by intensified negotiations and contractual terms and covenants to protect their sovereignty and continued venturing control.

In conclusion, the central, enduring and distinguishing sustainability-driven identity referents of sustainable ventures – including their *hybrid identity, multiple performance reference points, and sustainability-oriented dynamic capabilities* – seems to cause numerous challenges in external finance-seeking situations. Their identity appears to conflict with private debt and equity financiers' expectations of what constitutes a fundable venture, exerting a negative influence on their funding decisions. Evidenced by financiers' funding decisions and attached

identity change demands, sustainable ventures are required to undertake a major identity reorientation to adopt the conventional social norms of their industry and incumbent best practices, consequently reducing their potential to make a measurable sustainability impact. As an additional challenge, sustainable ventures' self-defining identity seems to better align with the funding interests of corporate debt and equity financiers and exerts a positive influence on their funding decisions. As a secondary or final source of external financing, the venture–financier exchange is associated with both a risk of significant loss of organizational autonomy and a potential limitation on reaching large-scale sustainability impacts, beyond the industry niches of the corporate financiers' operations, due to the need to subordinate their impact-generating outcomes to the industrial interest of the corporate financier.

Table 7. Framework summary

	Building block 1: Finance-seeking sustainable ventures	**Building block 2: External financiers**	**Building block 3: Funding decision**
Sustainable Venture-Private Financiers´ Exchange Situation			
Organizational identity claims	***Sustainable ventures self-defining identity***	***Private financiers' identity interpretation***	***Private financiers' identity change demands***
Hybrid identity	Sustainability-driven and profit-seeking values as equally important	Sustainability-driven values as lacking in profit-seeking ambitions	Prioritizing of profit-seeking values to prove profit-seeking ambitions
Multiple performance reference points	Prioritizing long-term sustainability targets alongside financial returns as interdependent and synergetic	Multiple performance reference points as diluting and limiting financial return opportunities	De-coupling of venturing purpose from venturing practice, including a reduction of sustainability impact aspirations
Sustainability-oriented dynamic capabilities	Organizational routines and processes to enable radical innovation and implementation of new sustainability industry best practice	Organizational processes and routines as lacking in competitiveness and compliance with conventional industry best practices	Implementation of incumbent industry best practices, norms, and conventions, including organizational processes and routines to support incremental innovation and established market offerings
Sustainable Venture-Corporate Financiers´ Exchange situation			
Organizational identity claims	***Sustainable ventures self-defining identity***	***Corporate financiers' identity interpretation***	***Corporate financiers' identity change demands***
Hybrid identity	Sustainability-driven and profit-seeking values as equally important	Sustainability-driven values as a commitment to achieve sustainability impact	Maintaining and strengthening sustainability-driven values as a unique venture distinctiveness
Multiple performance reference points	Prioritizing long-term sustainability targets alongside financial returns as interdependent and synergetic	Multiple performance reference points as the practice of sustainability impact generation and a potential lever for financial returns	Maintaining and strengthening multiple performance reference points while demonstrating leadership in sustainability industry best practices
Sustainability-oriented dynamic capabilities	Organizational routines and processes to enable radical innovation and implementation of new sustainability industry best practice	Organizational processes and resources as a key asset in developing new industry best practices and driving radical innovation	Adapting organizational processes and routines to align with the financier's specific sustainability interests and/or operational practices

6. Discussion

This chapter presents the main contributions to the fields of sustainable entrepreneurship, entrepreneurial finance, theory and practice. In the conclusion, research limitations are stated, and directions for future research are suggested.

6.1 Theoretical contributions

As a reminder, the purpose of this thesis is to *advance understanding of external financing in sustainable ventures*. Against the backdrop of the urgent need to accelerate sustainable industry transformation in the current decade and the potentially catalytic role of sustainable ventures in driving industrial change, this thesis posits the need to understand the circumstances that may hinder their contribution to the transformation. This thesis, therefore, strives to contribute to such an understanding by unpacking the perceived (mis)alignment that these ventures seem to face in finance-seeking situations. Because the denial of access to external financing remains a significant barrier to the growth of these ventures, and tends to undermine their realization of potentially transformative sustainability solutions, calling for further understanding of such (mis)alignment is opportune (Hoogendoorn et al., 2019). In contrast to traditional agency-based reasoning, which typically draws on information asymmetry to explain the associated financing gap, this thesis disentangles social explanations while aspiring to provide a richer understanding of the financing access gap. This thesis integrates a congruent set of values, practices, and routines that are theorized as holding a hybrid identity, setting multiple reference points, and developing sustainability-oriented dynamic capabilities. The findings of this thesis primarily contribute to the emerging literature on sustainable entrepreneurship, including contributions to the literature on entrepreneurial finance, organizational identity theory, performance reference point theory, and the dynamic capabilities view. The specific contributions are further discussed in the following sections.

6.1.1 Contributions to literature

This thesis offers contributions to the intersection of the sustainable entrepreneurship literature and the entrepreneurial finance literature by providing an understanding of sustainable ventures' profit-seeking and sustainability-driven motives. A general contribution lies in highlighting that sustainable ventures, while explicitly focused on generating sustainability impacts, may still be highly motivated by growth and profit-seeking goals. Therefore, this finding points to a type of

sustainable venture that is regularly overlooked in the literature's mainstream assumptions. The prevailing narrative in the sustainable entrepreneurship literature has regularly painted these ventures as altruistic, potentially lacking profit ambition, and mainly operating at the margins of traditional, profit-maximizing venturing, while overlooking the diversity and heterogeneity of sustainable ventures as, for instance, demonstrated by Muñoz and Cohen (2018a). Therefore, this thesis contributes to the intersection of the sustainable entrepreneurship literature and the entrepreneurial finance literature by demonstrating that profit-seeking and sustainability achievements may not be mutually exclusive but can be synergistically and mutually reinforcing (Muñoz & Dimov, 2015; Terán-Yépez et al., 2020). This underscores the view that the sustainable entrepreneurship landscape is more complex than assumed in the literature and in the practice of financiers as determined by their shared beliefs.

By providing valuable perspectives on the internal processes through which sustainable ventures build competitive advantages, by demonstrating how the micro-foundations of dynamic capabilities tend to be mutually reinforcing and interdependent, and by explaining how these processes resonate with external factors, the thesis contributes to the sustainable entrepreneurship literature with new insights for sustainable ventures. The implications are that failing to act on the sensing, seizing, and reconfiguring capabilities collectively may impede the ability to meet customer demands, secure competitive advantages, and foster venture growth. This thesis shows that driving transformative change in practice is challenging and complex, which highlights the importance of continuously orchestrating and balancing the dynamic capabilities necessary to address multiple interests.

Furthermore, this thesis contributes to the sustainable entrepreneurship literature by offering a nuanced understanding of how sustainable ventures can navigate their sustainability impact-generating aspirations by balancing their sustainability-driven goals and profit-seeking objectives with finance-seeking intentions. By highlighting the interplay between these interconnected priorities, the thesis's findings augment understanding of the challenges that sustainable ventures may face when seeking access to external financing. This has been largely overlooked in the sustainable entrepreneurship literature (Anand et al., 2021; de Lange, 2016).

This thesis further contributes to the intersection of the sustainable entrepreneurship literature, the entrepreneurial finance literature, and organizational identity theory by unpacking social explanations that private debt and equity financiers may resort to when interpreting sustainable finance frameworks in their existing assessment and financing decision-making processes. The findings, for example, highlight how these interpretations tend to polarize financiers'

interpretations and trigger categorical imperatives that extend the financing supply access gap between financiers and sustainable ventures. Therefore, there is not necessarily a lack of information or a lack of transparency in the information that sustainable ventures provide, but rather the information is foundationally contested as incongruent with financiers' expectations of what constitutes a financially viable venture. The thesis shows that these circumstances result in an identity clash, where sustainable ventures are categorized as outside conventional investment interests, even when they "tick all the boxes" of presenting a viable business case for sustainable finance. By doing so, this thesis augments the literature on sustainable entrepreneurship and entrepreneurial finance by offering a contextually grounded understanding of the financing challenges that sustainable ventures may face, even when meeting financial requirements and expectations of external financiers. This is an area that remains underexplored in the literature on external financing in sustainable ventures (Wöhler & Haase, 2022).

The thesis’s findings show how financiers' perceptions and interpretations of sustainable ventures critically shape their evaluations and financing assessment practices. The findings provide evidence that sustainable ventures, despite demonstrating financial strength, tend to be categorized by financiers as being outside the interests of private investment. This thesis hereby shows the relevance of this approach while noting that such an approach to understanding the financing access gap has so far gained surprisingly limited attention in the evolving literature on sustainable entrepreneurship and entrepreneurial finance.

Furthermore, the thesis enriches understanding of how social norms, and perceptions stemming from these norms, relate to restricted access to financing for sustainable ventures. Therefore, offering insights that extends beyond agency-based reasoning and information asymmetry assumptions. Accordingly, the thesis underscores the financing challenges that sustainable ventures experience, and it posits that these challenges may not solely be financially derived but can be understood differently through the social explanations that appear to shape financiers' decision-making processes. Unpacking these social norms, and understanding how they may be counteracted, is a novel contribution that this thesis makes to the field of entrepreneurial finance. Additionally, these findings contribute by extending the literature on hybrid identity in sustainable entrepreneurship, which Cesinger et al. (2022) highlighted as a shortcoming that needs to be addressed in the current literature. The findings demonstrate how the hybrid identity of sustainable ventures, rather than being a purely financial issue, may become contested due to the social norms that shape financiers' decision-making processes. While these ventures

embody both sustainability-driven and profit-seeking values, private debt and equity financiers tend to misinterpret this hybridity, categorizing sustainable ventures as outside the scope of their perspective on what constitutes a fundable venture. Thus, the findings highlight that sustainable ventures' identity, rather than their financial metrics, is perceived as a deviation in financing situations. This identity clash highlights the micro-foundations and macro-level social norms in financing situations – an area underexplored in current entrepreneurship research. This insight enriches the existing literature by showing that the reluctance of external financiers is not solely based on financial metrics but rather on socialized explanations, such as their interpretation of what constitutes a viable business case. These finding sheds light on how embedded social norms in the financial market inhibit change, even when financiers claim to support sustainability transformations. Such reluctance to change is associated with the reasoning underpinning herding behavior (Banerjee, 1992).

To support these contributions, the thesis has drawn on perspectives from organizational identity theory, performance reference points theory, and the dynamic capabilities view. By integrating these theoretical approaches – often explored separately but rarely combined – the thesis’s framework adds to the ongoing development of the theoretical foundation in sustainable entrepreneurship, addressing calls in the literature for diverse and interconnected perspectives. Contributions focusing on organizational identity, performance reference points, and sustainability-oriented dynamic capabilities in sustainable ventures and their relation to access to external financing are further outlined in the following segment.

6.1.2 Organizational identity in sustainable ventures and access to external financing

The thesis offers novel insights into the construction of hybrid identity in the context of finance-seeking sustainable ventures. It addresses a gap in the literature on organizational identity in the field of sustainable entrepreneurship, a gap identified by Pratt et al. (2016), for instance. The thesis’s findings suggest that maintaining a hybrid identity facilitates internal organizational coherence, self-esteem, and a shared belief system. Furthermore, this hybridity appears to strengthen the organization's internal sense making and collective understanding of “who we are as an organization,” and to foster a sense of higher purpose associated with achieving real sustainability impacts. Additionally, hybridity tends to be perceived as a source of motivation and “organizational grit”, which enable these ventures to withstand opposition from incumbent actors whose venturing is based on maintaining the status quo and resisting industry transformation. This organizational grit seems to help sustainable ventures to stay focused on “acting against all odds,” when challenging social norms and incumbent industry

conventions. These insights shine a light on the critical role of organizational hybrid identity in enabling sustainable ventures to remain resilient in their transformation mission. Consequently, the thesis demonstrates the relevance of an organizational hybrid identity perspective when studying sustainable ventures. The findings suggest that negotiating and compromising their hybridity in order to meet financiers' demands to resemble conventional ventures would be costly for their sustainability mission momentum. Such compromises may, in fact, amount to a request to "act out of character", potentially leading to organizational identity mission drift, which is aligned with the conceptualization of Grimes et al. (2019). In light of these findings, such mission drift could undermine the ventures' organizational authenticity, given that hybrid identity is an inherent and irreversible component of their identity construction, and, therefore, essential to their very existence. The organizational hybrid identity perspective suggests adjusting to stakeholder expectations. However, when such expectations are not met – in terms of becoming a viable profit-seeking entity – this thesis show that hybrid identities in ventures that already operate for profit can hardly become more profit seeking. Instead, this thesis contends that meeting stakeholder expectations is to forgo sustainability ambitions and purpose-driven missions. This form of identity work offers a new conceptualization to the organizational hybrid identity theory in terms of identity loss and identity conflict.

As a contribution to organizational identity theory, the findings of this thesis show that sustainable ventures' hybrid identity tends to result in adverse outcomes in finance-seeking situations. This thesis shows that hybrid identity may trigger reluctance among financiers to provide access to finance given how they interpret this hybrid identity. This is particularly so with mainstream private debt and equity financiers. This thesis, therefore, addresses an important gap identified by Williams et al. (2023) regarding organizational identity and access to external financing. These perceptions operate on the individual venture–financier level – that is, the micro level. By exploring the micro-foundations that seem to foster the misalignment between sustainable ventures self-defining identity and external financiers' interpretation of that identity provides a deeper understanding of how self-identity and external interpretations of identity may be in conflict. Moreover, it shows how the shared beliefs of financiers regarding sustainable ventures may contribute to an identity clash and subsequent denial of access to external funding. In doing so, this thesis emphasizes that a hybrid identity in sustainable ventures may indeed be misinterpreted as lacking in profit-seeking ambition, contributing to the identity clash and financing access gap. The financiers' interpretation of the combination of purpose-driven and profit-driven core values may relate to their (un)willingness to accept a

hybrid identity as a viable vehicle for external financing. These circumstances highlight the risks of categorical imperatives as defined by Whetten (2006), which may lead to polarization in how sustainable ventures are perceived and a widening of the financing access gap between the financing provided and the financing received by sustainable ventures.

Furthermore, these findings indicate that the reluctance of financiers to provide financing may be due not solely to a lack of assessable financial metrics or information transparency but to the identity deviation stemming from established interpretations of hybrid identities, from the social norms, and from financiers' shared beliefs about what constitutes a financially viable and fundable venture. By emphasizing the importance of social explanations, this thesis reinforces the social and not just the transactional nature of the financing access gap and, thereby, demonstrates the value in using organizational hybrid identity theory to understand this gap.

While prior studies have provided empirical insights on ventures achieving legitimacy as dependent on their adaptation to stakeholder claims and actively negotiating their hybrid identity by responding to social norms, this thesis offer insights into why such suggestions may conflict with the realities of sustainable ventures. This thesis identifies three social norms that function as exclusionary “lock-out” mechanisms, particularly in venture capital markets where women entrepreneurs, for example, are often perceived as deviating from the idealized "male entrepreneur" that frequently secures VC funding. These social norms are rooted in a macro-level context, which provides normative assumptions that guide financiers’ decision making at the micro level. They define how to evaluate women as entrepreneurs, as demonstrated by Gupta et al. (2020) and Ridgeway (2011) who legitimize financiers’ decision making. This is aligned with the findings of Thébaud and Sharkey (2016) and Zhao and Wry (2016). Hence, this thesis contributes to organizational identity theory by demonstrating how social norms at the macro level relate to access to finance at the micro level for sustainable ventures – an important yet under-researched relationship. Moreover, the findings contribute to organizational identity theory by addressing the challenge that sustainable ventures may face in maintaining and strengthening a hybrid organizational identity in finance-seeking situations. This thesis’s findings emphasize the importance of organizational identity work (Kreiner et al., 2015), which balances external financiers' potentially threatening identity change demands with ensuring ventures’ financial sustainability.

6.1.3 Performance reference points in sustainable ventures and access to external financing

The thesis's findings further add to an empirical understanding of setting, evaluating, and monitoring multiple performance reference points (Nason et al., 2018) to guide firm behaviour toward translating ventures' core values into measurable practice. By setting sustainability performance reference point targets alongside financial performance reference point targets, ventures' multiple goals and priorities may be better measured, improved, and monitored. As a contribution to the evolving research on multiple performance reference points, the findings provide evidence that, to retain a focus on achieving long-term sustainability targets, the actual practices of sustainable ventures require thorough, data-driven evaluation and monitoring. That is to ensure both short- and long-term performance, and the development of multiple performance reference points at the firm level to achieve a contextual impact in line with sustainable industry transformation. Implementing multiple performance reference points, therefore, allows both internal and external scrutiny on the basis of quantifiable and verifiable performance measures, which are less explicit in performance reference point theory. In addition, this thesis shows that sustainable ventures' multiple performance reference points, which include both sustainability and financial targets, foster organizational accountability, transparency, and a more comprehensive view on firm performance. Aligned with the reasoning of Gavetti et al. (2012) this thesis emphasizes the importance of setting, evaluating, and monitoring quantifiable reference points in order to ensure accountability and to meet measurable sustainability impact goals, as well as to achieve financial returns when enacting change agents for sustainable industry transformation.

Additionally, this thesis shows that adhering to multiple performance reference points tends to support market attractiveness and trustworthiness. This is highlighted as a key deliverable that distinguishes sustainable ventures from their industry peers. These insights underscore the key role of multiple performance points in enabling sustainable ventures to achieve long-term sustainability impacts across multiple dimensions. The thesis extends understanding of the practice of using multiple performance reference points in sustainable ventures as a means to meet sustainable market demands that are currently less explored. Of particular interest is how performance reference points are set when it comes to gender impact, which align with the reasoning of Brush et al. (2018). This is a novel contribution, which demonstrates the relevance of using reference point theory to study sustainability venturing. Moreover, it explains how these multiple reference points set at the micro level interact with social norms at the macro level when running sustainable ventures. This in an important contribution to performance

reference point theory, helping to extend the linkages between multiple performance reference point setting and evaluation at the micro level. Moreover, it helps to understand their origin at the macro level, showing them to be responses to social norms. Thus, the thesis offers new insights into the origin of multiple performance reference points in sustainable ventures. These insights extend the emergent theoretical work on multiple reference points in sustainable entrepreneurship.

Furthermore, the thesis shows that setting and adhering to multiple performance reference points seem to be related to an inherent challenge to long-standing social norms and financiers' expectations concerning the prioritization of single financial reference points over multiple, sustainability-derived reference points. The thesis demonstrates how sustainable ventures' multiple performance reference points tend to cause potentially adverse outcomes in financing exchange situations. That is to say, the multiple reference points contrast with financiers' expectations on ventures prioritizing financial targets. By not meeting these expectations, sustainable ventures' access to financing will be constrained. This insight is important because it demonstrates the influence that external financiers' interpretation of sustainable ventures' multiple performance measures may have in diluting their perceived financial viability.

Additionally, setting, evaluating, and monitoring multiple performance reference points tend to act at odds with social norms and conventional wisdom in financial exchange situations. These findings, however, show that sustainable ventures tend to be highly dependent on integrating both sustainability and financial performance reference points in order to achieve measurable sustainability impacts. These findings suggest that giving way on their multiple performance reference points to meet financiers' demands and focusing solely on financial performance metrics would significantly jeopardize their internal coherence. Such concessions may, in fact, result in a demand to substantially alter firm behavior, posing a threat to overall firm performance. In light of these findings, decoupling sustainability performance reference points from financial performance reference points would significantly undermine sustainable ventures' trustworthiness, risking accusations of a loss of integrity and causing long-term reputational damage as a sustainable venture in the public domain. This implies that studying sustainable ventures through the lens of performance reference point theory requires that multiple reference points be taken into account to better understand how reference points are set, evaluated, and monitored.

It has been noted that assessment criteria for a positive sustainability impact are largely missing. In line with the argument presented by Fichtner et al. (2023), this thesis contends that financiers'

subjective assessment practices and attachment to established social norms on assessment criteria becomes even more relevant in seeking to understand stakeholder influence on multiple performance reference points. As highlighted by the thesis, the financing access gap facing sustainable ventures tends to be influenced by contested information rather than missing information. This is evidenced by the financiers regularly accepting sustainable ventures' financial performance reference points but contesting ventures' sustainability performance reference points. Furthermore, the thesis shows that financiers frequently categorize sustainability impact as a non-profit venturing criterion, which lies outside the conventional assessment frameworks of financiers. Alternatively, and exceptionally, such criteria tend to be given significant weight, supporting the financiers' strategic investment interest, as seems to be the case with corporate financiers and impact investors. These findings indicate that the implementation of multiple performance reference points in sustainable ventures is associated with potentially adverse outcomes in financing situations, including the recurring rejection of financing applications. Such social explanations of the use of assessment criteria are linked to reasoning on investor bias and stereotyping, as demonstrated in studies by Malmström et al. (2024) and Kanze (2017). These findings contribute to a contextual understanding of financiers' setting and their shared beliefs on the multiple performance reference points that ventures employ in seeking to achieve long-term, measurable sustainability impacts. While contributing to the literature on entrepreneurial finance by challenging the assumptions about the information opacity of sustainable ventures, this thesis contributes to the view on multiple performance reference points. In a wider context, the empirical evidence on multiple performance reference points in sustainable ventures, and their potentially negative influence on external financing demonstrated in this thesis, stands in stark contrast to support for sustainable industrial transformation – a transformation that is acutely called for by Rockström et al. (2024), among others.

6.1.4 Dynamic capabilities in sustainable ventures and access to external financing.

This thesis expands the understanding of how sustainable ventures can develop dynamic capabilities as entrepreneurial opportunities in order to address sustainability challenges, while seeking to transform their industry niches into sustainable routines (Demirel & Kesidou, 2019). The findings show how sustainable, dynamic capabilities are developed through sustainable venture processes, which contribute to an understanding of the role that dynamic capabilities play. Indeed, sustainable ventures engage in developing a unique set of sustainability-oriented dynamic capabilities through sensing, seizing, and reconfiguring. This aligns with Teece's

(2017) conceptualization. They adopt these capabilities in order to operationally equip their ventures so that they are able to drive pioneering and potentially transformative innovation and to gain competitive advantages. Therefore, these findings empirically demonstrate the practice of sustainable ventures and how they are enabled to enact and deliver their sustainability promise. The thesis contributes with specificities on sustainable dynamic capabilities and, hence, contributes to extending the generic dynamic capability frameworks.

In contributing to the dynamic capabilities view, this thesis highlights the importance of sustainable ventures in demonstrating sustainability impact generation through their operational processes and routines, in order to gain market attractiveness and competitive advantages. This is a contribution called for in previous studies by Munoz and Cohen (2018a,b) and Fischer et al. (2020), for example. Indeed, the development of sustainability-oriented dynamic capabilities is central to making sustainable ventures thrive and to their ability to deliver their sustainability promise. The findings hereby extend the literature on dynamic capabilities in sustainable venutres and the current scant understanding on how sustainable ventures realize their pioneering innovation including the creation of sustainability solutions, a gap in the literature identified by, for instance, Fischer, Brettle and Mauer (2020). The findings demonstrate the importance of developing sustainability dynamic capabilities in sustainable ventures, to over-ride social norms that hinder the setting of new industry best practice, paving the way for a sustainable industry transformation. In doing so, the thesis contributes to the dynamic capabilities view by demonstrating the importance for sustainable ventures to develop sustainability dynamic capabilities as they are concerned with gaining a competitive advantage and achieving transformative industry impact in practice.

Furthermore, the findings link internal dynamic capabilities to external influencing factors, demonstrating that the development of sensing, seizing, and reconfiguring capabilities is shaped by interactions with the external environment and how these routines resonate with external factors and influence the competitive advantages and transformative industry impact thus gained. This thesis contributes to the dynamic capability view by demonstrating how the micro-foundations of sustainable dynamic capabilities at the micro level relate to macro-level social norms in incumbent industry practices – a relationship that implies an extension of the dynamic capabilities view.

In addition, the thesis shows that sustainable ventures' development of sustainable dynamic capabilities is contested in finance-seeking situations. This means that the routines and

processes that sustainable ventures foster to act as norm breaking and to drive industrial transformative change may be interpreted and assessed differently by different financiers. They may be interpreted as lacking in compliance with industry best practice, thus signalling a lack of competitiveness in conventional markets. In other words, private financers tend to assess these dynamic capabilities as lacking in financial viability and financing interest. On the other hand, demonstrating sustainable industry leadership through the formation of pioneering and sustainability-driven value networks may signal the capacity to compete in sustainable markets and excel in sustainability impact outcomes. That is to say, they may be identified as strategic, sustainable industry partners assessed with a premium funding interest by corporate financiers and impact investors. Consequently, the thesis contributes to the dynamic capability view by highlighting how the development of sustainable dynamic capabilities, in the context of external finance, tends to be assessed differently – as a reflection of the financier's perception of the financial viability of acting in a norm-breaking manner.

6.2 Practical implications

Apart from the theoretical contributions, this thesis carries practical implications for sustainable *ventures*, *external financiers,* and *policymakers* actively involved in seeking, providing, and supporting sustainable ventures in accessing external financing.

6.2.1 Implications for sustainable ventures

Drawing on the findings of this thesis, several key practical implications for sustainable ventures emerge. To begin with, the thesis provides guidance on the practice of sustainable entrepreneurship and emphasizes the importance of maintaining a strong organizational identity, implementing multiple performance reference points, and developing sustainability-oriented dynamic capabilities to aspire to a leading role in the industry transformation. The thesis demonstrate that these values, practices, and routines are essential to ensure organizational coherence, market attractiveness, and competitive advantage in new sustainability markets and, ultimately, to drive industry transformation. Importantly, to make such an impact possible, the thesis highlights the critical role of external financing in supporting venture growth and long-term contributions to sustainability. However, the framework demonstrates that gaining access to external financing is often associated with challenges pertaining to social explanations that may lead to major financing constraints. Sustainable ventures that are founded on the principle of implementing sustainability-driven values, practices, and routines – those aspiring to lead the sustainability transformation – seem to face

additional financing challenges compared to conventional ventures, particularly limited access to private debt and equity financing. This tends to occur despite having an adequate financial standing that aligns with the conventional criteria applied to accessing finance, such as collateral, creditworthiness, and financial forecasting. In effect, financiers' decision making results in categorizing sustainable ventures as an "outgroup" for private financing on the assumption that they prioritize the public good over financial gains.

To support sustainable ventures that are navigating these circumstances, the thesis's framework offers insights into why external financiers often downplay the financial viability of sustainable ventures. While the framework does not offer ready-made solutions, it nevertheless provides a starting point for understanding how organizational identity, performance reference points, and dynamic capabilities relate to accessing external finance. This understanding can help sustainable ventures disentangle the financing access gap they face and take informed steps to mitigate these challenges. Rather than suggesting that sustainable ventures need to change their values, practices, and routines, these insights stress the importance of building long-term relationships with financiers to better demonstrate the synergies between sustainability and profit-seeking goals.

Furthermore, the thesis provides guidance on considering alternative and parallel financing routes, including seeking access to financing through a mix of complementing financiers with whom their organizational identity better aligns. Such financing may include bootstrapping finance, public funding, and impact financing. Exploring alternative financing routes in combination can offer additional strategies to secure at least short-term external financing, while strengthening organizational identity and maintaining momentum to excel in sustainability-driven practice. Moreover, sustainable ventures may consider corporate debt and venture financing, which may support increased access to long-term, external financing, while providing capacity building and potential upscaling of sustainability impacts in a wider industry context. The thesis, however, raises awareness of such financing, pointing to the considerable risk of losing entrepreneurial autonomy, majority ownership, and venturing control. It could mean a potential loss of organizational identity, loss of sustainable dynamic capabilities, and the risk of not reaching multiple performance reference points. Considering corporate financing is, therefore, seen as a secondary, or even last, resort when other financing alternatives are exhausted, requiring careful negotiation of the conditions for accessing such financing. These practical implications seek to empower sustainable ventures in their efforts to position

themselves effectively in the financing ecosystem, allowing them to access the financing necessary for continued growth and sustainable industrial transformation.

6.2.2 Implications for external financiers

The thesis highlights the misalignment in sustainable venture–financier exchange situations, driven by an identity clash between how sustainable ventures present their self-defining identity and how financiers interpret their identity. The framework offers an understanding of the micro-foundations of this identity clash, which may help financiers to understand what is needed on their side to bridge the gap and mitigate aligned tensions. Several key practical implications are, therefore, highlighted for financiers involved in the evaluation and support of sustainable ventures. The thesis´s framework offers a baseline understanding of sustainable ventures and their practices, and it specifically outlines how more supportive, inclusive, and comprehensive assessment approaches can be developed that account for the full spectrum of social, environmental, and economic performance. This means taking the ventures' identity, multiple performance reference points, and sustainability-oriented, dynamic-capability perspectives into account when assessing their fundability as well as learning from the novel way impact investors set performance reference points. In fact, the thesis delivers novel insights into the concept of impact investing, with a specific focus on developing performance reference points aimed at ensuring gender equity in investment frameworks. These insights may provide learning opportunities for both private and corporate financiers, fostering increased gender equality in sustainable finance frameworks. Overall, the framework may serve as a conceptual model to help improve financiers' assessment practices, especially in developing criteria that better evaluate positive, sustainable impact generation. Such a development would facilitate a move beyond the conventional negative screening and harm-reduction principles in financiers' approach to sustainable ventures seeking access to external financing. Additionally, the thesis offers insights into the social norms and categorization that tend to influence financiers' decision making, providing valuable guidance on how these practices can unintentionally hinder the financing of sustainable ventures and help to increase awareness of the social norms that hamper access to financing for sustainable ventures. Ultimately, the thesis's findings present opportunities for financiers to refine their assessment practices, fostering more inclusive and gender-equitable sustainable finance practices that better support the growth and impact of sustainable ventures.

6.2.3 Implications for policymakers

In support of policymaking aimed at mitigating the external financing access gap for sustainable ventures on mainstream financial markets and increasing the financing supply to sustainable ventures, this thesis provides critical insights into this gap. The framework sheds light on the misalignment between sustainable ventures and external financiers, which stems from social norms prevalent in financial markets and the misconception that sustainable ventures operate outside the context of for-profit venturing.

These seemingly inaccurate perceptions often result in private financing failing to reach ventures that are aligned with sustainability impact generation, even when they prove their financial viability. As this misalignment is under-recognized in current sustainable finance frameworks and policy interventions, the thesis offers implications for how to better disentangle and resolve the underlying obstacles in the financing access gap. The framework emphasizes the importance of addressing the perceived misalignment by implementing new policy measures built on this misalignment as, for example, when developing sustainable-finance frameworks, such as the ESG framework. The rationale is to better account for sustainable ventures and their positive impact generation beyond conventional principles of reducing harm, and to better support gender equality in venture capital markets. Not acknowledging these dimensions runs the risk that policy interventions will miss their target and instead overlook the context-bounded and lived experiences of sustainable ventures as largely excluded and contested in mainstream financial markets. This is essential to align sustainable ventures with appropriate policy support and interventions to close the gap between the supply and demand of sustainable financing, and thereby enhance their access to sustainable finance. Failing to do so could perpetuate the gap and hinder gender-equitable and sustainability-driven ventures from accessing mainstream financing.

As a recommendation, policy interventions need to better ensure that sustainable ventures are not only assessed as financially viable but also socially understood and included in financial markets, thus leading to the more effective and long-term success of sustainable finance initiatives. Incorporating understanding of the social norms and categorization of sustainable ventures into policy frameworks may, therefore, facilitate a more inclusive financial market and ensure that sustainable ventures receive the support necessary to scale their impact and contribute to the broader goal of sustainable industrial transformation. Moreover, directing governmental sustainable finance could be a policy measure needed to mitigate the financing access gap facing sustainable ventures.

6.3 Limitations and future research

Although the findings of this thesis provide several contributions to theory and practice, there are limitations to be considered when interpreting the results. These limitations also present opportunities for future research, expanding on the insights provided in this thesis. First, the thesis employs an interpretivist and qualitative research methodology, which means that the findings are context bound. While offering valuable insights into the lived experiences of sustainable ventures and external financiers – representing both sides of the financing access gap – an inherent limitation lies in the restricted applicability of these results to broader contexts. Future research may build on these findings by exploring similar phenomena in different settings, using this study as a foundation for further investigation and a broader understanding pertaining to the social explanations underlying the financing challenges of sustainable ventures. Future research could also include quantitative methodologies, such as surveys and statistical analyses, to explore how the findings may apply across different industries and regions. Such studies could enrich the empirical insights presented in the thesis, offering a more generalized perspective on how sustainable ventures' access to financing may be shaped by social norms, categorization, their hybrid identity, multiple performance reference points, and dynamic capabilities. Expanding the research in this direction could provide a more comprehensive understanding of the systemic challenges in the financing of sustainable ventures.

Second, the study focuses specifically on for-profit sustainable ventures with a strong financial status, meaning these ventures have viable operations despite constraints in accessing external funding. As a result, the findings may not fully capture the experiences of less financially viable, sustainable ventures, or those in their early start-up phase who may face different challenges due to their limited financial track record. Future research may, therefore, explore financing challenges for ventures in their earlier stages to extend understanding of how the financing needs of sustainable ventures evolve over time and how they progress through various developmental phases.

Third, the findings are primarily drawn from high-technology and bio-based process industries, which present a limitation regarding sectoral representativeness. These industries are characterized by significant investments in innovation, research and development, and sustainability-driven technologies, which may not reflect the experiences of ventures in sectors such as services and retail where sustainability integration may present different challenges.

Expanding future research to include sustainable ventures from a broader range of industries would provide a more comprehensive understanding of the financing challenges across various sectors.

Fourth, while the thesis has employed a longitudinal time horizon, the relatively short duration of the data collection presents a limitation concerning the long-term impacts of external financing on sustainable ventures. The findings suggest that external financing for sustainable ventures is an iterative and long-term process, posing significant challenges in maintaining entrepreneurial autonomy and majority ownership. Longer-term studies could provide deeper insights into the evolving influence of financing based on ventures' sustainability values and practices and their ability to maintain leading positions in their industries. Such studies would help track how sustainable ventures navigate the tension between their sustainability-driven purposes and the expectations of external financiers.

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