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Exploring Challenges in Corporate Venturing: Perspectives of Entrepreneurs and Corporations

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Summary

This dissertation explores different challenges of corporate venturing (CV), specifically corporate venture capital (CVC). It follows the perspective of the entrepreneur and the corporate parent, who both have specific expectations and goals when entering an investment. The first two essays examine how investor characteristics and expectations shape entrepreneurs' likelihood of contacting a CVC investor. The third essay investigates how CV units adapt their practices to secure the unit's resources in times of crisis through the help of legitimacy-creating mechanisms.

Zusammenfassung

Diese Dissertation untersucht verschiedene Herausforderungen von Corporate Venturing (CV), spezifisch Corporate Venture Capital (CVC). Dabei wird die Perspektive des Unternehmers und die der Konzernmutter eingenommen, welche beide spezifische Erwartungen und Ziele beim Einstieg in eine Beteiligung haben. Die ersten zwei Aufsätze analysieren, wie Investoren-Charakteristika sowie die Erwartungen eines/r Gründer*in die Wahrscheinlichkeit beeinflussen, einen CVC-Investor in Betracht zu ziehen. Der dritte Aufsatz erforscht, wie CV-Einheiten ihre Praktiken anpassen, um in Krisenzeiten die Ressourcen der Einheit durch Legitimitäts-schaffende Mechanismen zu sichern.

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List of abbreviations

CE	corporate entrepreneurship
CEO	chief executive officer
CFO	chief financial officer
Coef.	coefficient
COVID-19	coronavirus disease 2019
CTO	chief technology officer
CV	corporate venturing
CVC	corporate venture capital
DV	dependent variable
e.g.	exempli gratia
et al.	et alia
etc.	et cetera
GP	general partner
H	hypothesis
HLM	hierarchical linear modeling
IPO	initial public offering
IVC	independent venture capital
k	kilo (thousand)
LP	limited partner
M&A	mergers and acquisitions
p.	page
R&D	research and development
Std. Err.	standard error
VC	venture capital
VIF	variance inflation factors

1. Introduction

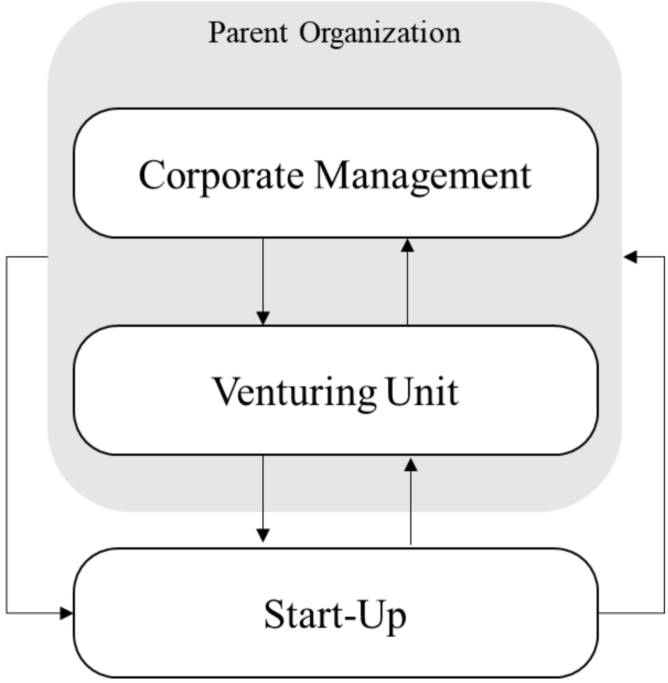
1.1. Motivation and research topics

"[A] corporation has resources, scale, power, and the routines needed to run a proven business model efficiently. [A] start-up has none of those, but typically has promising ideas, organizational agility, the willingness to take risk, and aspirations of rapid growth. Shouldn't great things happen if both sides combined their strengths?" (Weiblen & Chesbrough, 2015, p. 66)

Innovation capabilities have become a significant success factor in today's rapidly changing world (Kuratko et al., 2015). Previous technological leaders like Kodak or Nokia missed growth opportunities as they were focused on performance improvements in their core business (Tarba et al., 2020). Learning from their failure, incumbents have sought new ways to stay ahead of technological advancements and spur entrepreneurial capabilities within their organizations (Weiblen & Chesbrough, 2015). At the same time, high-growth start-ups have disrupted entire industries - such as Netflix, Airbnb, or Tesla - and have attracted large amounts of external resources to fuel their growth (Gompers et al., 2020). In their quest for innovation and growth, large corporations and start-ups have thus increasingly sought to combine their strengths in different modes of collaboration while mutually exploiting synergies and resources (Weiblen & Chesbrough, 2015). Over the last two decades, researchers described various modes of cooperation between corporations and start-ups, including corporate venture capital (CVC) (i.e., Dushnitsky & Lenox, 2005b; Gompers & Lerner, 2000b; Röhm, 2018), corporate incubators (i.e., Kruft et al., 2018; Mian et al., 2016), corporate accelerators (Pauwels et al., 2016; Shankar & Shepherd, 2019), or other types of partnerships. A commonality all these approaches share is "*the creation by a parent company of an organizational unit charged with investing in and developing new businesses*" (Birkinshaw & Hill, 2005, p. 247), a corporate venture unit. Corporate venturing (CV) subsumes all approaches dedicated to accelerating the creation of new businesses and innovation for the parent firm (Gutmann, 2019). It is embedded in the broader discourse on the entrepreneurial capabilities of corporations, which is also referred to as corporate entrepreneurship (CE). CE is used as an umbrella term for the realization of new ideas as part of an organization, including "*a company's innovation, renewal, and venturing efforts*" (Zahra, 1995, p. 227). However, unlike innovation and renewal, CV entails establishing a distinct organizational entity with the goal of developing new businesses within or beyond a company's organization (Narayanan et al., 2009). This dissertation adds to the literature on corporate venturing with particular emphasis on CVC as a subtype of corporate venturing, in which privately held start-ups receive a direct equity investment from an incumbent firm (Dushnitsky & Lenox, 2006).

Whether and how corporations and start-ups are able to realize the desired benefits of their collaboration can be investigated empirically at three levels: (a) the parent organization with a specific focus on the top management, (b) the venturing unit within the parent organization, and (c) the involved start-ups (see Figure 1-1). The executive level initiates the CV activities and provides the financial and organizational resources for the CV unit. The CV unit pursues the mandate given by the top management, performs the CV activities, and manages the activities with the start-ups to benefit the whole organization. The start-up tries to use the resources the parent organization provides to advance its business. The CV unit thereby serves as a gatekeeper for accessing internal resources. While certain levels and interactions have received ample attention in previous literature, the three essays of this dissertation focus on perspectives that scholars have neglected for a long time. The following paragraphs will provide an overview of the different levels of analysis and existing findings, thus providing the foundation to motivate the research questions for the main body of this dissertation.

Figure 1-1: Corporate venturing and the three levels of analysis

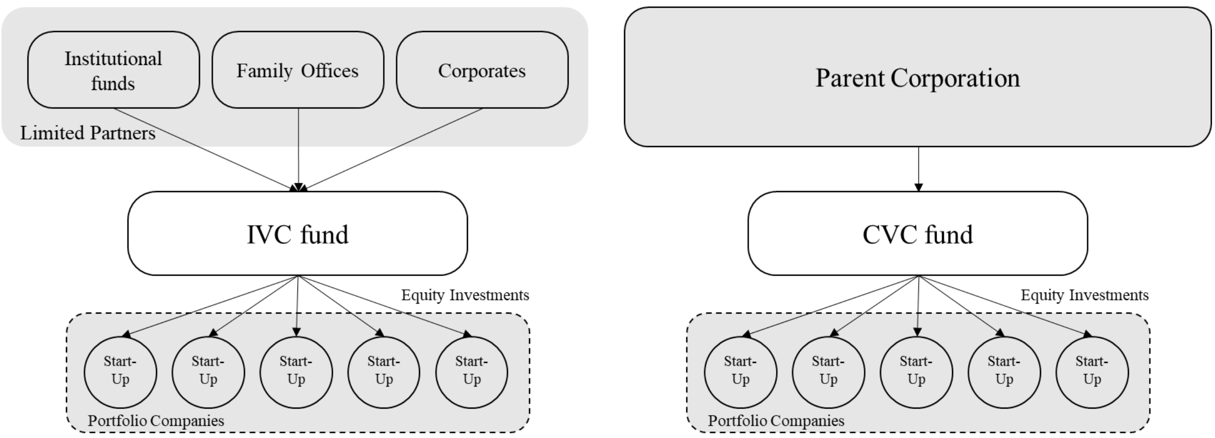


1.1.1. CV from the perspective of the corporate management

In today's fast-changing markets, firms must explore new business opportunities while also exploiting existing competencies fostering both incremental and radical innovation (Tushman & O'Reilly, 1996). Balancing both requires ambidexterity – "*the capacity to capitalize on an existing set of resources and capabilities while at the same time developing new combinations of resources to meet future market needs*" (Hill & Birkinshaw, 2014, p. 1899). Corporate venturing poses one possibility that enables incumbent firms to achieve this balance and improve firm performance (Biniari et al., 2015; Birkinshaw & Hill, 2005). Typically, firms create a distinct CV unit responsible for developing new business opportunities and investing in them with the help of internal and external resources (Garrett & Neubaum, 2013). Resources crucial for corporate venturing include financial, social, human, and symbolic capital initially allocated to the CV unit internally or available externally, for example, from VC investors (Biniari et al., 2015). By accessing and utilizing these resources, CV units pursue specific strategic goals such as promoting an entrepreneurial culture, gaining insights into emerging technological advancements, and generating new avenues for growth (Basu et al., 2011; Dushnitsky & Lenox, 2006; Hill & Birkinshaw, 2014; Wadhwa et al., 2016). To realize these benefits, firms employ a variety of CV modes that can differ on several dimensions. Exemplary differences include the locus of new business opportunities (internal vs. external), the prioritization of strategic or financial objectives, the involvement of equity held by the corporation, or the extent of operational links with the corporation (for an overview, see Gutmann, 2019). Wide-spread CV modes include corporate venture capital, incubators, or accelerators (Weiblen & Chesbrough, 2015).

Especially CVC has received considerable attention in the literature on entrepreneurship and entrepreneurial finance (Chesbrough, 2002; Dushnitsky & Lenox, 2005b; Gompers & Lerner, 2000b; Maula, 2007) and also receives particular attention in this dissertation. Compared to independent VC (IVC) investors, CVC investors differ with regard to their governance structure and the consequences this has on the CVC unit's strategic and operational approach. As depicted in Figure 1-2, IVC investors usually gather capital from several non-dominant limited partners, while CVC investors typically operate with a single limited partner – the parent corporation – which owns the CVC unit and provides all the necessary resources (Soutaris &Zerbinati, 2014). As a result, the parent corporation defines the goals that are to be achieved by the CVC unit and controls the goal attainment. Yet, scholar such as Röhm et al. (2018)

Figure 1-2: CVC vs. IVC fund architecture



demonstrated that CVC investors differ with regard to the level of strategic and financial motivation underlying their investment practices. The just-described differences between CVC and IVC investors as well as the diversity within the group of CVC investors builds the foundation for essay I and II of this dissertation, focusing on the entrepreneurs' perspective.

1.1.2. CV from the perspective of the venturing unit

CV units link the internal world of the parent organization with the entrepreneurial ecosystem that includes startups, but also VC investors or other partner organizations. Thus, the configuration of CV units when being set up is shaped by external and internal factors and so are the CV practices (Narayanan et al., 2009). For example, Röhm et al. (2018) show that parent organization's motivation affects the purchase prices CVC investors are willing to pay. Similarly, Souitaris & Zerbinati (2014) in their qualitative study describe two investment logics CVC units pursue: "*integrated*" (prioritization of corporate norms) vs. "*arm's-length*" (prioritization of norms of the VC world). It thereby underlines the CV units' role to reconcile internal and external demands and expectations.

Yet, CV units are often described as struggling to realize the potential benefits and internal expectations and are thus shut down early (Hill & Birkinshaw, 2014). In the context of CVC, researchers have observed waves of CVC activity (e.g., Dushnitsky, 2012) as well as dynamics in the orientation of CVC units shifting from internal to external or vice versa (Souitaris & Zerbinati, 2014). Likewise, intra-organizational or environmental dynamics can lead to changes in CV practices and affect the survival of CV units. It is argued that changes to market trends or the availability of free cash flow can trigger such dynamics (Mishra & Gobeli, 2000; Zu Knyphausen-Aufseß, 2005). Underlying these dynamics is the CV units' reliance on internal resources and support from their parent corporation. Besides the CV activities, CV units thus also have to manage internal expectations. Despite the significant attention given to the field of

CE and CV in the past decades, there is still a need for a better understanding of the organizational context it is embedded in (Kuratko & Audretsch, 2013).

1.1.3. CV from the start-ups' perspective

Intra-organizational tie formation constitutes strategic actions of firms and individuals that actively shape the formation of ties (Santos & Eisenhardt, 2009; Vissa, 2012). Being associated with a corporation is a highly strategic decision for start-ups, with upsides and downsides. Especially studies in the field of entrepreneurial finance have for a long time mainly focused on the investor's perspective as the sole decision maker on whether a start-up receives an investment or not. Besides very traditional investment criteria like product, market, or financial return, scholars have analyzed, for example, the role of team characteristics (Franke et al., 2008), VC-specific criteria, and dynamics in VC decision-making (Petty & Gruber, 2011), VC managers experience (Shepherd et al., 2003), or similarity biases of VC investors (Franke et al., 2006) in the investment decisions of investment managers. Yet it has also become clear that forming an investment relationship requires both parties to agree. In their analysis of eleven years of archival data of a European-based VC firm, Petty & Gruber, for example, note that "*both entrepreneurs and VCs are subject to 'rejection' at any stage in the evaluation process*" (2011, p. 173). Especially with the rising number of VC investors and massive growth in capital invested in start-up companies, entrepreneurs have gained more negotiation power relative to the investors. In analogy to the buyers' and sellers' market often described in the housing market, which is characterized by an excess supply of or demand for housing (Zorn & Sackley, 1991), the VC market development has over the last decade increasingly worked to the founders' advantage, especially to those with an attractive business idea. Between 2012 and 2019, global investments in start-ups have increased from $68 billion to $341, representing a five-fold increase (Dealroom.co, 2023). Similarly, the number of active investors in the same period more than doubled from 9k in 2012 to 20k in 2019 (Dealroom.co, 2023). While 2020 saw a slight dip in the growth trajectory due to the COVID-19 pandemic, 2021 was record-breaking, with a surge to $734 billion invested globally in start-ups. (Dealroom.co, 2023). For 2022, a 32% decline is noted (Dealroom.co, 2023) caused by the Russian attack on Ukraine, the resulting sanctions, the energy crisis, and record high inflation (Liadze et al., 2022). Thus, it is highly likely that the negotiation power of investors and entrepreneurs changes as a consequence of these developments. However, the period under study in this dissertation can be described as a relatively founder-friendly era with good chances for start-ups to attract equity capital (except for the onset of the COVID-19 crisis in the spring of 2020).

So, when and how are entrepreneurs influencing the tie formation with investors or corporate partners? Typically, before a transaction between a start-up and an investor both potential partners go through a series of activities. This pre-investment phase includes the deal origination, screening, evaluation, and structuring stages (De Clercq et al., 2006). During these different steps, both entrepreneurs and investment managers get to know each other and ultimately decide whether and under which conditions to form an investment relationship. Given their time constraints, entrepreneurs in the first steps decide which investors to approach when (Hallen & Eisenhardt, 2012). This is when the entrepreneurs' evaluation criteria impact the fundraising process the first time. Entrepreneurs in this early stage purposefully apply strategies to advantageously shape opportunities for ties with investors (Hallen & Eisenhardt, 2012). Previous studies have also demonstrated the entrepreneurs' active role in the choice of the investor type, be it an angel or VC investor (Fairchild, 2011), as well as the switching of lead investors (Cumming & Dai, 2013). Although it is evident that entrepreneurs take an active role in fundraising decisions, research on entrepreneurial finance has for a long time neglected this perspective. Only in recent years, several studies have highlighted the entrepreneurs' perspective in fundraising and tie formation with corporations (e.g., Granz et al., 2021; Schröder, 2021).

Seeking a partnership with a large corporation may entail many benefits for a young, high-growth start-up company. To fuel their growth, start-ups depend on attracting and absorbing external resources that are difficult to establish (Hillman et al., 2009). Following this resource dependency lens (Pfeffer & Salancik, 1978), financial and non-financial resources provided by partners and investors are highly relevant for their survival and future success (Alperovych & Hübner, 2013; Colombo & Murtinu, 2017; H. D. Park & Steensma, 2012). Corporate partnerships, in general, and CVC specifically come with the promise of delivering both, as investors are no longer viewed as sole providers of financial capital (Fingerle, 2005; Sørensen, 2007). Established corporations have considerable financial resources at hand and, at the same time, can provide access to rich complementary resources such as manufacturing capabilities, technological know-how, or sales opportunities (Gompers & Lerner, 2000b; Maula et al., 2005; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005). Additionally, the corporation's international reputation contributes a benefit for start-ups in the form of an endorsement effect that increases the start-ups' legitimacy in the eyes of other potential partners, suppliers, or customers (Maula, 2001). Combining these benefits with the growing availability of CVC investments during the 2010s, in which it has become the second largest source of equity funding (Dushnitsky & Lavie, 2010; Himler, 2017), CVC investors have become a viable source of equity financing for entrepreneurs (Alvarez-Garrido & Dushnitsky, 2016; Ivanov & Xie, 2010; Schröder, 2021).

However, previous research has also highlighted the potential downsides of being associated with a CVC investor compared to an IVC investor. The metaphor of `swimming with the sharks' for investment relationships with CVC investors introduced by Katila et al. (2008) has shaped the research on CVC. This notion arises from the strategic benefits many CVC investors strive to achieve for their parent organization, such as learning about emerging technologies or new markets (Chesbrough, 2002; Dushnitsky & Lenox, 2005a, 2005b; Weiblen & Chesbrough, 2015). Start-ups thus might face know-how misappropriation or competing strategic interest of the CVC investor (Hellmann, 2002; Katila et al., 2008; Maula et al., 2009). Therefore, striving for an investment relationship with a CVC investor requires entrepreneurs to trade off the benefits and risks (H. D. Park & Steensma, 2012). As a consequence, researchers analyzed under what conditions a CVC investment might benefit start-ups. The findings indicate that several factors come into play here: the venture's need for specialized non-financial resources, the environmental uncertainty they face, and the defense mechanisms they are able to employ to protect their resources (Katila et al., 2008; Maula et al., 2009; H. D. Park & Steensma, 2012). What remains unclear is how entrepreneurs consider these different factors before entering an investment relationship with a corporation.

Overall, this dissertation strives to enhance our knowledge of how entrepreneurs and corporations deal with uncertainties in the context of corporate venturing. It specifically sheds light on the consideration process of entrepreneurs when approaching a CVC investor, as well as the internal mechanisms used by CV units to preserve their resources and support in critical periods that put financial constraints on all business activities.

1.2. Research approach and main findings

Both the perspective of entrepreneurs and their corporate partners are studied in more detail in the main body of this dissertation. In three separate essays, it explores the strategies of entrepreneurs and CV units when navigating the challenges of corporate venturing. The first essay strives to shed light on the trade-off of pros and cons when considering a CVC investment as an entrepreneur and analyzes the moderating effect of different types of experience. The second essay constitutes an extension of the first essay but focuses on the preference for CVC compared to IVC and entrepreneurs' long-term thinking regarding different exit options. In essay three, the perspective shifts to the parent corporation and its internal CV unit. It qualitatively analyzes how CV units adapt to major environmental changes that question their internal legitimacy. All three essays build on primary data. For the first two essays, data was collected in a survey of German entrepreneurs and analyzed quantitatively. In the third essay, we build on qualitative data from interviews with CV managers. Using primary data in all essays allows for deeper and more specific insights into the expectations, considerations, and actions of entrepreneurs and CV managers alike. Table 1-1 provides a short overview of all three essays.

Essay I is concerned with the entrepreneurs' consideration of potential CVC investors. The study thereby draws on the diversity within the group of CVC funds (Röhm et al., 2018). CVC fund configurations vary in terms of the prioritization of strategic and financial motives, as well as their organizational structures that facilitate resource transfer (Gutmann, 2019; Röhm et al., 2018; Souitaris & Zerbinati, 2014). This allows us to examine how a CVC fund's configuration affects its attractiveness to entrepreneurs. A conjoint experiment was conducted, in which 1,680 investor profiles were evaluated by 105 entrepreneurs. The metric conjoint experiment quantitatively assesses entrepreneurs' trade-offs before approaching a CVC investor. The methodology requires participants to evaluate imaginary decision profiles that consist of distinct decision attributes, each with varying levels. This experimental design is ideal for analyzing complex decision-making as it allows for the decomposition of participants' evaluations, shedding light on the relative weight of each attribute and differences in their assessments (see, for example, Chiambaretto et al., 2020; Van Gils & Zwart, 2009). Conjoint analysis has been broadly used in entrepreneurial finance to evaluate the investment criteria of VC investors (e.g., Franke et al., 2006; Shepherd et al., 2003) and first studies have focused on

Table 1-1: Essay overview

	Essay I	Essay II	Essay III
Title	*Between benefit and risk: how entrepreneurs evaluate corporate investors*	*Entrepreneurs' preference for Corporate Venture Capital – The influence of exit strategies and resource requirements*	*Corporate Venturing in times of crisis: securing resources through legitimacy*
Research question	How do CVC investors' characteristics influence the decision of entrepreneurs to strive for a CVC investment? And what role does the entrepreneur's prior experience and the venture's resource needs play in this decision?	What shapes the entrepreneurs' preference for CVC investors relative to IVC investors?	How do CV units strive to secure internal resources in times of crisis?
Data	Primary data from a survey with 105 entrepreneurs evaluating 1680 investor profiles	Primary data from a survey with 105 entrepreneurs	Interviews with 17 CV unit managers one year after the start of the COVID-19 crisis
Methodology	Conjoint study; hierarchical linear modeling	Logistic regression	Qualitative study with 16 CV units; abductive approach
Main results	Entrepreneurs consider the investor's motivation, deal experience, access to firm-specific resources, and long-term financial commitment of funds. However, entrepreneurs' evaluation differs depending on their need for specific resources, as well as their fundraising experience.	Our findings confirm that the venture's resource needs–specifically the need for marketing resources and access to the corporate network–play a significant role in the decision on whether a CVC or IVC investor is preferred. Moreover, the analysis debunks the hypothesis that entrepreneurs view a CVC investment as the first step towards acquisition. However, those entrepreneurs striving for an IPO are less likely to prefer CVC.	The findings show that an external crisis can unsettle a CV unit's internal legitimacy. In the adaption processes observed, three different legitimacy-seeking mechanisms were observed–sensing, focusing, and mobilizing–that were used by the CV units to secure resources, support, and goodwill from relevant internal stakeholders. The strategies used are affected by the perceived organizational distress caused by the crisis as well as the CV unit's pre-crisis legitimacy.
Key contribution	The study highlights the entrepreneurs' anticipatory trade-off decisions in the light of resource dependence and help CVC managers to optimize their communication and management efforts to attract the most suitable portfolio companies.	The study expands the literature on CVC attractiveness and specifically considers the entrepreneurs' intentions and needs. The results confirm but also debunk some widespread perceptions about why entrepreneurs choose to pursue financing from a CVC investor.	Drawing on the critical role played by legitimacy in resource allocation decisions, this study allows us to better understand theoretically and practically how CV is embedded in organizational settings and how CV units can preserve internal (financial) resources.

assessing the decision-making criteria of entrepreneurs during investor selection (Drover, Wood, & Fassin, 2014; Valliere & Peterson, 2007). Espoused data from classical surveys is associated with problems of introspection inaccuracy, and experimental methods such as metric conjoint experiments may be more effective in revealing the entrepreneurs' preference structures (Valliere & Peterson, 2007). A complementary questionnaire captured the nuances of how entrepreneur- and venture-specific characteristics influence their decision to pursue a specific CVC investment. The study builds on a hypothetical investment scenario in the early stage of the fundraising process when entrepreneurs spend considerable time and effort to evaluate potential investors (De Clercq et al., 2006; Hallen & Eisenhardt, 2012). The findings demonstrate that the most important attribute is the investor's financial commitment to satisfy the venture's need for financing in current and future rounds. The results also unveil that entrepreneurs perceive a CVC investor's strategic motivation as a positive signal. It thus contributes to the long-lasting debate in the CVC literature about whether strategic motivation is a benefit or drawback in the eyes of entrepreneurs (Katila et al., 2008; Röhm et al., 2018; Zahra & Allen, 2007) and provides insights into the trade-offs involved when evaluating a potential CVC investor. The study also reinforces the importance of entrepreneurs' fundraising experience as a specific type of experience (for example, Valliere & Peterson, 2007) and evaluates the role of previous CVC financing in the fundraising process. The study, thus, highlights the anticipatory considerations that take place even before an investor is approached and the significant influence of the CVC investor's long-term financial commitment and provided access to firm-specific resources on the entrepreneur's decision-making.

Essay II shifts the focus to the question of what makes entrepreneurs prefer CVC over IVC. The information to answer this question was gathered in an online survey capturing information about various venture characteristics and investor preferences from entrepreneurs. The survey was part of the post-experimental questionnaire attached to the conjoint survey from essay I.

Around 30% of the respondents found CVC more attractive than IVC. This finding was used as a dummy variable in a logistic regression to identify the factors that make CVC preferable over IVC. The study identifies two key aspects relevant during the evaluation of CVC financing: the venture's resource needs (e.g., Dushnitsky & Lavie, 2010; Katila et al., 2008; Maula et al., 2009; Zu Knyphausen-Aufseß, 2005) and the entrepreneurs‘ exit intentions (DeTienne et al., 2015; Hohen & Schweizer, 2021). It finds that the venture's resource needs, particularly the requirement for marketing resources and access to the corporate network, significantly influence the consideration of CVC and IVC investors. Additionally, the analysis refutes the notion that entrepreneurs view CVC investments as a precursor to acquisition. Yet, entrepreneurs aiming for an IPO are less likely to prefer CVC. The results thus add to the findings of essay I and existing literature on CVC attractiveness (e.g., Colombo & Shafi, 2016; Katila et al., 2008). The study thereby refines the notion that CVC investors provide complementary resources that add value to ventures beyond what IVC investors can offer. Additionally, it demonstrates that the entrepreneur's exit intentions influence not only the final exit path but also the attractiveness of investors.

The third essay concerns itself with mechanisms used by CV units to secure internal resources and goodwill in times of crisis. We conducted a qualitative study investigating how corporate venturing units responded to the COVID-19 crisis. This crisis provided an excellent research setting as it significantly restricted the business activities of many corporations, raising questions about necessary spending to secure survival and recovery. Through interviews with 18 CV unit managers during the spring of 2021, we captured the immediate adaptation processes and changes that occurred throughout the first year of the crisis and observed the strategies used by CV managers to adapt to the changing internal and external circumstances quickly. The results demonstrate the effect of environmental changes on business activities and highlight their impact on CV over time. Following an abductive approach, we found that the legitimacy perspective commonly used to explain how new ventures can attract resources (e.g., Fisher et al., 2017) also provides a refined understanding of how CV units secure internal resources and support. The interviews demonstrated that an external crisis can unsettle a CV unit's internal legitimacy and lead to the use of different strategies to secure resources, support, and goodwill from relevant internal stakeholders. The level of adaptation during the crisis depended on the perceived organizational distress caused by the crisis and the CV unit's pre-crisis legitimacy. We thus add to recent papers that have taken up a legitimacy perspective in closely related fields such as corporate entrepreneurship (CE) (Göcke et al., 2022) or strategic venturing (Reihlen et al., 2021). By conceptualizing adaptation processes as legitimacy-seeking behavior, we better understand how CV is embedded in organizational settings and how these initiatives can preserve internal resources. We identify three new legitimacy-seeking mechanisms that emerge as a response to the crisis: sensing, focusing, and mobilizing. These mechanisms differ from previously studied strategies, emphasizing the dynamic nature of legitimation efforts. In light of the crisis, established practices are questioned or rejected in anticipation of the adjusted expectations of internal stakeholders.

The remainder of this dissertation is dedicated to the three essays and rounded off with a conclusion section. Section 2 contains essay I, which focuses on what makes a CVC investor an attractive investment option. The essay as printed on the following pages is published in the *Journal of Business Economics*. Section 3 comprises essay II which investigates the entrepreneurs' preference for CVC in contrast to IVC. The essay is published in the *Journal of Small Business and Enterprise Development*. The last essay (III) on CV in times of crisis and legitimacy-seeking mechanisms is depicted in section 4. It is currently in the revise and resubmit process at the *Review of Managerial Science*. The concluding section 5 entails a summary of results and an outlook on future research. Essays I and III come with supplementary material that can be found in the appendix section at the end of this dissertation.

2. Essay I | Between benefit and risk: how entrepreneurs evaluate corporate investors

Abstract

Start-up growth is inevitably dependent on the provision of external resources. Yet, even though corporate venture capital could be an attractive funding source as it provides financial as well as crucial additional resources, corporate venture capitalists (CVCs) are seen as a two-sided sword by entrepreneurs. We, therefore, investigate entrepreneurs' consideration of potential CVC investors and conceptualize a model of their willingness to approach a CVC investor. Using a conjoint experiment with 1680 investor profiles evaluated by 105 entrepreneurs, we show that entrepreneurs consider the investor's motivation, deal experience, access to firm-specific resources, and long-term financial commitment of funds. However, entrepreneurs' evaluation differs depending on their need for specific resources, as well as their fundraising experience. We thereby highlight entrepreneurs' anticipatory trade-off decisions in the light of resource dependence and help CVC managers to optimize their communication and management efforts to attract the most suitable portfolio companies.

Keywords: Corporate venture capital · Investor attractiveness · Entrepreneurial decision-making · Resource need · Entrepreneurial experience · Conjoint analysis

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2.1. Introduction

Financing is a critical success factor for high-growth ventures (Cassar, 2004). The most widely discussed financing type for high-growth ventures is equity financing through venture capital (VC). Over the last few years, the market for venture capital has been steadily growing. 2021 has been a record year with 34,647 venture deals and $621 billion of venture funding (CB Insights, 2022b). Corporate venture capital (CVC) investors have seen an especially high growth rate with the number of globally active corporate investors tripling between 2011 and 2016 (Himler, 2017). CVC funds invest direct equity from incumbent firms into privately held start-ups (Dushnitsky & Lenox, 2006). It is the second largest source of equity funding for entrepreneurs (Dushnitsky & Lavie, 2010). Average CVC deal sizes have increased to a record high of $46 million in 2021 (CB Insights, 2022a) and CVC investors have become more and more active in early-stage financing, with now more than half of CVC-backed deals being in early-stage ventures (CB Insights, 2022a). Thus, CVC financing has become a viable financing option in the mind of entrepreneurs seeking equity capital (Alvarez-Garrido & Dushnitsky, 2016; Ivanov & Xie, 2010; Schröder, 2021).

With more and more equity financing and investors in the market, entrepreneurs' decision-making scope during the fundraising process has increased. In Germany (the country of study) alone, 789[1] active independent VC (IVC) and CVC investors are located with an office (Pitchbook, 2022). 102 of those are CVC investors (Pitchbook, 2022). Screening all potential investors and selecting the right ones to approach in the first place is a highly important process for entrepreneurs as their companies' future success is majorly affected by who invests and which financial and non-financial resources the investor can provide (Alperovych & Hübner, 2013; Colombo & Murtinu, 2017; H. D. Park & Steensma, 2012). This resource dependence lens (Pfeffer & Salancik, 1978) is especially relevant for young ventures with limited internal

[1] CVC and IVC investors with any office in Germany that closed a deal between 01/01/2019 and 12/31/2021.

resources that are dependent on attracting and absorbing external financial capital, know-how, social capital, and physical assets through the tie formation with investors (Bradley et al., 2011). According to resource dependence theory, CVC investors should be especially attractive as they are able to provide not only financial resources but also access to rich complementary resources such as production resources, technological knowledge, or sales channels (Gompers & Lerner, 2000b; Maula et al., 2005; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005). These corporate resources should provide CVC investors with superior access to deal flow (Keil et al., 2010). However, entrepreneurs have a less favorable view of CVC investors compared with other investor types (Bengtsson & Wang, 2010) and some CVC investors struggle to get the investments they want (Gompers, 2002; Katila et al., 2008; Santos & Eisenhardt, 2009). A possible reason for this is the controversy around CVC investors' strategic motivation that has led to Katila et al.'s metaphor of 'swimming with the sharks' (2008). CVC investors invest to generate a financial return but beyond strive to generate a strategic benefit for their parent corporation (Hellmann, 2002). This strategic benefit can, for example, take the form of learning about emerging technologies or new markets (Chesbrough, 2002; Dushnitsky & Lenox, 2005a, 2005b; Weiblen & Chesbrough, 2015). Yet, entrepreneurs might perceive this as a competing strategic interest and fear know-how misappropriation (Hellmann, 2002; Katila et al., 2008; Maula et al., 2009). Hence, having a CVC investor involved comes with specific benefits and risks for a young high-growth venture. The evaluation of these benefits and risks, however, is not the same for every entrepreneur. Despite CVC's prevalence, rising importance, and the decision's ambivalence, little research has examined the attractiveness of (CVC) investors from an entrepreneur's perspective (Simon et al., 2019). This study, therefore, investigates the research question of how CVC investors' characteristics influence the decision of entrepreneurs to strive for CVC investment and examines the influence of the entrepreneur's prior experience and the venture's resource needs in entrepreneurs' decision to approach a CVC investor for a potential investment. We thus follow a research stream that acknowledges the entrepreneurs' influential role in fundraising (Fairchild, 2011; Hallen & Eisenhardt, 2012; Katila et al., 2008; Maula et al., 2009).

The fact that there is a plurality of CVC strategies that are being pursued by corporations (Röhm, 2018) provides us with the opportunity to assess how the configuration of a CVC unit shapes its attractiveness for entrepreneurs. Key differences in their configuration include differing prioritization of strategic and financial motives as well as different organizational structures that facilitate resource transfer (Gutmann, 2019; Röhm, 2018; Souitaris & Zerbinati, 2014). To answer the research question, we thus use the fictive setting of a conjoint experiment in which 1,680 investor profiles are evaluated by 105 entrepreneurs. An accompanying questionnaire allows us additionally to capture the nuances of how entrepreneur- and venture-specific characteristics influence an entrepreneur's decision to strive for a specific CVC investment. Therefore, we first conceptualize the venture capital investment setting in the early stage of the fundraising process when entrepreneurs invest considerable time and effort in evaluating potential investors (De Clercq et al., 2006; Hallen & Eisenhardt, 2012). We evaluate how investor attributes are weighted against each other. In particular, we analyze the role of a venture's need for resources to compensate for the risk associated with a CVC investor (Katila et al., 2008). We further argue that the entrepreneur's evaluation of a CVC investor is contingent on his/her prior fundraising (e.g., Valliere & Peterson, 2007) and CVC financing experience.

We find that although it is described as a double-edged sword, entrepreneurs perceive a CVC investor's strategic motivation as a positive signal, and by showing this we contribute to a long-lasting debate in the CVC literature (Katila et al., 2008; Röhm et al., 2018; Zahra & Allen, 2007). The only attribute that is more important is the investor's financial commitment of funds to satisfy the venture's need for financing in current and future rounds. CVC investors can learn from these results that presenting themselves as strategically motivated investors is not a disadvantage in the eyes of entrepreneurs. However, and even more important when communicating with experienced entrepreneurs, the long-term financial commitment of the CVC fund is key to being perceived as an attractive investment partner. On a theoretical level, the study adds to the rarely researched topic of entrepreneurial decision-making in venture capital financing and provides insights into the trade-offs involved when evaluating a potential CVC investor. Following the resource dependence lens, the study surfaces anticipatory considerations that take place even before tie formation. Entrepreneurs' perceived resource dependence throughout their venture's lifecycle is anticipated by them and informs their decision-making when raising funds from CVC investors. Both the CVC investor's long-term financial commitment, as well as the provided access to the CVC investor's firm-specific resources, and the resources entrepreneurs perceive as a high necessity for their venture have a significant influence on the entrepreneur's decision-making. Further, focusing on the impact of entrepreneurs' experiences, we reinforce the importance of entrepreneurs' fundraising experience as a specific type of experience (for example, Valliere & Peterson, 2007). Moreover, we open up the discussion on more specific types of experiences relevant to the fundraising process by evaluating the role of previous CVC financing.

2.2. Theoretical background

Research on investment decisions has a long tradition. For both, investors and prospective investees, the investment decisions lays the foundation for the future development of their investment or their company, respectively (Baum & Silverman, 2004; Granz et al., 2021; Röhm et al., 2018). Picking winners among young ventures (Baum & Silverman, 2004) but also picking the right investor (Saetre, 2003) is a challenging assessment process. In the following, we will focus on the particularities of the entrepreneurs' assessment of CVC investors.

2.2.1. CVC through the resource-dependency lens

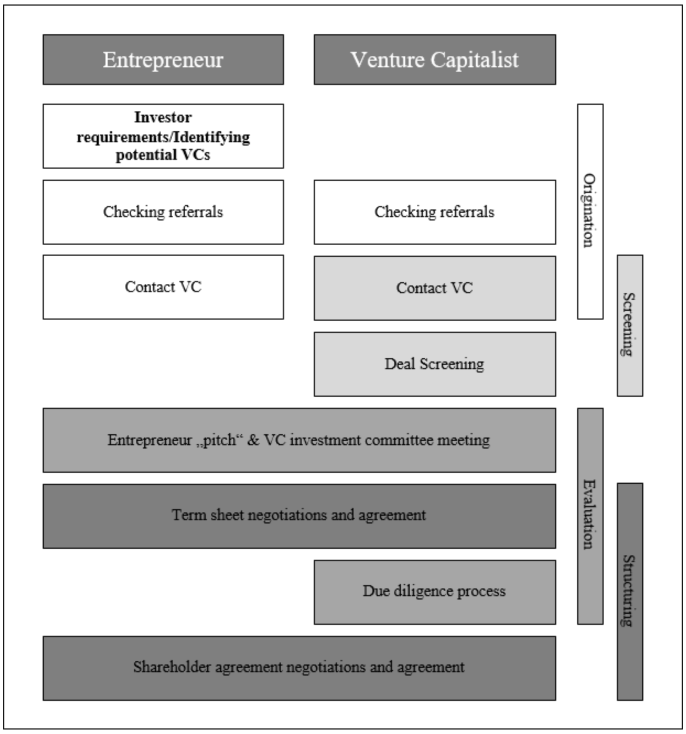
Entering into a CVC investment relationship for both involved organizations, for the venture and the CVC parent organization, emerges from a need for external resources that are difficult to achieve by themselves – such as financial capital, network, or know-how – but are important for the survival of the company (Hillman et al., 2009). This resource dependency lens has first been established by Pfeffer and Salancik (1978) and has been brought forward in CVC literature before (e.g., Hallen et al., 2014). Young firms by nature face internal resource constraints and largely depend on accessing external resources through investors or partnerships (Dollinger, 2008). Thus, their success largely depends on selecting and establishing the right contacts that can provide the needed resources (Granz et al., 2021). CVC investors on the other hand strive to expand their corporate parent's innovation capabilities through investments in innovative young firms and gain a 'window on their technology' (Benson & Ziedonis, 2009). Through the lens of resource dependence theory, CVC investors are particularly suited investors as they can make corporate resources available to their portfolio ventures beyond financial resources, which are especially difficult to build and highly valuable to their portfolio ventures (i.e., Chesbrough, 2002; Hellmann, 2002; Katila et al., 2008; Keil et al., 2010; Maula et al., 2009; H. D. Park & Steensma, 2012). Examples of these complementary resources include access to manufacturing capacities, sales and distribution channels, existing technologies, or market expertise (Dushnitsky & Lenox, 2005a, 2006; Dushnitsky & Shaver, 2009; Ivanov & Xie, 2010; Katila et al., 2008; Maula, 2001; Souitaris & Zerbinati, 2014). The CVC unit, however, is also dependent on the internal resources of the larger organization. Inspired by the success of IVC firms, corporations started to set up CVC units with financial and/or strategic goals in mind (Souitaris & Zerbinati, 2014). They vary in their strength of organizational ties to their parent company and their internal organizational structures, but they all face the dependence on their corporate parent to provide the capital for investments as the sole limited partner in their investment vehicle (Souitaris & Zerbinati, 2014). To ensure the continuity of the CVC unit, investors thus focus on generating a financial return and contributing to the corporate parent's strategic goals (Dushnitsky & Lenox, 2006). These strategic goals, however, might translate into the risk of misappropriation of a firm's proprietary technology for the venture (Katila et al., 2008). We, therefore, argue that selecting the right investor to approach is in the case of CVC a process of trading-off potential gains against potential risks. This trade-off process however is influenced by the entrepreneur's stock of experience and the venture's dependence on CVC resources.

To develop testable hypotheses, we will in the following delve into before mentioned aspects and hypothesize how CVC characteristics alongside venture and entrepreneur characteristics influence the entrepreneurs' evaluation of a potential CVC investor.

2.2.2. Entrepreneurs evaluating investors

Entrepreneurs' influential role in fundraising is widely acknowledged (Cumming & Dai, 2013; Fairchild, 2011; Hallen & Eisenhardt, 2012; Katila et al., 2008; Maula et al., 2009). To gain access to not only the needed financial resources but also networks or physical resources needed for their firms to succeed, entrepreneurs face the challenge of screening and selecting the right investor (Saetre, 2003). Yet, research on entrepreneurial investor selection criteria is scarce compared with the abundant literature on how investors evaluate entrepreneurs and their ventures (i.e., Franke et al., 2006, 2008; Petty & Gruber, 2011; Shepherd et al., 2003; Shepherd & Zacharakis, 2001). Few studies have investigated VC investments from an entrepreneur's perspective (e.g., Drover, Wood, & Payne, 2014). However, both the entrepreneur and the VC investor are also actively involved in deal origination, screening, evaluation, and structuring in the pre-investment stage (De Clercq et al., 2006), as shown in Figure 2-1. Although the VC investor is the main decision-maker in the deal screening and deal evaluation, deal origination is a joint effort (Shane & Cable, 2002). This is when the entrepreneurs' requirements for a potential investor and their preconceptions come into play. In contrast to other studies that have looked at the evaluation of investors by entrepreneurs ex-post (Bengtsson & Wang, 2010; Zheng, 2011) or have focused on deal terms (Smith, 2001; Valliere & Peterson, 2007), we focus on the deal origination stage, when the entrepreneurs have no information about contract terms and they have to decide which investors are worth approaching for a potential investment including the timing and the amount asked for (Hallen & Eisenhardt, 2012).

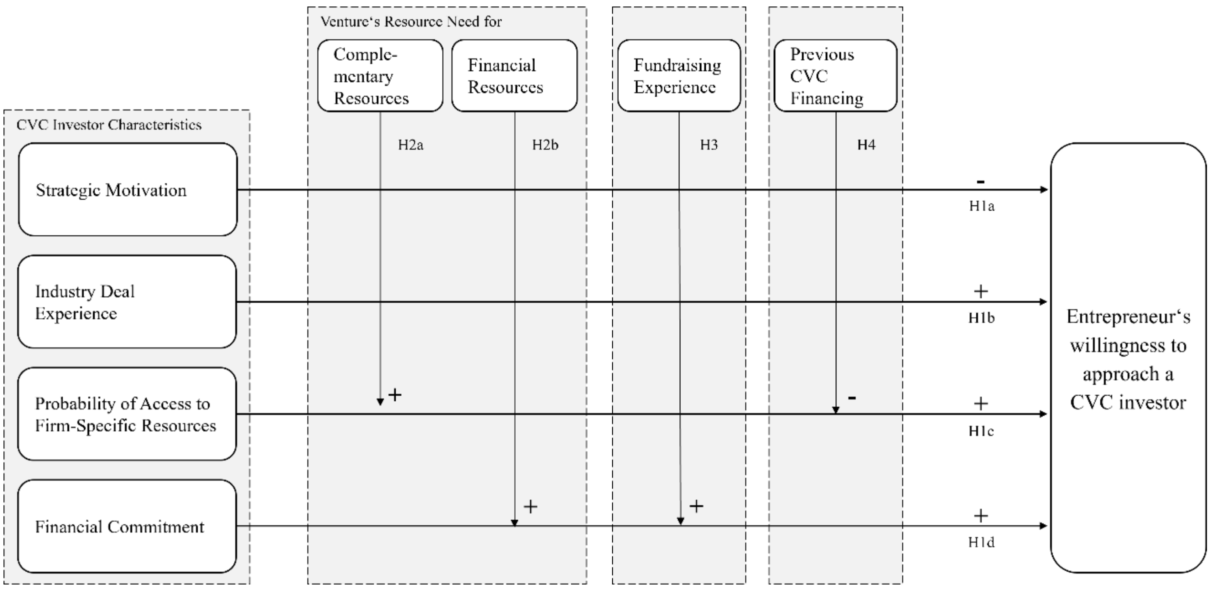
Figure 2-1: Pre-investment stages (Source: De Clercq et al., 2006)



2.2.3. Investor attributes affecting the willingness to approach a CVC investor

Our conceptual framework of an entrepreneur's willingness to approach a CVC investor (Figure 2-2) draws on research on investor attributes, especially the literature on CVC investors. Building on the relevant evaluation criteria before starting the negotiation proposed by Smith (2001) as well as the CVC context-specific attribute of strategic versus financial motivation (Röhm et al., 2018), the model includes four major CVC investor attributes: (1) strategic motivation, (2) industry deal experience, (3) access to firm-specific resources, and (4) financial commitment. These four attributes also shed light on the two main controversial topics around CVC investments, namely, financial and resource-related motives. While the financial commitment is linked to an entrepreneur's financial motives, the strategic versus financial motivation of the CVC investor relates to both the entrepreneur's resources and his/her financial motives. It thus offers a strong signal of the rating and interdependence of these motives. Industry deal experience, which is in line with Smith's (2001) VC investor attributes, has high non-financial value to entrepreneurs (Hsu, 2004). Meanwhile, access to firm-specific resources, which is linked to CVC investors' (strategic) motivation, is the strongest resource-related attribute. In our analysis, we control for the relative importance of these investor attributes in the context of CVC investments. Moreover, they serve as a basis for assessing the influence of venture characteristics and entrepreneurial experience on their importance.

Figure 2-2: A model of investor characteristics, founder experience, a venture‘s resource need, and entrepreneurs‘ willingness to approach a CVC investor



Strategic motivation

CVC units have been established by incumbents for different reasons (e.g., Maula et al., 2005). Yet, the most prominent reasons are to gain a 'window on technology' (Chesbrough, 2002) and seek synergies with their core business (Hellmann, 2002). These are often called 'strategic investors.' However, CVC investors differ in their investment motivation, which can have varying degrees of financial and strategic orientation (Röhm et al., 2018). Meanwhile, ventures also differ in their degree of strategic and financial motives when seeking CVC investment (Maula, 2007). From the venture's perspective, a stronger strategic motivation implies a higher risk of knowledge misappropriation (Katila et al., 2008) as well as a higher chance of transferring knowledge and providing related resources (Zahra & Allen, 2007). Additionally, highly strategically motivated CVC investors arrive at lower start-up valuations (Röhm et al., 2018). Thus, strategic investors seem to be less attractive to entrepreneurs in financial terms, as the latter are naturally interested in a high valuation. Yet, Ivanov and Xie (2010) show that the strategic fit between the CVC investor and venture leads to higher IPO and acquisition valuations in the long run. Hence, the evidence on the positive or negative influence of the strategic motivation of a CVC investor for the financed company is contradictory. As this study focuses on the financing decision, we hypothesize that the risk of know-how misappropriation and the possibility of lower valuations that come with highly strategic CVC investors dominate the entrepreneurs' decision to seek an investment from a CVC investor.

> **Hypothesis 1a (Baseline):** *There is a negative effect of a CVC investor's strategic motivation on the entrepreneurs' willingness to approach a CVC investor.*

Industry deal experience

One of the main criteria when choosing investors is their ability to add value beyond the mere financial investment (Smith, 2001). Investors contribute to a start-up's business development in different ways such as assisting in recruiting, raising additional funding (Gorman & Sahlman, 1989; Hellmann & Puri, 2002), and developing commercialization strategies (Hsu, 2006). High industry deal experience leads to a three times higher acceptance rate of VC offers, and entrepreneurs are willing to accept a lower valuation to be associated with more reputable VC investors (Hsu, 2004). The investor's ability to provide useful and relevant advice (expertise, connections, network ties) to a start-up is affected by its industry specialization (for example, biotech vs. software industry) and the underlying investment challenges (Lee et al., 2011). Knowing how to deal with unproven technologies and diverse business models accumulates with investment experience (Yang et al., 2009). We argue that for CVC investors the attribution of competence based on the industry focus and the deal experience is a highly important factor as they have to reach legitimacy in the eyes of the entrepreneurs.

> **Hypothesis 1b (Baseline):** *There is a positive effect of a CVC investor's industry-deal experience on the entrepreneurs' willingness to approach a CVC investor.*

Access to firm-specific resources

CVC investors might also add value by providing access to firm-specific resources such as production capacities, sales channels, and internal market expertise (Chesbrough, 2002; Gompers & Lerner, 2000b; Maula et al., 2005; H. D. Park & Steensma, 2012). Access to these resources is a major differentiator between IVC and CVC investors. Sapienza (1992) shows that entrepreneurs are willing to trade off a lower valuation for value added. Yet, the promised access to resources often does not materialize (Pahnke et al., 2015; Weber et al., 2016) and, thus, the mere strategic orientation of a CVC investor is a weak indicator of resource access. As an entrepreneur does not know this beforehand, indirect reputational effects become important. Entrepreneurs might learn about the behavior of a CVC investor from other entrepreneurs and third parties such as lawyers (Broughman, 2009). If the firm behind the CVC unit has a reputation for making it difficult to profit from its experience-based knowledge and resources, attractiveness decreases because this is a major positive differentiator for CVC investors. Therefore, a reputation for the reliable provision of promised resources is crucial for forming trust in potential CVC investors.

Hypothesis 1c (Baseline): *There is a positive effect of the probability to access a CVC investor's firm-specific resources on the entrepreneurs' willingness to approach a CVC investor.*

Financial commitment

When entrepreneurs seek an investor, they need financial resources to grow their business. Therefore, they look at the financial capital available from an investor (Katila et al., 2008). Yet, because of the common VC practice of staging investments (Gompers, 1995), the engagement of an investor in upcoming financing rounds is also relevant. Forecasting behavior is therefore a crucial element of fundraising, especially in the deal origination stage when potential valuations cannot be foreseen, but the investor's financial resource commitment serves as a signal for entrepreneurs (Wadhwa & Basu, 2013). With CVC investors, entrepreneurs face the danger that firms might unpredictably abandon their CVC activities in the future. Top management support for these activities might change following market trends or changes in cash flow (Zahra & Allen, 2007; Zu Knyphausen-Aufseß, 2005). In addition to losing the financial options of a follow-on investment, the danger of CVC program abandonment is closely linked to the loss of opportunities to establish alliances (Zahra & Allen, 2007). Therefore, signals of continuous engagement in investments are needed. For a CVC investor, the financial resources dedicated to the investment fund can be a sign of long-term commitment and cooperation (Wadhwa & Basu, 2013). Therefore, the financial commitment to a CVC unit acts as an indicator of future financing options and long-term thinking, and this attracts entrepreneurs.

Hypothesis 1d (Baseline): *There is a positive effect of the CVC investor's financial commitment on the entrepreneurs' willingness to approach a CVC investor.*

2.2.4. Venture characteristics

Start-ups highly differ in terms of the products and/or services they offer, the industry segment in which they operate, and their current growth stage. All these factors influence their fundraising options and preferences for different investors. We draw on the widely established role of a venture's need for resources as the basis for our analysis.

Resource need

While access to financial resources is the primary reason for approaching investors, it is not the only relevant criterion (Hellmann & Puri, 2002; Katila et al., 2008; Sapienza, 1992). As previously stated, a major distinction of CVC investors is the availability of valuable complementary resources (Gompers & Lerner, 2000b; Maula et al., 2005; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005). They offer a possibility of value-added beyond that which traditional VC investors can provide. Additional resources beyond financing are highly beneficial for assisting the growth of a portfolio firm (Drover, Wood, & Fassin, 2014). Which CVC contribution is most relevant for new ventures is somewhat unclear (Zu Knyphausen-Aufseß, 2005). However, ventures profit most if there is a fit between the resources required and what the CVC investor can offer. For example, only ventures requiring FDA approval benefit from the corporate regulatory know-how of CVC investors (Alvarez-Garrido & Dushnitsky, 2016). Additionally, IPO valuations are higher when asset and operation complementarities exist between the venture and its CVC investor (Ivanov & Xie, 2010).

In line with the resource-dependency theory (Pfeffer & Salancik, 1978), we consequently argue that when the venture has a high need for resources that could be provided by a CVC investor, the potential upside of a partnership increases. Consequently, this counterbalances the perceived risk and uncertainty associated with CVC investment. We expect a venture's higher need for complementary resources to increase the ascribed importance of access to a firm's proprietary resources. Similarly, we expect ventures with a high need for financial resources to put a higher importance on the financial commitment of a CVC investor. These two arguments serve to analyze the cross-level effects of ventures' resource needs.

> **Hypothesis 2a:** *The positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor is stronger when the venture's need for complementary resources is high than when it is low.*
>
> **Hypothesis 2b:** *The positive relationship between the CVC investor's financial commitment and the entrepreneurs' willingness to approach a CVC investor is stronger when the venture's need for financial resources is high than when it is low.*

2.2.5. Entrepreneurs' preferences and experiences

Besides venture characteristics, the entrepreneur's predetermined belief to profit from a CVC investor plays an important role in the decision to approach a CVC investor in the next fundraising round. Bottazzi et al. (2016) show that investment decisions in the VC industry are affected by a generalized trust which encompasses generalizations, stereotypes, and cursory beliefs toward an identifiable group rather than specific people or institutions. The entrepreneur's beliefs can be based on caveats toward or experiences with other (CVC) investors in former negotiations or financing rounds (Bengtsson & Wang, 2010). To assess the origins of entrepreneurial beliefs about CVC investors, we consider different entrepreneurial characteristics.

The influence of fundraising experience

An entrepreneur's experience has well-documented effects on venture performance. Founding experience serves as a positive signal to investors, as it not only increases the likelihood of receiving funding but also raises the venture's valuation (Hsu, 2007). Additionally, entrepreneurial experience affects the entrepreneur's opportunity recognition and exploitation

(Reuber & Fischer, 1999; Schmidt & Heidenreich, 2018; Westhead et al., 2005). We focus on the entrepreneur's fundraising experience, defined as his/her overall experience in attracting capital and negotiating with potential investors. Earlier studies found that fundraising experience influences the way entrepreneurs generally select their investors (Bengtsson & Wang, 2010; Smith, 2001; Valliere & Peterson, 2007; Zheng, 2011). Based on the interaction with investors, entrepreneurs learn and adjust their decision criteria. Further, the higher the number of past encounters between entrepreneurs and VC investors, the less favorable are the views of the former (Bengtsson & Wang, 2010). This general shift in the view of entrepreneurs is attributed to a shift from being optimistic about the value-added of an investor to being more skeptical about investors' promises. Uncertainty about whether the promised resource transfer will materialize is another factor (Henderson & Leleux, 2005; Pahnke et al., 2015). We reason that in the investor selection process, more experienced entrepreneurs focus on hard facts and the financial resources provided in the long term.

> **Hypothesis 3**: *The positive relationship between a CVC investor's financial commitment and the entrepreneur's willingness to approach a CVC investor is stronger when the entrepreneur's fundraising experience is high than when it is low.*

The influence of existing CVC financing

An existing investment by a CVC investor in the entrepreneur's venture can confirm or refute the latter's expectations. Bengtsson and Wang (2010) show that entrepreneurs evaluate those VC investors they have worked with more favorably than others. We assume two scenarios to deduce the consequences for an entrepreneur's willingness to approach a CVC investor in an upcoming fundraising round. In a positive scenario, the entrepreneur's expectations were fulfilled, and the venture was able to profit from the firm's resources. As a result, the entrepreneur satisfied the need for non-financial resources and thus looks for a mainly financial investment. This line of argumentation follows observations from syndication networks in which CVC investors can gain central positions through the uniqueness of their resources (Keil et al., 2010). If there is already a CVC investor involved in a start-up, the uniqueness of non-financial resources from another CVC investor might be reduced in the entrepreneur's eyes. Arguably the competition between a potentially new and an existing CVC investor also comes into play in this scenario. The existing investor's openness to share non-financial resources with the portfolio company might diminish if entrepreneurs attempt to tap into the non-financial resources of a second CVC investor. Similar to how a CVC investor's syndication activity is influenced by the information exchange paradox (Anokhin et al., 2011), entrepreneurs might refrain from creating conflicts through competing resource provisions. In a negative scenario, the entrepreneur was hoping to profit more from the CVC investment than the venture did and his/her expectations were shattered (Henderson & Leleux, 2005; Pahnke et al., 2015). As a result, the entrepreneur might assign less value to a CVC investor's non-financial resources. Overall, we expect the entrepreneur's focus to shift toward the mere financial contribution to the venture.

> **Hypothesis 4**: *The positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor is weaker for ventures with previous CVC financing than without.*

2.3. Data and method

In line with calls to quantitatively assess the trade-offs entrepreneurs face when heading into a relationship with a corporation (Simon et al., 2019), we observed the decision-making processes of entrepreneurs before approaching potential investors using a metric conjoint experiment. In conjoint experiments, participants evaluate a series of hypothetical decision profiles that each consist of multiple decision attributes. The attributes are distinct and vary in their attribute levels. This type of experiment design is particularly suitable to analyze complex decision-making because participants' evaluation of the profiles can be decomposed (see, for example, Chiambaretto et al., 2020; Van Gils & Zwart, 2009). Therefore, it sheds light on the relative importance of each attribute and the differences among participants' evaluations.

Conjoint analysis, which originally stems from marketing research, has been widely employed in entrepreneurial finance to assess the relative importance of the investment criteria of VC investors (e.g., Franke et al., 2006; Shepherd et al., 2003). First studies have evaluated the decision-making criteria of entrepreneurs during investor selection (Drover, Wood, & Fassin, 2014; Valliere & Peterson, 2007). Valliere and Peterson (2007) show that relying on espoused data from classical surveys yields misleading results due to introspection inaccuracy. Therefore, some researchers call for the greater application of experimental methods to reveal the preference structures of entrepreneurs (Kraus et al., 2016).

2.3.1. Research design

Our research design followed other well-regarded conjoint studies in entrepreneurship (Behrens & Patzelt, 2016; Drover, Wood, & Fassin, 2014; Murnieks et al., 2016; Shepherd et al., 2019; Warnick et al., 2018). We used a web-based tool to collect the answers from respondents. In our online survey, participants were given a hypothetical scenario that their next financing round is coming up. In the scenario, they are aware of various potential CVC investors for the upcoming financing round and then need to make a judgment on how likely they would be to approach the described CVC investors for an investment (see Table A-1 in the appendix). Each investor profile consisted of four distinct attributes with two predetermined levels each (see Table A-2 in the appendix). The participants were asked to make their best judgments based on the information available and to assume that number of financial resources needed for the upcoming round of financing could be covered by all the investors presented.

The survey was designed as a full factorial design including all possible attribute combinations. Each of the attributes varied on two levels (high and low), which resulted in 2^4 distinct profiles. To test for reliability, we included two repeat profiles. We showed one typical investor profile before the decision task started as an example for the participants (see Figure A-1 in the appendix). In total, each participant had to evaluate 18 profiles. Although there is a learning effect when evaluating profiles, respondent fatigue is a critical issue in conjoint designs (Reibstein et al., 1988). With 18 profiles to evaluate, our survey is in line with studies that have shown robust results (for example, Franke et al., 2006; Shepherd et al., 2019; Warnick et al., 2018). To further address the issue of ordering effects, we had four versions of the survey, changing the order of attributes and profiles displayed. The participants were randomly assigned to one of the four profiles. Moderating effects and control variables were captured through a post-experiment questionnaire.

Before the start of the survey, we conducted qualitative interviews with entrepreneurs and a pilot test. The in-person interviews involved four entrepreneurs who were purposefully selected to incorporate both entrepreneurs with and without CVC affiliation, from different industries, with different academic backgrounds, and in different start-up stages. The entrepreneurs reported how they typically approach a new fundraising round. For all of them, this involves a list of investors generated through prior contact or network recommendations. Based on individual criteria, they rate the potential investors and decide whom to approach and in what order. To ensure face validity, we first openly asked for the criteria the entrepreneurs use to assess potential investors. Afterward, we presented the attributes we had planned to use in our study to validate the attributes used are relevant for their 'real-world' assessment of potential investors. All entrepreneurs expressed some reservations toward CVC investors. In particular, entrepreneurs with CVC experience highlighted the unpredictability of a CVC fund in terms of access to resources and variability in management support. In summary, the interviews confirmed the potential conflicts arising from CVC investment and provided justification for further investigating entrepreneurs' decision-making process. Furthermore, several research assistants experienced in the VC industry had been involved in a test run to check for technical problems and ensure the understanding of the questionnaire. Their feedback was incorporated into the final version of the online survey.

2.3.2. Participant recruitment and sample

Participants were start-up entrepreneurs involved in the fundraising decisions of their ventures. In our definition, entrepreneurs do not necessarily need to be founders but need to hold a C-level position in the start-up to influence the start-up's fundraising activity. Involvement in fundraising activity was confirmed at the beginning of the questionnaire. Because there is no comprehensive list of entrepreneurs available for Germany, we built on the complete sample of German entrepreneurs from Crunchbase and complemented it with additional hand-collected contacts of start-ups with VC funding or accelerator affiliation (as listed on websites of German VC funds and accelerators programs). In total 1537 entrepreneurs were contacted via email or LinkedIn, 187 responded to the survey, out of which 105 respondents completed the survey and fulfilled the control criteria. The relatively high drop-out rate during the survey can be attributed to the online conjoint experiment which is typically perceived as a demanding task (Reibstein et al., 1988). Ultimately, our study builds on this final sample of 105 valid respondents, who provided us with 1680 judgments of CVC investor profiles. Our sample represents a heterogeneous group of entrepreneurs comparable to the German start-up landscape, as depicted in the German Start-Up Monitor, an annual online survey of more than 1500 German start-ups (Kollmann et al., 2018) in terms of company age (3.9 years), number of employees (median 12 employees), industry (40 percent software industry), investors involved (18 percent CVC funded), and founder age (average 38 years).

The entrepreneurs in the sample were mainly active at the C-Level (75 percent), of which most were CEOs (56 percent), CFOs (13 percent), and CTOs (12 percent). On average, they considered themselves experienced fundraisers and rated their fundraising experience as 4.6 on a seven-point Likert scale. Only 12 percent of entrepreneurs in the sample had raised less than €100,000, whereas 20 percent had raised between €100,000 and €500,000 and 11 percent between €500,000 and €1 million. Most had raised €1– 5 million (37 percent), 8 percent €5–10 million, and 12 percent more than €10 million.

The median time taken to complete the survey was 13 minutes. Based on the two repeat profiles, we assessed the mean test/retest correlation as 0.772, which is in an acceptable range (e.g., Moser et al., 2017; Murnieks et al., 2016; Shepherd et al., 2019). For the subsequent analysis, we excluded the two repeat profiles, which leaves us with 16 profiles for the analysis.

2.3.3. Variables and measurements

To assess the factors influencing an entrepreneur's willingness to approach a CVC investor, we employed two levels of questions.

Level 1 – Assessment of an entrepreneur's willingness to approach a CVC investor

Each investor profile presented in the conjoint study consisted of the four attributes of (1) strategic motivation, (2) industry-specific deal experience, (3) access to firm-specific resources, and (4) financial commitment. Similar to other well-regarded conjoint studies (Behrens & Patzelt, 2016; Drover, Wood, & Fassin, 2014; Moser et al., 2017; Warnick et al., 2018) and consistent with cognitive psychology, attribute levels were described as being either 'high' or 'low' including an attribute description for each level. The descriptions of high versus low levels (see Table A-2 in the appendix), thus, cater to the entrepreneurs' perception of CVC investor characteristics and not objective numbers, which might be perceived differently by different entrepreneurs. The attributed levels were defined as extreme but plausible anchors of a continuum. Before evaluating the profiles, we showed participants a detailed description of each attribute and value (see Table A-2 in the appendix). Our dependent variable, namely, participants' rating of the likelihood of approaching the shown investor profile, was assessed based on the question "*How likely is it that you strive to obtain an investment from this CVC investor in your next fundraising round?*" We collected the answers on a seven-point Likert scale anchored by 1 = "*very unlikely*" and 7 = "*very likely*."

Level 2 – Assessment of participant-level variables

After the conjoint experiment, an additional questionnaire was presented to capture details about the participating entrepreneurs and their ventures, including the moderating variables of financial and complementary resource need as well as their experience. We assessed the *resource need of the venture* by drawing on the resource need dimensions defined by Katila et al. (2008): financial resource need, manufacturing resource need, and marketing resource need. As participants from our pilot survey mentioned it several times, we also added the need for network and technological expertise, as highlighted by Maula et al. (2005). Respondents rated their resource needs on a seven-point Likert scale: "*How important is access to the following resources for your business?*"(1 = "*highly unimportant*," 7 = "*highly important*"). In the analysis, we differentiated between the need for financial resources and complementary resources using the average evaluation of the different resource categories.

Additionally, they were asked to self-rate their fundraising experience on a seven-point Likert scale: "*How do you rate your experience in attracting external capital for your start-up?*" (1 = "*highly inexperienced*," 7 = "*highly experienced*"). The variable of CVC financing was collected by asking for several types of financing already used in their venture via checkboxes.

Controls

In the post-experiment questionnaire, we collected information about the venture and entrepreneur to control for confounding effects. In line with previous studies (Drover, Wood, & Fassin, 2014; Valliere & Peterson, 2007), the questions on start-up attributes encompassed industry, age, number of employees, existing forms of start-up financing, and total funds obtained. Moreover, we collected demographic data on sex, age, and position in the start-up.

To capture the underlying preferences of entrepreneurs for various forms of financing, we also asked them to rate the attractiveness of five financing options (public funding, crowdfunding, business angel investments, IVC, and CVC) on a seven-point Likert scale (1 = "*highly unattractive*," 7 = "*highly attractive*"). In the analysis, we used the stated attractiveness of CVC to control for the entrepreneur's general preference for CVC investors. The stated preference for CVC is especially relevant as Bengtsson and Wang (2010) when analyzing the favorability of different investor types from an entrepreneur's perspective, found that entrepreneurs hold a less favorable view toward CVC investors than toward IVC investors on average. Following the idea of 'swimming with the sharks' (Katila et al., 2008), we argue that entrepreneurs view CVC investments controversially. While some favor CVC investors, others have clear caveats and would rather refrain from CVC investment. Low generalized trust in CVC investors might explain these different preferences (see Bottazzi et al., 2016).

2.4. Analysis and results

We applied hierarchical linear modeling (HLM) in our analysis, which is suitable for the nested nature of conjoint data because it naturally models the relationship between the two levels and the potential heteroscedasticity of the data (Snijders & Bosker, 1999). Prior conjoint studies have proven this method to be robust for analyzing this type of model (Drover, Wood, & Fassin, 2014; Moser et al., 2017; Shepherd et al., 2019; Warnick et al., 2018). It allowed us to examine entrepreneurs' evaluation of CVC investor characteristics (level one) and consider differences among entrepreneurs and their ventures (level two). The parameter estimates generated in the HLM indicate the extent of the change in the willingness to approach a CVC investor as a function of a change in the attribute level from low to high.

The four groups used to rule out ordering effects show significant differences in their willingness to approach a CVC investor that can be attributed to random differences in the sample structure in the four versions (differences in average age, number of employees, and fundraising experience). Thus, we control for these sample differences by including the different versions of the study as control variables.

2.4.1. Descriptive statistics and correlations

In our study, each entrepreneur rated 16 investor profiles, providing us with 1,680 data points nested in 105 entrepreneurs. Table 2-1 lists the means, standard deviations, and correlations of the level-two variables describing the entrepreneurs and their ventures. We do not report the

Table 2-1: Descriptive statistics and correlations of the level-2 variables

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Sex (male)	95.24%	n/a	1							
2. Age (years)	38.22	8.93	0.177	1						
3. No. of Employees	21.17	29.07	0.017	0.236*	1					
4. CVC Financing	18.1%	n/a	-0.011	0.189	0.115	1				
5. Attractiveness CVC	4.94	1.48	0.052	0.206*	0.096	0.203*	1			
6. Need for Fin. Resources	5.93	1.23	-0.122	0.138	0.055	0.005	0.189	1		
7. Need for Compl. Resources	4.09	0.95	0.044	0.004	-0.022	0.167	0.222*	0.164	1	
8. Fundraising Experience	4.6	1.41	0.159	0.329**	0.409**	0.222*	0.104	0.19	-0.118	1

N=105; * $p < 0.05$, ** $p < 0.01$

level-one investor attributes since every entrepreneur rated the same profiles and thus there is no correlation within level-one and between level-one and -two variables.

Some of the variables show significant and somewhat high correlations such as fundraising experience and the age of the entrepreneur. To rule out multicollinearity problems, we calculated the variance inflation factors (VIFs) and condition index. The highest VIF was 1.46 and the highest index was 2.12, well below the acceptable threshold of 10 for VIFs (O'Brien, 2007) and 30 for the index (Belsley et al., 1980).

2.4.2. Hierarchical linear model of entrepreneurs' assessment of CVC investors

The impact of CVC investors' characteristics on the entrepreneurs' assessment of their willingness to seek equity financing from a CVC investor is examined in the HLM analysis presented in Table 2-2. Model 1 includes only the control variables on level two. We find significant level two effects reinforcing the before-mentioned group differences in our four versions of the experiment. And we find a significant effect on entrepreneurs' general evaluation of the attractiveness of CVC investors. In model 2, we added the main effects of the level one CVC investor characteristics and the level two differences among entrepreneurs and their ventures. We find that all the level-one attributes are significant. Higher levels of strategic motivation (0.529, $p<0.001$), industry deal experience (0.478 $p<0.001$), access to firm-specific resources (0.492, $p<0.001$), and financial commitment (0.921, $p<0.001$) lead to a more favorable assessment of the CVC investor as a potential future partner. We thus find support for the relevance of our four hypothesized investor attributes. Yet, contrary to the derived baseline hypothesis 1 the strategic motivation of a CVC investor has a positive influence on the willingness to seek financing from a CVC investor. Figure A-2 in the appendix displays the z-standardized HLM coefficients and their 95 percent confidence intervals. While financial commitment has by far the highest effect on willingness to approach (0.921, $p<0.001$), the other attributes display similar importance (strategic motivation: 0.529, $p<0.001$; industry deal experience: 0.478, $p<0.001$; access to firm-specific resources: 0.492, $p<0.001$). The main

Table 2-2: Hierarchical linear model of entrepreneurs' evaluation of CVC investors

		Model 1 (controls)		Model 2 (main effects)		Model 3 (full model)	
Variables		**Coef.**	**Std. Err.**	**Coef.**	**Std. Err.**	**Coef.**	**Std. Err.**
Intercept		3.869***	0.110	3.874***	0.112	3.874***	0.112
Level 2 Control							
	Age	-0.039	0.054	-0.037	0.056	-0.037	0.056
	No. of Employees	-0.018	0.054	-0.012	0.056	-0.012	0.056
	Preference CVC	0.161**	0.053	0.153**	0.055	0.153**	0.055
	Version 1	0.120	0.147	0.122	0.149	0.122	0.149
	Version 2	0.409**	0.145	0.390**	0.148	0.390**	0.148
	Version 3	0.275[a]	0.159	0.278[a]	0.166	0.278[a]	0.166
Level 1 Main Effects							
H1a	Strategic Motivation			0.529***	0.072	0.529***	0.070
H1b	Industry Deal Experience			0.478***	0.041	0.478***	0.040
H1c	Access to Firm-Specific Resources			0.492***	0.047	0.492***	0.045
H1d	Financial Commitment			0.921***	0.056	0.921***	0.048
Level 2 Main Effects							
	Resource Need: Financial Resources			0.074	0.054	0.074	0.054
	Resource Need: Complementary Resources			0.008	0.055	0.008	0.055
	Fundraising Experience			-0.016	0.063	-0.016	0.063
	CVC Financing			-0.028	0.055	-0.028	0.055
Cross Level Interactions							
	Strategic Motivation x Resource Need: Financial R.					-0.027	0.073
	Strategic Motivation x Resource Need: Complementary R.					0.087	0.074
	Strategic Motivation x Fundraising Experience					-0.130[a]	0.075
	Strategic Motivation x CVC Financing					0.063	0.074
	Industry Deal Experience x Resource Need: Financial R.					-0.014	0.042
	Industry Deal Experience x Resource Need: Complementary R.					-0.074[a]	0.042
	Industry Deal Experience x Fundraising Experience					0.001	0.043
	Industry Deal Experience x CVC Financing					-0.058	0.042
	Access to Firm-Specific Resources x Resource Need: Financial R.					-0.096*	0.047
H2a	Access to Firm-Specific Resources x Resource Need: Complementary R.					0.136**	0.047
	Access to Firm-Specific Resources x Fundraising Experience					-0.017	0.048
H4	Access to Firm-Specific Resources x CVC Financing					-0.011	0.047
H2b	Financial Commitment x Resource Need: Financial R.					0.190***	0.050
	Financial Commitment x Resource Need: Complementary R.					-0.048	0.050
H3	Financial Commitment x Fundraising Experience					0.146**	0.051
	Financial Commitment x CVC Financing					0.118*	0.051
Snijders/Bosker R-squared Level 1:		0.015		0.448		0.490	
Snijders/Bosker R-squared Level 2:		0.171		0.190		0.190	

Notes: DV = willingness to partner with CVC; N=1680 decisions nested within 105 entrepreneurs; all variables are z-standardized

[a] < 0.10 * $p < 0.05$ ** $p < 0.01$ *** $p<0.001$

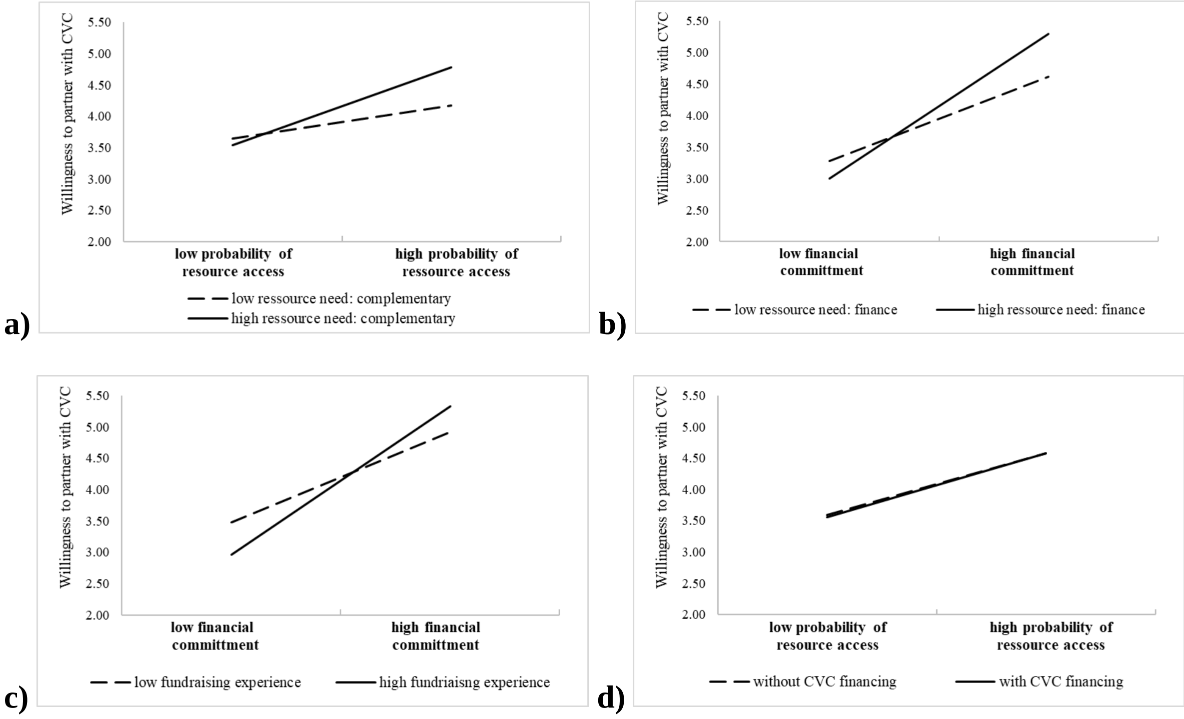
effects from level-two variables show no significant effect on the dependent variable.

In Model 3, we explore the hypothesized cross-level effects between the level one CVC investor characteristics and the level two differences among entrepreneurs and their ventures. We did find significant interactions between the probability to access firm-specific resources and the venture's need for complementary resources (0.136; $p<0.01$), as well as between the financial commitment of a CVC investor and a venture's need for financial resources (0.190; $p<0.001$), thus confirming hypotheses H2a and H2b. Model 3 also shows a significant interaction between the financial commitment of a CVC investor and an entrepreneur's fundraising experience (0.146; $p<0.01$) as hypothesized in H3. However, we do not find support for H4. The interaction between the probability to access firm-specific resources and previous CVC financing is not significant.

The nature of the tested cross-level effects is displayed in Figure 2-3. The four diagrams plot the entrepreneurs' willingness to approach a CVC investor on the y-axis and the particular investor characteristic under observation on the x-axis. The two lines represent high and low levels of resource need, as well as fundraising experience. The two levels are derived based on the 25th and 75th percentiles. For the dummy variable previous CVC financing the two lines display entrepreneurs with and without previous CVC financing.

Figure 2-3a) plots the positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor. The positive relationship is stronger when the venture's need for complementary resources is high than when it is low, thus supporting H2a. Figure 2-3b) shows the positive relationship between the corporate parent's financial commitment and the entrepreneurs' willingness to approach a CVC investor is stronger when the venture's need for financial resources is high than when it is low, as hypothesized in H2b. Hypothesis 2c finds support in Figure 2-3c). The diagram shows that the positive relationship between a CVC investor's financial commitment and the entrepre-

Figure 2-3: Moderating relationships as hypothesized in H5a, H5b, H6, and H7



neurs' willingness to approach a CVC investor is stronger when the entrepreneur's fundraising experience is high than when it is low. The last diagram of Figure 2-3d) illustrates the positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor. However, it does not support the hypothesis that the relationship is weaker for ventures with CVC financing than without. The non-significant result for hypothesis H4 in the HLM analysis is reaffirmed by the diagram. Figure A-3 in the appendix provides an overview of the confirmed and rejected hypotheses.

2.5. Discussion and implications

We examined how entrepreneurs trade off the benefits and risks associated with CVC investment and how important venture and entrepreneur characteristics influence an entrepreneur's willingness to target a CVC investor. We conducted a conjoint study to assess entrepreneurs' perception of a variety of CVC profiles with differing investment motivation (H1a), deal experience (H1b), access to resources (H1c), and financial commitment (H1d). The attributes demonstrate different relative importance, with financial commitment being the most important. This confirms previous findings that the financial resources committed by a CVC parent serve as a signal for entrepreneurs that long-term cooperation is being sought (Wadhwa & Basu, 2013) and counteracts the perceived risk of CVC program abandonment (Zahra & Allen, 2007). Yet, in contrast to the negative associations discussed in the literature, entrepreneurs perceive a high strategic motivation as a positive signal (contrary to H1a). As shown by previous research (e.g., Ivanov & Xie, 2010) a strategically motivated investor can come with benefits if there is a strategic fit between the start-up and the CVC investor. Moreover, the type of product market relationship (complementary or competitive) between the start-up and the investor (Masulis & Nahata, 2009) might be more relevant than the magnitude of an investor's strategic motivation. Inferring from our results, entrepreneurs seem to appreciate the potential benefits of a strategic CVC investor.

We further evaluated the influence of the need for financial and complementary resources on CVC investor attractiveness by drawing on resource dependency theory and existing findings on the role of resource needs in CVC investments (Katila et al., 2008). Moreover, we assessed how fundraising experience and CVC financing experience impact the entrepreneurs' trade-off of our CVC investor characteristics. In particular, the venture's resource need plays a crucial role in evaluating a CVC investor. For entrepreneurs with a high need for complementary resources, a high likelihood to access firm-specific resources increases their willingness to approach a CVC investor (H2a). This might provide CVC investors with a strategic advantage in attracting ventures with a high need for non-financial resources if they manage to provide access to these resources. Remarkably, entrepreneurs looking for complementary resources do not evaluate the lack of providing access to promised resources much more negatively than entrepreneurs with a low need for complementary resources (see Fig. 2-3a). A CVC investor's complementary resources thus not only allow entering rigid syndication networks of VC investors (Keil et al., 2010) but also can serve as the key to access highly desirable investment opportunities. For entrepreneurs with a high need for financial resources, a high financial commitment of the CVC investors increases their willingness to approach a CVC investor (H2b). CVC investors trying to invest in these ventures with a high need for financial resources compete with IVC investors and other financing options. But the financial commitment of the CVC parent organization is not only of importance to all entrepreneurs but is of even higher importance to those who are more experienced in fundraising. For entrepreneurs with a high fundraising experience (compared to those with a low fundraising experience), a high financial commitment of the CVC investors increases their willingness to approach a CVC investor to a greater extent (H3). This could mean that the more experienced entrepreneurs are, the more non-financial resources are already available to them through previous partnerships, and this results in higher importance of the long-term financial predictability of the CVC investor. Alternatively, prior investment relationships have not led to the value-added hoped for through non-financial resources and thus financial aspects are prioritized by more experienced entrepreneurs. It can also mean that more experienced entrepreneurs are more forward-thinking and look for signals of a long-term commitment from the CVC investor (Wadhwa & Basu, 2013). We did not find support for the cross-level effect of previous CVC financing (H4), which implies that either there is no specific positive or negative effect of a previous CVC financing, but the more general interaction with investors (as measured by fundraising experience) affects the investor evaluation. Or the quality of the relationship with the previous CVC investor, which we, unfortunately, cannot distinguish, is more informative than the mere CVC investment.

2.5.1. Theoretical contribution

In this study, we developed a concept of the perception and judgment of the information influencing entrepreneurs' decision to approach a CVC investor and provided evidence for its relevance in their early consideration of potential investors. While the literature highlights the benefits and risks associated with CVC investment (Maula, 2001; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005), the trade-off that leads entrepreneurs to decline financing offers (Smith, 2001) and makes CVC investors struggle to gain the investments they want (Gompers, 2002) is barely understood. Our conjoint study thus adds to the under-researched field of CVC investor attractiveness.

The present study thereby draws on resource-dependency theory and has surfaced an important aspect of resource dependence for young ventures. While typical resource dependence studies focus on dependencies after forming relationships, they are ignoring anticipatory processes before tie formation (Hallen et al., 2014). In this respect, some previous studies have looked at defense mechanisms used by young ventures (Colombo & Shafi, 2016; Hallen et al., 2014; Katila et al., 2008). We further argue that not only defense mechanisms but also the entrepreneurs' perceived resource dependence throughout their venture's lifecycle is anticipated by them and informs their decision-making when raising funds from investors. Both the CVC investor's long-term financial commitment, as well as the provided access to firm-specific resources, and the resources entrepreneurs perceive as a high necessity for their venture have a significant influence on the entrepreneurs' decision-making. We, therefore, argue that the entrepreneurs' resource awareness impacts tie formation.

Moreover, focusing on the entrepreneur's perspective in the deal origination stage, we find that entrepreneurial and venture characteristics serve as drivers in the decision to approach a CVC investor. Few studies have thus far examined VC investments from the entrepreneur's perspective (Drover, Wood, & Fassin, 2014; Granz et al., 2021; Hsu, 2004; Smith, 2001; Valliere & Peterson, 2007; Zheng, 2011). We, thereby, add to the literature on the role of entrepreneurial experience and its impact when starting and scaling a new venture (Falik et al., 2016; Glücksman, 2020; Shepherd et al., 2020; Valliere & Peterson, 2007). Our study reinforces the importance of entrepreneurs' fundraising experience as a specific type of experience (for example, Valliere & Peterson, 2007). More specifically we hypothesize and evaluate the distinct relationship between CVC attractiveness and entrepreneurs' prior experience with CVC investors. Although we did not find confirmation for this, it opens up the discussion on more specific types of experiences relevant to the fundraising process.

Finally, the methodology allows us to bring forward the controversy around strategically motivated CVC investors (Katila et al., 2008; Röhm et al., 2018; Zahra & Allen, 2007). The results show that from the entrepreneur's perspective, strategic motivation is perceived as an appealing characteristic of a CVC investor. This however does not necessarily contradict previous research which has identified risks of being associated with a CVC investor but rather shifts the focus to the entrepreneur's perception of risks and potential rewards in the deal origination stage. The entrepreneur's perception might thereby be influenced by his/her confidence in deploying certain defense mechanisms as described by Hallen et al. (2014) or Maula et al. (2009). Similarly, other long-term benefits as being associated with a strategic investor might impact the entrepreneur's perception. A strategic investor can serve as a potential future acquirer of the start-up (Dimitrova, 2015; Guo et al., 2015; Ivanov & Xie, 2010) or signal quality to potential acquirers in an exit scenario (Chemmanur et al., 2014). Hence, despite the risk of being associated with a CVC investor, the potential upsides of being associated with a CVC investor should not be underestimated.

2.5.2. Practical contribution

Because entrepreneurs invest time and effort in assessing potential investors (Smith, 2001), CVC investors should be aware of the investor selection process of entrepreneurs to optimize their communication and management efforts. This is especially relevant because the number of globally active corporate investors has increased drastically since 2011 (Himler, 2017) and

CVC investors often struggle to secure the deals they want (Gompers, 2002; Katila et al., 2008; Santos & Eisenhardt, 2009). The main driver of CVC attractiveness remains financial commitment. This is especially true for experienced entrepreneurs and ventures that have previously received CVC financing. Thus, CVC investors should put effort into their self-presentation as valuable and financially stable investors. If a company decides to set up a CVC unit, a long-term commitment of funds can raise its reputation and ensure a stronger deal flow. This is especially true when getting in contact with experienced entrepreneurs.

Although we found that financial commitment is the most important driver of entrepreneurs' willingness to approach a CVC, this does not mean that CVC investors need to depict themselves as financial investor only. The strategic motivation of a CVC investor is perceived as a positive factor by the entrepreneurs in our sample. We can only speculate that entrepreneurs might perceive it as implausible if a CVC investor claims to have no strategic agenda.

Furthermore, not every venture seems likewise interested in CVC investors. If a high resource need is given, the CVC should aim to provide those firm-specific resources and build a reputation for reliable resource commitment. This might become a competitive advantage for those CVCs that can contribute additional non-financial resources.

2.5.3. Limitations and future research

As with every study, our conjoint study has its limitations. Inherent to the conjoint methodology, our sample size of 1,680 investor evaluations corresponds to 105 individuals. The small number of participants is common in conjoint studies due to the length and demanding tasks it presents (Reibstein et al., 1988). Nonetheless, the sample used in our study is comparable to the size of other conjoint studies (for example, Drover, Wood, & Payne, 2014; Valliere & Peterson, 2007; Warnick et al., 2018) and shows high similarity to the German start-up universe as depicted in large start-up population studies.

Moreover, the methodology builds on an artificial setting with hypothetical profiles to measure intended rather than actual decision-making behavior. The evaluation of hypothetical profiles leads to highly similar outcomes to those found in actual decision-making (Riquelme & Rickards, 1992). We tried to mitigate this concern by validating that our study design is close to real-world circumstances through interviews with entrepreneurs and research experts before the study. One element we omitted is the decision-making dynamic within entrepreneurial teams (West, 2007), which could provide more insights into future studies. First studies show that the status of a team member within the founding team as well as the congruence or incongruence of how founders depict the future of their company can lead to different opportunity development (Preller et al., 2020). Future studies should explore if these team processes are relevant to investment decisions and how the fundraising experience, which we found to be an important aspect, potentially aligns founders in this process.

We furthermore focus on the deal origination stage in which entrepreneurs screen potential investors, assuming that entrepreneurs learn about investors early in the process and in many cases take the first decision to approach them. In this early stage of the process, beliefs and attitudes about investors and expected consequences are fundamental before committing to the subsequent time-consuming fundraising processes. In the later stages of the fundraising process (e.g., the negotiation phase), other attributes might come into play. Future studies can thus build on our findings in this early stage by assessing the role of different investor selection criteria throughout the fundraising process. Qualitative case-based research is well suited to provide detailed insights into how entrepreneurs' evaluation criteria for investors change throughout different fundraising phases.

In line with resource dependence theory, we have shown that the resources needed by a venture affect the entrepreneurs' evaluation of potential CVC investors as providers of not only financial resources. Taken together with other findings that show that firms profit most if there is a fit between the resources needed by the venture and offered by the CVC (Alvarez-Garrido & Dushnitsky, 2016; Ivanov & Xie, 2010), this raises the question of how well entrepreneurs are able to judge what resources their venture needs in the long term and which will be most crucial to attract externally. For high-growth, highly innovative ventures facing many uncertainties this resource awareness cannot be taken as given. Future studies should therefore study resource awareness as an antecedent for tie formation.

2.6. Conclusion

This study offers comprehensive evidence and insights into the role played by different investor attributes as well as venture and entrepreneurial characteristics on the entrepreneur's willingness to approach a CVC investor. Until now, the understanding of the entrepreneur's consideration of investors before negotiations start has been somewhat vague. Moreover, CVC investment has been described as a double-edged sword, with CVC investors seemingly less attractive than IVC investors due to their strategic motivation. We, therefore, examine how entrepreneurs trade off the benefits and risks associated with CVC investment as well as how important venture and entrepreneur characteristics influence an entrepreneur's willingness to strive for an investment from a CVC investor.

We find that characteristics of the CVC investor, namely its motivation, its experience with investment deals, the access to its firm-specific resources, and the long-term financial commitment of funds, are important aspects to entrepreneurs with financial commitment being the most important one. However, entrepreneurs' evaluation of the appeal of these characteristics differs depending on their need for specific resources and fundraising experience.

3. Essay II | Entrepreneurs' preference for Corporate Venture Capital – The influence of exit strategies and resource requirements

Abstract

Purpose – Literature on entrepreneurial finance has long overcome the view of an investor as a sole provider of financial capital. Entrepreneurs need to consider more aspects when deciding on an investor. Especially the depiction of corporate venture capital (CVC) investors has long highlighted advantages and disadvantages compared to independent VC (IVC) investors. We investigate what drives entrepreneurs' preferences for CVC relative to IVC and thereby focus on two key issues in the entrepreneur's consideration–the role of resource requirements and exit strategies.

Design/methodology/approach – The data were collected in an online survey that gathered information on several characteristics of entrepreneurs and their ventures. The resulting data set of 105 German entrepreneurs was analyzed using logistic regression and revealed important drivers for entrepreneurs' investor preferences.

Findings – Our findings confirm that the venture's resource needs–specifically the need for marketing resources and access to the corporate network–play a significant role in the decision on whether a CVC or IVC investor is preferred. Moreover, the analysis debunks the hypothesis that entrepreneurs view a CVC investment as the first step towards acquisition. However, those entrepreneurs striving for an IPO are less likely to prefer CVC.

Originality – The study expands the literature on CVC attractiveness and specifically considers the entrepreneurs' intentions and needs. The results confirm but also debunk some widespread perceptions about why entrepreneurs choose to pursue financing from a CVC investor.

Keywords: Corporate venture capital · Investor attractiveness · Entrepreneurial decision-making · Resource requirements · Exit intention · Entrepreneurial finance

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3.1. Introduction

Equity financing is the number one type of financing for high-growth ventures (Paul et al., 2007). The most money is thereby invested by independent venture capital (IVC) funds that invest money from limited partners in exchange for equity (CB Insights, 2022b). However, corporations investing assets directly in privately held start-ups as corporate venture capital (CVC) has become the second-largest source of funding for entrepreneurs (CB Insights, 2022b; Dushnitsky & Lavie, 2010). From Intel Capital, Novartis Venture Fund, to GE Ventures, CVC has become a common form of financing start-ups in all industries and through all stages (CB Insights, 2022a).

While both types of financing–IVC and CVC–provide large amounts of financing, CVC is commonly rated as less attractive when compared to IVC (Bengtsson & Wang, 2010) and CVC investors often struggle to get the investments they want (Gompers, 2002; Katila et al., 2008; Santos & Eisenhardt, 2009). As a reason for this, previous literature has highlighted the investment motivation of CVC investors which often goes beyond the generation of financial return but also includes realizing strategic benefits for the corporation such as securing technological know-how (Dushnitsky & Lenox, 2006; Katila et al., 2008; Maula et al., 2009). Most if not all growth-oriented start-ups will at some point face the question of whether to resort to CVC financing. This choice might not be random but linked to characteristics within the firm and the entrepreneur (Ivanov & Xie, 2010; Talaia et al., 2016). In this decision common preconceptions about CVC investors and the derived *"balance of risk and rewards"* (Maula et al., 2009, p. 274) become essential. Despite CVC investments' prevalence and rising importance, little research has examined the attractiveness of (CVC) investors from an entrepreneur's perspective (Simon et al., 2019). The central research question is therefore concerned with what shapes entrepreneurs' preference for CVC investors relative to IVC investors.

To answer the research question, we designed an online survey capturing different venture characteristics as well as the investor preferences of entrepreneurs. The survey was completed by 105 entrepreneurs of which 30% evaluated CVC as more attractive than IVC. We used this as a dummy variable in a logistic regression for identifying drivers that make it more likely that CVC is preferred over IVC. The study thereby focuses on two of the most prominent and widely discussed aspects of CVC financing: the venture's resource need (Dushnitsky & Shaver, 2009; Katila et al., 2008; Maula et al., 2009; Zu Knyphausen-Aufseß, 2005), as well as the entrepreneur's exit intention (DeTienne et al., 2015; Hohen & Schweizer, 2021). Our results confirm that specific resources as well as the aspired exit path, influence entrepreneurs' preference for CVC.

The study adds to a research stream that acknowledges the entrepreneurs' influential role in financing decisions (Fairchild, 2011; Hallen & Eisenhardt, 2012; Katila et al., 2008; Maula et al., 2009). By asking entrepreneurs for their preferences, we can exclude confounding effects that are prevalent in ex-post investment data (e.g., Bengtsson & Wang, 2010; Zheng, 2011) or deal terms (e.g., Smith, 2001; Valliere & Peterson, 2007). Being able to break down the CVC preference in terms of resources needed and aspired exit paths, we further advance the literature on CVC attractiveness (e.g., Colombo & Shafi, 2016; Katila et al., 2008). We thereby specify the often-highlighted notion that CVC investors' complementary resources add value to the venture beyond what IVC investors can provide (Katila et al., 2008; Maula et al., 2005; H. D. Park & Steensma, 2012). Additionally, we show that the entrepreneur's exit intention does not only influence the final exit path (DeTienne et al., 2015; Hohen & Schweizer, 2021) but also the investor choice.

3.2 Theory and hypotheses

3.2.1. Weighing the pros and cons of CVC

Finding the right investor is critical for start-up companies (Bengtsson & Wang, 2010; Sapienza, 1992). Entrepreneurs take into consideration the potential rewards that come with being associated with an investor as well as the risks (Drover, Wood, & Fassin, 2014; Katila et al., 2008; Maula et al., 2009; Zheng, 2011). On the one hand, corporate investors are rich in valuable complementary resources such as access to manufacturing resources, technological expertise, or sales channels (Gompers & Lerner, 2000a; Maula et al., 2005; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005). Moreover, they come with an endorsement value of being associated with an established corporation (Maula, 2001). These advantages also enable CVC investors to enter into syndication networks with other investors (Keil et al., 2010). On the other hand, entrepreneurs might be deterred by a CVC investor's competing strategic interest in the company (Hellmann, 2002; Katila et al., 2008; Maula et al., 2009). This is because CVC units are set up by incumbent companies which are oftentimes not only looking for financial return but also strategic benefits for the incumbent in the form of entry to new markets, access to complementary products and services, or exposure to novel technologies (Dushnitsky & Lenox, 2005b; Dushnitsky & Shaver, 2009; Keil et al., 2008). Thus, CVC investors might also be interested in start-ups' unique intellectual property and therefore pose the risk of know-how misappropriation (i.e. Katila et al., 2008; Maula et al., 2009). This is supported by previous studies which found that investment relationships with CVC investors are more likely if the venture has certain safeguards or defense mechanisms to minimize the risk of knowhow misappropriation, such as secrecy, the timing of the investment at a later stage, choosing corporates with complementary products instead of substitutes, or patent protection (Dushnitsky & Shaver, 2009; Katila et al., 2008). However, protecting against risks must be balanced with the ability to realize the potential benefits. Whether the promised resource transfer will be realized is uncertain (Henderson & Leleux, 2005; Pahnke et al., 2015), and according to Maula and Murray (2009) depends on the intensity of social interaction and openness with the investor.

While there is abundant literature on how investors evaluate entrepreneurs and their ventures (e.g., Carlos Nunes et al., 2014; Dimov & Shepherd, 2005; Franke et al., 2006; Petty & Gruber, 2011) there is only limited research on entrepreneurs evaluating investors before approaching an investment relationship. Few exceptions have analyzed VC investments from the entrepreneur's perspective (Drover, Wood, & Fassin, 2014; Smith, 2001; Valliere & Peterson, 2007; Zheng, 2011). These studies thereby focus on investor attributes that increase the investor attractiveness such as VC reputation, terms, and conditions of a VC deal, and post-investment assistance. In the following, we analyze the entrepreneurs' evaluation of the attractiveness of investor types focusing on characteristics inherent to the entrepreneurs and their start-ups. We thus deliberately exclude factors that impact the formation of an investment relationship in the evaluation and deal structuring phase (De Clercq et al., 2006) such as the actual deal terms (Smith, 2001; Valliere & Peterson, 2007), the formation of an investment syndicate (Bygrave, 1987; Sorenson & Stuart, 2001; Ter Wal et al., 2016) or the assessment of the investment opportunity (Petty & Gruber, 2011).

With more than 30% of global investor deal share (CB Insights, 2022b) an IVC investment is the most likely equity investment for a high-growth venture. With about 11% deal share (CB Insights, 2022b) CVC investors are the second biggest source of equity funding and thus a relevant alternative or addition to IVC financing. *"(...) Obtaining CVC financing is a choice that an entrepreneurial firm faces at some point in its life cycle and this choice may not be random. Some firm-specific characteristics could affect a start-up's decision to resort to CVC financing.*" (Ivanov & Xie, 2010, p. 139). To shed light on the choice to approach a CVC investor, this paper focuses on two of the most prominent and widely discussed aspects of CVC financing: First, we draw on existing studies that have highlighted the importance of complementary resources in the formation of a CVC investment relationship (Dushnitsky & Shaver, 2009; Katila et al., 2008; Maula et al., 2009; Zu Knyphausen-Aufseß, 2005). Second, we discuss the role of exit intention on the appeal of CVC investors. There is a long debate in the field of entrepreneurial finance with inconsistent results on whether IVC or CVC investors are better at facilitating a successful exit via IPO or acquisition (Bottazzi et al., 2008; Gompers, 2002; Gompers & Lerner, 1998, 2000b; Huang & Madhavan, 2021; Kim & Park, 2017). However, the entrepreneur's exit intention influences the venture's exit trajectory (DeTienne et al., 2015; Hohen & Schweizer, 2021). This raises the question of whether the entrepreneur's foreseen exit has implications on the choice between IVC and CVC investors. We will therefore not only look at immediate resource needs but also the entrepreneurs' long-term planning as a driving factor of investor choice.

3.2.2. Resource requirements

Young high-growth ventures depend on their external environment to access additional resources. These resources are needed to sustain their growth and become mature companies competing with large established firms. This resource dependence, first described by Pfeffer and Salancik (1978), has become the prevailing theoretical explanation for why ventures enter into relationships with equity investors (see, for example, Granz et al., 2021; Hallen et al., 2014; Katila et al., 2008). Alternatively, different modes of establishing inter-organizational relationships such as joint ventures, vertical integration, or executive succession can be used to manage environmental interdependencies (Hillman et al., 2009). Within an uncertain, dynamic environment the effective use of resources is key to venture survival (Bradley et al., 2011). In line with resource dependence theory, entrepreneurs purposefully seek investors that provide the most benefit to their venture beyond the financial capital itself (Saetre, 2003). Equity investors, be they business angels, IVC investors, CVC investors, or private equity (PE) investors, provide financial resources in exchange for an equity share typically in the form of preferred shares. As shareholders of the firm these investors are interested in the success of the venture and thus not only provide financial resources but also perform additional value-adding activities (Granz et al., 2021; Gutmann et al., 2019; Hellmann & Puri, 2002; Katila et al., 2008; Large & Muegge, 2008; Maula et al., 2005; Proksch et al., 2017; Sapienza, 1992; Zu Knyphausen-Aufseß, 2005). The additional value an investor can provide to its portfolio company is rooted in its ability to contribute additional resources, knowledge, and social capital owned by the investor (Maula, 2001; Maula et al., 2005). Depending on their resource and knowledge bases as well as social networks, investors can provide different value-added services to their portfolio companies (Maula et al., 2005).

The provision of additional resources and value-adding activities is considered to be a major differentiator between IVC and CVC investors (Gompers & Lerner, 2000b; Maula et al., 2005; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005). Previous studies have demonstrated that IVC investors mainly draw on their knowledge base and social networks within the financial industry to create additional value for their portfolio companies. They provide financing in the first place and then help to raise additional financing, recruit management personnel and support strategic planning processes (Gorman & Sahlman, 1989; Hellmann & Puri, 2002; Maula et al., 2005). Maula et al. (2005) summarize the IVC investors' contribution as "*enterprise nurturing*" as they strive to rapidly grow their portfolio companies. Due to their different resource and knowledge bases as well as social networks CVC investors are in a better position to provide crucial strategic "*commerce building*" resources to their portfolio companies such as industry know-how, as well as market access (Maula et al., 2005). Which CVC contribution is most relevant for new ventures is somewhat unclear (Large & Muegge, 2008; Zu Knyphausen-Aufseß, 2005). However, ventures profit most if there is a fit between the resources required and what the CVC investor can offer (Alvarez-Garrido &

Dushnitsky, 2016; Ivanov & Xie, 2010). As mentioned before, the potential upside associated with additional resources also needs to counterbalance the perceived risk and uncertainty associated with a CVC investment (Dushnitsky & Shaver, 2009; Katila et al., 2008). Disregarding defense mechanisms and safeguards that might be in place, we argue that the higher the need for specific resources a CVC investor can provide the higher its attractiveness. In this line of argumentation, it is irrelevant whether the venture has enough absorptive capacity to benefit from the investment relationship (Lane & Lubatkin, 1998) or whether CVC investors are able to provide the promised resources in light of their institutional logic (Pahnke et al., 2015). Instead, the focus is on entrepreneurial preconceptions and how the resource need impacts their evaluation of CVC versus IVC.

Unfortunately, previous studies do not build on a consistent set of resources when analyzing complementary resources and the value-add of CVC investors (see for example Large & Muegge, 2008). While some focus on value-adding activities or services (e.g., recruiting, legitimation, monitoring, strategizing) performed by the investor (see for example Gutmann et al., 2019; Large & Muegge, 2008; or Proksch et al., 2017), others focus on the contribution of CVC investors (e.g., entrepreneurial orientation, strategic development, technological capabilities, or social capital) (Zu Knyphausen-Aufseß, 2005). However, because the goal of the study is to shed light on the perspective of entrepreneurs and their ventures, we follow the resource-oriented approach of Maula and Katila (Katila et al., 2008; Keil et al., 2010; Maula, 2001; Maula et al., 2005). We thereby combine and aggregate the resource categories of their previous studies and derive our hypotheses for the resource categories: finance, marketing, manufacturing, technology, and network.

The main reason to approach an investor is the need for financial resources. Both IVC and CVC investors are foremost providers of financial capital. While IVC investors receive the capital they invest from limited partners, CVC investors receive the necessary means from the parent corporation. Both types of investors are accountable for their investments and the resulting return. Yet, it has been shown, that IVC investors are better able to help attract follow-up financing (Maula et al., 2005; Proksch et al., 2017). Especially growth-oriented ventures might therefore consider the long-term need for financial resources.

> **Hypothesis 1a**: *A venture's need for financial resources decreases the likelihood that CVC is preferred over IVC.*

On the other side, when ventures have a strong need for operational resources CVC investors have more to offer. Through an investment relationship with the CVC arm of an established corporation, start-ups can potentially harness complementary resources the corporate parent possesses (Katila et al., 2008).

By virtue of their market positioning, CVC investors' corporate parents have an enormous market knowledge and operational resources in terms of market access. Previously discussed marketing resources include customer data, market research results, sales capacity, or distribution channels (Katila et al., 2008; Maula et al., 2005). IVC investors in contrast can also build marketing resources through their experience with market entry strategies, contacts to marketing agencies, or purchased market reports (Proksch et al., 2017). However, Proksch *et al.* (2017) find that this is a minor field of activity for IVC investors as they are more involved in financial, human capital, and governance issues. The marketing resources a CVC investor is potentially able to provide should therefore exceed the marketing resources of IVC investors.

> **Hypothesis 1b**: *A venture's need for marketing resources increases the likelihood that CVC is preferred over IVC.*

The know-how that evolves around manufacturing processes, as well as access to manufacturing sites, can only be provided by established manufacturing firms. Katila et al. (2008) found that start-ups in highly capital-intensive industries that respectively require greater manufacturing assets have a higher likelihood to form an investment relationship with a CVC investor. Their result can be driven by the interest of corporations to invest in these types of start-ups but also by the increasing attractiveness of CVC investors for start-ups with a high need for manufacturing resources, especially as these types of resources are "*often expensive and slow to create, important to operational success, and uniquely available from corporations*." (Katila et al., 2008, p. 203).

Hypothesis 1c: *A venture's need for manufacturing resources increases the likelihood that CVC is preferred over IVC.*

Moreover, CVC investors have shown to be more effective in terms of providing technological know-how (Maula et al., 2005). Keeping up with the latest technological trends is one of the major concerns of corporations which is also in their mind when looking for investment targets (Benson & Ziedonis, 2009). The resources established firms spend on research and development for technological advancement cannot be met by any IVC investor (Maula et al., 2005). IVC investors in general may not focus on providing technical expertise due to the technical background of many founders (Proksch et al., 2017). A higher need for technological resources should thus make a CVC investment more attractive compared to an IVC investment.

Hypothesis 1d: *A venture's need for technological resources increases the likelihood that CVC is preferred over IVC.*

Social capital and the resources that can be accessed through networks is a key factor for the success of equity-financed firms (Bellavitis et al., 2014; Hochberg et al., 2007). As IVC investors are financial professionals focused on the financial return of their investments their work draws on a deep network in the financial industry as they constantly seek new investment opportunities and try to attract new sponsors for their funds. Due to their experience in working with portfolio companies, they also contribute a network of lawyers and business advisors (Proksch et al., 2017). As financial professionals, they might however have fewer network contacts with potential business partners, customers, or suppliers within the industries of their portfolio companies compared to the broad network of a large corporation. In contrast, CVC investors might not be as versed in the financial industry but enable access to a broad industry network of suppliers, customers, and business partners. Overall, we hypothesize that in terms of social resources, CVC investors are potentially more interesting for companies that need access to a broad and diverse network not only in the financial industry but also to other partners in their industry of interest.

> **Hypothesis 1e**: *A venture's need for network resources increases the likelihood that CVC is preferred over IVC.*

3.2.3. Exit strategies

The resources which are accessible through a CVC investor can massively shape the trajectory of a start-up in the long term when it comes to a possible exit scenario (e.g., Bottazzi et al., 2008; Useche & Pommet, 2021). Literature has defined different exit options or paths that allow shareholders to withdraw their capital: 1) sale to another business or independent part, also called acquisition, 2) sale to employees or the management (buyout), 3) going public, also referred to as initial public offering (IPO), or 4) the liquidation (Birley & Westhead, 1993). The effect of VC investors on business performance and exit routes is long established in the field of entrepreneurial finance. Researchers' line of argumentation thereby draws on three main aspects: First, VC investors are actively involved in strategic business decisions of their portfolio companies through board decisions such as the recruitment of top management positions (Bottazzi et al., 2008; Hellmann & Puri, 2002). Second, investors actively engage in value-adding activities such as sharing their knowledge, providing support for business activities, establishing connections to their professional networks, as well as signaling aspects that enhance a company's reputation (Bertoni et al., 2013; Large & Muegge, 2008; Sørensen, 2007). Third, a selection effect comes into play as entrepreneurs and investors with aligned exit objectives are matched (Guo et al., 2015; Sørensen, 2007). The differing effects of IVC and CVC investors have thereby found a lot of attention (i.e., Bertoni et al., 2013; Colombo & Murtinu, 2017; Guo et al., 2015; Ivanov & Xie, 2010).

IVC investors invest with a financial motivation to produce high financial returns for their limited partners in a short period. They invest for higher rates of return than captive VC investors (Manigart et al., 2002). In the entrepreneurial finance literature, both IPO and acquisition are commonly viewed as successful exit scenarios for investors (e.g., Bottazzi et al., 2008). Although the likelihood of an IPO and the generated return is subject to several external factors such as the timing of the transaction, the industry, and information asymmetries (Bayar & Chemmanur, 2011), both entrepreneurs and investors consider IPOs to be the most desirable outcome (H. D. Park & Steensma, 2012). IPOs are commonly characterized by higher returns (Brau et al., 2003) and higher valuation multiples (Poulsen & Stegemoller, 2008) when compared to acquisitions. Bayar and Chemmanur (2011) ascribe this premium to differences in firm quality, especially with regard to their long-term growth potential. Due to their governance structure as a limited partnership, IVC investors are prone to taking their portfolio companies public earlier so they can "*grandstand*" and attract more private money for their upcoming funds (Gompers, 1996). When it comes to exit support, IVC investors can make use of their strong ties to the financial industry and access to their co-investment network (Hochberg et al., 2007).

CVC investors in contrast pursue financial and strategic benefits for their corporation such as gaining a window on technology (Benson & Ziedonis, 2009; Dushnitsky & Lenox, 2006; Wadhwa et al., 2016). As a result, CVC investors are intrinsically more interested and reportedly better at nurturing innovation and technological advancement of their portfolio companies (Alvarez-Garrido & Dushnitsky, 2016; H. D. Park & Steensma, 2013). A portfolio company's innovative capabilities in turn improve its long-term performance and affect a company's exit strategy (Cefis & Marsili, 2012). In contrast to IVC investors, CVC investors draw on their corporate research, marketing, and distribution networks to support the exit of a portfolio company (Ivanov & Xie, 2010). Their industry and technology knowledge enables CVC investors more than other investors to seek potential acquirers and to signal quality to potential buyers (Chemmanur et al., 2014). Additionally, CVC investors can acquire their portfolio companies themselves (Dimitrova, 2015; Guo et al., 2015). From a theoretical perspective, CVC investors are thus more qualified to facilitate an exit via acquisition. Empirical studies concerning the exit events of IVC- and CVC-backed start-ups however show mixed results. On the one hand, CVC-backed start-ups are more likely to exit via acquisition (Chemmanur & Loutskina, 2009; Cumming, 2008). At the same time, studies show that CVC-backed start-ups are more likely to exit via IPO (Chemmanur & Loutskina, 2009; Gompers & Lerner, 2000b). Further, an acquisition by the CVC parent corporation is also uncommon and takes place in only five percent of acquired start-ups with a CVC affiliation (Guo et al., 2015). Newer studies have revealed several influencing factors that moderate the likelihood of a successful exit when a CVC investor is included: Syndication between a CVC investor and a reputable IVC investor (Kang, 2019), the complementarity or strategic overlap between the CVC parent and the start-up (Ivanov & Xie, 2010; H. D. Park & Steensma, 2012), the stage of the CVC-investment (Kim & Park, 2017), the strategic benefit for the parent corporation (Koster, 2018). Consequently, a CVC investment, in the end, does not make an acquisition or an IPO more or less likely, but rather the surrounding circumstances of the investment. For the entrepreneur, however, it remains a strategic decision whether to include a CVC investor. For example, Cabral (2018) was able to show that CVC investors tend to be included in an investment syndicate when an acquisition exit becomes more likely.

From the perspective of an entrepreneur, the choice of a CVC or IVC investor thus has an impact on the company's further development and its exit path. The choice therefore might not be random but follow a logical rationale. Entrepreneurs pursuing an IPO typically do so as it enables them to generate personal funds as most of their personal wealth is tied up in the company and then use these funds to diversify their investment risk or invest in new projects (H. D. Park & Steensma, 2012). Another aspect is that an IPO opens growth opportunities for the start-up that would be impossible to finance otherwise (Daily et al., 2003). Likewise, an IPO does not necessarily require the entrepreneur to leave the company, but entrepreneurs oftentimes stay with the company post-IPO for an extended period (Daily et al., 2003). On the other side, founders often leave the company as part of an acquisition (DeTienne & Cardon, 2012). Acquisitions are the second most attractive exit strategy in terms of financial return (Hohen & Schweizer, 2021). It is also more feasible for companies with lower growth (Hohen & Schweizer, 2021).

Studies on entrepreneurial exit intention (e.g., DeTienne & Cardon, 2012; Hohen & Schweizer, 2021; Wennberg et al., 2010) draw on the theory of planned behavior (Ajzen, 1991, 2011; Ajzen & Fishbein, 1980) that puts forward the argument that an individual can control most of its behavior and therefore the likelihood of the specific behavior can be predicted by the individual's intention to engage in this behavior (Ajzen, 1991, 2011; Ajzen & Fishbein, 1980). In our line of argumentation, we argue that if an entrepreneur aspires a certain exit path this not only affects the likelihood that this exit path is realized but also consequentially affects strategic decisions that in turn increase the likelihood of realizing the aspired exit path. We thereby argue in line with a causation approach to entrepreneurial decision making which is linked to the financial harvesting strategy of most equity-financed ventures (DeTienne et al., 2015). This type of decision-making starts with the objective in mind and then derives and implements a plan to accomplish the objective (Sarasvathy, 2001). Entrepreneurs thereby gather information and select options that maximize their long-term profit and help them achieve their objectives (Sarasvathy, 2001). It has already been shown that the theory of planned behavior holds for exit intentions of equity-financed ventures as they aim for a financial harvest exit strategy[2] and most likely also realize it (Hohen & Schweizer, 2021).

We argue that consequentially an entrepreneur's intended exit path influences the entrepreneur's preference for a CVC investor over an IVC investor and propose two hypotheses.

> **Hypothesis 2a**: *An entrepreneur's aspiration to exit investors via IPO decreases the likelihood that CVC is preferred over IVC.*
>
> **Hypothesis 2b**: *An entrepreneur's aspiration to exit investors via acquisition increases the likelihood that CVC is preferred over IVC.*

3.3. Data and methodology

To answer our research question, we designed an online survey analyzing entrepreneurs' generalized perceptions of different investor types. The decision of investors to provide financing or the entrepreneur's decision to accept the investment offer are intentionally excluded. Other researchers such as Katila et al. (2008) have approached similar research questions by analyzing high-level investment data including VC affiliation, region, industry, and firm age to assess what factors impact the likelihood of a CVC investment. In contrast, the survey design chosen does not rely on the actual investment decision which is subject to several other confounders (e.g., the venture's attractiveness, current market trends, or the formation of syndicates). Focusing on entrepreneurs' stated preference for different investor types allows us to draw inferences regarding prevailing preconceptions of entrepreneurs about the investor types presented. Thus, we abstract from the actual realization of an investment relationship and

[2] Since our focus is on high-growth equity-financed ventures, we disregard alternative exit strategies (stewardship or voluntary cessation as defined by DeTienne & Cardon, 2012) in our research question.

its organizational implementation which is shaped by the individual power dynamics between investors and the venture's ability to benefit from non-financial resources provided.

3.3.1. Research design

For our survey, we used a web-based tool to collect the data from the respondents. The online questionnaire captured both entrepreneur-related factors as well as venture-related factors. The survey took place in the summer of 2018, including a pilot test before the start and qualitative interviews with entrepreneurs to ensure the relevance of our research question and the research design. We performed four in-person interviews with entrepreneurs with and without CVC affiliation, at different start-up stages and from different industries. The entrepreneurs depicted how they typically work with a list of potential investors that are prioritized in terms of their attractiveness for the venture and then set out to contact these investors in the respective order. All entrepreneurs expressed some preconceptions toward CVC investors. Those with CVC experience underlined the discrepancy between the expected access to resources and management support and the actual realization thereof. Overall, the interviews lend support to further investigating the drivers of CVC preference and confirmed our variables of interest. Additionally, several research assistants and practitioners experienced in the VC industry involved in a pilot test ensured the technical and conceptual soundness of the survey. We incorporated the feedback from the qualitative interviews and the pilot test into the final version of the online survey.

3.3.2. Participant recruitment & sample

With our survey, we targeted individual entrepreneurs, who occupy managerial positions in which they are involved in the financing decision of their ventures. The survey was sent out to a comprehensive sample of German entrepreneurs from Crunchbase that was complemented with hand-collected contacts of start-ups with VC funding or accelerator affiliation (as listed on websites of German VC funds and accelerator programs). 1537 entrepreneurs were targeted via email or LinkedIn, 187 responded to the survey, out of which 105 respondents completed the survey and fulfilled the control criteria. The relatively high drop-out rate during the survey can be attributed to an online conjoint experiment that was part of the questionnaire and which is typically perceived as a demanding task (Reibstein et al., 1988). Nevertheless, the sample is comparable to the German start-up landscape as depicted in the German Start-Up Monitor (Kollmann et al., 2018). The sample of the annual online survey of more than 1500 German start-ups is similar in terms of company age (3.9 years), the number of employees (median 12 employees), industry (40% software industry), investors involved (18 percent CVC funded), and founder age (average 38 years). Only 12 percent of entrepreneurs in the sample had raised less than €100,000, whereas 31 percent had raised between €100,000 and €1 million. Most had raised €1–5 million (37 percent), 8 percent €5–10 million, and 12 percent more than €10 million.

3.3.3. Variables and measurement

Before the survey started the participants had to confirm that they are actively involved in the fundraising process of their venture. The further questions were then structured into sets of questions.

Dependent variable

When designing the questionnaire, the problem of introspection accuracy as described for example by Valliere and Peterson (2007) in a similar study, needed to be mitigated. Therefore, we asked the entrepreneurs for their preferences without drawing the participant's attention too much to the comparison of CVC and IVC investors. Instead, they were asked to evaluate the attractiveness of five financing options for their venture (public funding, crowdfunding, business angel investments, IVC, and CVC). The evaluation was measured on a seven-point Likert scale (1 = "*highly unattractive*," 7 = "*highly attractive*"). In the analysis, we then compared their stated preference for CVC and IVC investors and formed the dummy variable *prefers CVC* that indicates whether a CVC investment was evaluated as more attractive than an IVC investment.

Independent variables

To test our hypotheses, we further captured the entrepreneurs' judgment on the venture's resource need and the aspired exit option.

Drawing on the pre-survey interviews with entrepreneurs and earlier studies (Katila et al., 2008; Maula et al., 2005), the resource need dimensions–financial, marketing, manufacturing, technological, and network resources–build the basis to assess the resource need of the venture. Respondents rated their resource needs on a seven-point Likert scale: "*How important is access to the following resources for your business?" (*1 = "*highly unimportant*," 7 = "*highly important*").

Similarly, we asked the entrepreneurs to assess different exit options for their venture – IPO, and acquisition: "*How likely are the following exit options for your start-up?*" (1 = "*highly unlikely*," 7 = "*highly likely*"). We further included the exit options merger, employee/management buy-out, and independence as control variables.

Controls

To control for confounding effects and to test for sample biases, we collected further information about the entrepreneurs and their ventures. Analogous to previous studies (Drover, Wood, & Fassin, 2014; Valliere & Peterson, 2007), we asked questions on start-up attributes: industry, company age, number of employees, existing forms of start-up financing, and total funds obtained. Moreover, we collected demographic data on the entrepreneurs including gender, and age.

As a result of our pre-survey interviews, we include two controls in the regression model for whether the entrepreneur's venture already has experience with IVC or CVC financing. This information was reported by the respondents via checkboxes.

Additionally, we control for whether the ventures offer hardware products, software products, or services, which was also reported by the respondents themselves via checkboxes. The rationale thereof is based on the consideration of further contextual factors related to the offering of the start-up that may impact the investor preference. Hardware products and services typically come with different requirements for example when it comes to scaling. Software products in contrast are easier to scale but cannot be protected through patenting.

Moreover, we control for company age and include a variable representing the lifecycle stage a venture is in. To form dummy variables for "*seed*"-, "*early*"- and "*growth*"-stages we build on the previous financing types reported by the respondents. In line with the financial growth lifecycle model (Berger & Udell, 1998; Mac an Bhaird & Lucey, 2011), we assume a sequencing of funding options throughout the lifecycle of a venture as more and more financing options become available. We, thus, coded ventures that exclusively use public funding, crowdfunding, or funding from an accelerator as being in the "*seed*"-stage. Ventures with previous funding from a business angel (but no IVC or CVC funding) are coded in the category "*early*"-stage. Those with previous IVC or CVC funding as being in the "*growth*"-stage.[3]

[3] Due to considerable differences in the definition of lifecycle stages, our denomination in "*seed*", "*early*" and "*growth*" stage is based upon the maturity of the start-up and the inferred financing order. This is also supported by the correlation with company age.

3.4. Analysis and results

To test our hypotheses, we use a logistic regression with the dummy variable *prefers CVC* as the dependent variable. The focus is thus shifted to the group of entrepreneurs that evaluated a CVC investment as more attractive than an IVC investment. We deliberately did not use the absolute evaluation as the dependent variable because of the challenges that come with the Likert scale measure. Likert scales are not able to measure true attitudes as the space between options is not equidistant and only provides us with ordinal data. Moreover, every participant might have interpreted the scale differently, so choosing 5 out of 7 might come with a different meaning for different participants. With the variable we use, we assume that absolute evaluations are not comparable among participants but within participants, providing us with ranking data about different funding options for each participant. So, looking at the median of the evaluation of IVC (median = 6) and CVC investments (median = 5) we see a slight overall preference for VC investments. 25.71% of participants evaluated both options equally and 44.76% assessed IVC as more attractive than CVC. This leaves us with 29.52% of participants who assessed CVC as more attractive than IVC. The following analysis investigates what drives those entrepreneurs who prefer CVC over IVC.

3.4.1. Descriptives

Our study encompasses 105 entrepreneurs and their ventures. Table 3-1 provides summary statistics and correlations for the variables relevant to testing our hypotheses. To rule out multicollinearity problems, we calculated the variance inflation factors (VIFs). The highest VIF was 7.01 and thus below the acceptable threshold of 10 for VIFs (O'Brien, 2007).

Table 3-1: Summary statistics and correlations

N=105	Median (Mean), %	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Resource Need (Scale 1-7)																			
(1) Financing	6	1.000																	
(2) Marketing	5	0.117	1.000																
(3) Manufacturing	2	0.063	0.221	1.000															
(4) Technology	3	0.092	0.032	0.316	1.000														
(5) Network	6	0.119	0.009	-0.037	0.171	1.000													
Exit Preferences (Scale 1-7)																			
(6) IPO	3	0.229	-0.008	0.078	0.129	0.005	1.000												
(7) Acquisition	6	0.345	0.125	-0.059	0.017	0.226	-0.027	1.000											
(8) Merger	4	0.134	0.191	-0.007	0.076	0.015	-0.005	0.316	1.000										
(9) Buyout	2	-0.009	0.074	0.149	0.218	-0.065	-0.030	-0.142	0.184	1.000									
(10) Independence	5	-0.203	0.192	-0.064	0.086	-0.013	-0.217	-0.190	-0.024	0.263	1.000								
Previous Financing																			
(11) Ind.Venture Capital	52.38%	0.089	-0.032	-0.013	0.066	-0.028	0.083	0.226	0.072	-0.104	-0.101	1.000							
(12) Corp. Venture Capital	18.10%	0.005	0.018	0.258	0.067	0.037	-0.029	-0.018	0.050	0.002	-0.105	0.101	1.000						
(13) Company Age	3 (3.857)	0.040	-0.114	-0.063	-0.160	-0.120	0.146	0.040	0.050	-0.141	-0.078	0.362	0.076	1.000					
Offering																			
(14) Hardware	29.50%	0.121	0.083	0.444	0.090	0.004	-0.013	0.075	0.040	-0.051	-0.136	0.057	0.164	0.128	1.000				
(15) Software	80.00%	-0.028	-0.007	-0.049	0.058	-0.013	-0.015	0.007	0.132	0.235	-0.024	-0.022	-0.123	-0.224	-0.060	1.000			
(16) Service	46.70%	-0.059	0.124	-0.097	-0.069	-0.016	0.016	-0.027	0.153	-0.004	0.169	0.186	0.065	0.082	-0.208	-0.185	1.000		
Lifecycle Stage																			
(17) Seed	20.95%	-0.068	0.051	0.161	0.062	-0.038	-0.088	-0.192	0.156	0.150	0.102	-0.540	-0.242	-0.277	0.007	0.150	-0.144	1.000	
(18) Early	20.00%	0.047	-0.038	-0.224	-0.149	0.108	0.084	-0.062	-0.232	0.017	0.093	-0.524	-0.235	-0.113	-0.194	-0.035	-0.076	-0.257	1.000

3.4.2. Logistic regression

We performed a stepwise logistic regression to estimate the different drivers of an entrepreneur's preference for CVC using z-standardized variables. Table 3-2 illustrates the regression results.

Both variable categories–*resource need* and *aspired exit*–have a significant influence on the evaluation of CVC compared to IVC. In the **resource category,** we find support for H1. In our full model both the need for marketing resources (H1b: 0.708, $p<0.1$) and network resources (H1e: 1.455, $p<0.01$) increase the likelihood that CVC is preferred over VC. In model I without controls, the need for financial resources is negatively associated with the preference for CVC (-0.511, $p<0.01$; resource need category only). This, however, becomes insignificant in the full model and therefore does not lend support for H1a. Also, in model I, the need for manufacturing resources is positively related to the preference for CVC (0.479, $p>0.1$), while the need for marketing resources is not significant. Including the control variables for company age, previous financing of IVC or CVC, and the type of offering, leads to a shift in our main variables

Table 3-2: CVC preference logistic regression

	Model I: Resource Need		Model II: Aspired Exit		Controls		Full Model	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Resource Need: Financing	**-0.511***	0.233					-0.269	0.341
Resource Need: Marketing	0.269	0.256					**0.708***	0.385
Resource Need: Manufacturing	**0.479***	0.253					0.533	0.425
Resource Need: Technology	-0.270	0.253					-0.229	0.372
Resource Need: Network	**0.551***	0.270					**1.455****	0.462
Aspired Exit: IPO			**-0.486***	0.238			**-0.653***	0.365
Aspired Exit: Acquisition			-0.349	0.242			-0.555	0.354
Aspired Exit: Merger			0.061	0.251			-0.419	0.370
Aspired Exit: Buyout			0.016	0.225			0.180	0.323
Aspired Exit: Independence			0.154	0.248			-0.006	0.363
Previous IVC Financing					**-2.466***	1.290	**-3.417***	1.681
Previous CVC Financing					-0.311	0.959	-0.872	1.189
Company Age					**0.589***	0.278	**1.132****	0.393
Offering Hardware					**1.557***	0.609	**2.192***	0.913
Offering Software					0.771	0.679	1.418	0.897
Offering Service					**1.359***	0.571	**1.927***	0.764
Seed-Stage					-0.149	1.394	-0.760	1.810
Early-Stage					-0.853	1.422	-1.184	1.834
_cons	-0.993***	0.239	-0.947***	0.230	-1.274	1.477	-2.027	1.914
Pseudo R^2	0.102		0.655		0.194		0.387	

Note: z-standardized logistic regression coefficients with standard errors; dependent variable is prefers CVC (1 = prefers CVC, 0 = prefers IVC or equally IVC & CVC)
***p<= 0.001, **p<=0.01, *p<=0.1; N=105

related to the resource need. The other hypotheses H1c (manufacturing resources) and H1d (technological resources) are thus not supported by our results.

In the **exit category**, the results show entrepreneurs aspiring an IPO are less likely to prefer CVC over IVC (H2a: -0.653, p<0.1). We do not find significant effects for the other exit types. Yet, it is interesting that entrepreneurs aspiring an acquisition are (non-significantly) less likely to prefer CVC (-0.555). Therefore, we do not find support for H2b which argues that an entrepreneur might view a CVC investment as a starting point for a later acquisition.

3.5. Discussion and implications

We set out to examine what makes entrepreneurs more likely to prefer a CVC investor over an IVC investor and specifically focused on the start-up's need for certain resources and the entrepreneur's exit aspiration. The survey results confirmed that both aspects affect the preference for CVC. The types of resources demonstrate varying relevance. Marketing resources, as well as access to the corporate network, were the two dimensions driving the preference for CVC over IVC. In contrast, the need for financial resources did not yield any (positive or negative) explanation for the preference for CVC over IVC in our full model. The study thereby confirms the importance of resource access as a key distinguishing factor for CVC investors, which in contrast to IVC investors have differing expertise, facilities, and networks that are attractive for start-ups.

In terms of exit aspirations, we only find support for the negative effect IPO aspirations have on the preference for CVC. Our results further reject the widespread perception that a CVC investment might be viewed as the first step toward an acquisition (see, for example, Dimitrova, 2015; Guo et al., 2015).

3.5.1. Theoretical and practical contribution

With our study, we contribute to the under-researched field of (CVC) investor attractiveness. Literature has long focused on the benefits and risks associated with CVC investment (Maula, 2001; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005). However, it has neglected the entrepreneur's perspective. With a rising number of venture capital funds and more money invested in the market than ever (NVCA, 2022) start-ups are not forced to approach the first available investor but can make an informed choice about whom they want to approach. As a result, start-ups will also face the choice of whether to obtain CVC financing at some point. This study highlights two factors inherent to the start-up and its entrepreneur–the specific resource requirements and the intended exit strategy–that take effect in this decision. We thus add to the few studies that have examined VC investments from the entrepreneur's perspective (Drover, Wood, & Fassin, 2014; Hsu, 2004; Smith, 2001; Valliere & Peterson, 2007; Zheng, 2011).

Moreover, we provide more detailed insights into what kind of resources make a CVC investor attractive. While Katila et al. (2008) suggest that a venture's need for resources increases its likelihood of CVC investment (Katila et al., 2008), we are able to specify this statement in the sense that specifically marketing resources and access to the corporate network make a CVC investor attractive for entrepreneurs. These resource categories are distinctive for corporations and difficult to acquire. The already described industry-specific know-how and market expertise of CVC investors may take effect in the minds of entrepreneurs (Katila et al., 2008; Maula et al., 2005). This seems to be relevant for ventures across all lifecycle stages. In contrast, financial resources and the providers thereof are replaceable and do not evoke a differentiation between CVC and IVC investors in the mind of entrepreneurs. Moreover, technological know-how accessible through CVC investors does not matter for the entrepreneurs' preference of CVC over IVC. We can only speculate that either IVC and CVC investors are viewed as similarly equipped with technological know-how, or that entrepreneurs view the technological expertise as a key competence of their own start-up and are not interested in an exchange of technological know-how. The second line of argumentation adds to previous studies on defense mechanisms against IP misappropriation when entering a CVC investment relationship (such as Hallen et al., 2014; Katila et al., 2008). Our hypothesis on manufacturing resources was not supported in the full model. When controlling for the type of offering, the previously revealed effect in model I could not be confirmed. However, we do find a positive significant effect for our dummy variable "*Offering Hardware*". Due to the correlation measured between these two variables (see Table 3-1) we argue that both effects are related. The manufacturing know-how and possibly even infrastructure a CVC investor has at hand can be a differentiating factor in the mind of certain entrepreneurs, in particular for those working on offering a hardware product and an associated need for manufacturing-related resources.

Besides the closer look at resource categories, the study also contributes to the literature on exit intentions (e.g., DeTienne & Cardon, 2012; Wennberg et al., 2010) and links it to entrepreneurs' evaluation of financing options. We are thus able to show that the exit intention does not only influence the final exit (as shown by Hohen & Schweizer, 2021) but also the financing decision which in turn potentially affects the final exit. This finding is in line with the causation approach to entrepreneurial decision-making (Sarasvathy, 2001) and the theory of planned behavior (Ajzen, 1991, 2011; Ajzen & Fishbein, 1980) according to which actions are implemented based on the objectives in mind. In our case, the objective to exit via IPO or acquisition impacts the likelihood to prefer a CVC over an IVC investor. This makes sense as exiting via IPO or acquisition is challenging and requires support from experts in the (financial) industry (Nahata, 2008). Inferring from the results, entrepreneurs seem to perceive a CVC investor to be less able to support the growth needed to go public. The often-discussed scenario of CVC investors and acquisitions does not seem to influence the decision. As mentioned before, an acquisition by the CVC parent corporation takes place in only five percent of acquired start-ups with a CVC affiliation (Guo et al., 2015). Additionally, an acquisition is also a highly likely and successful exit scenario for start-ups with IVC affiliation and not CVC. The entrepreneurs' intention of exiting via an acquisition does not affect their preference for a CVC or IVC investment. However, the intention to exit via IPO does influence their financing preferences. It is important to note that we do not measure the actual likelihood in which a CVC or IVC affiliation leads to an IPO, but rather a preconception in the mind of entrepreneurs that a CVC investor might be less suited to facilitate an exit via IPO.

From a practical perspective, this study sheds light on the preconceptions entrepreneurs hold toward different types of investors. It thereby provides learning opportunities for entrepreneurs and investors to disentangle preconceptions and realities and emphasizes the importance of signaling. Access to marketing resources as well as the corporate partner network is a unique feature IVC investors cannot provide and thus increases a CVC investor's appeal to entrepreneurs. Leveraging their assets provides them with an immediate advantage in the eyes of entrepreneurs but also in the eyes of other investors (as shown by Keil et al., 2010).

According to our findings, leveraging their resources should especially include highlighting their corporate assets in terms of marketing expertise as well as their diverse network of corporate partners to potential portfolio companies. To increase their appeal to start-ups, IVC investors can try to build syndication networks with CVCs that hold these assets or try to expand their expertise and network in these directions for example through partnerships or hiring industry experts. Similarly, communicating the investor's track record in terms of exit paths and their intended exit scenario can help convince start-ups of their appeal. As our results show that CVC investors are less likely to be attractive to IPO-aspiring entrepreneurs, CVC managers should address this concern and point out the ways they support portfolio companies in achieving their aspired exit paths. In a similar vein, entrepreneurs can learn how preconceptions influence their financing decisions. This is important to build an informed decision when approaching investors for fundraising.

3.5.2. Limitations and future research

First, the survey only allows for the assessment of the general preconceptions of entrepreneurs about different financing options with a focus on entrepreneurial characteristics. However, IVC and CVC investors vary in the amount and type of resources they are able and willing to provide. Moreover, other specific investor attributes such as investor reputation (Drover, Wood, & Fassin, 2014) affect the entrepreneurs' decision to approach an investor. These aspects were disregarded to shed light on important aspects of the financing decision of entrepreneurs with a focus on their needs and aspirations.

Second, the limited number of participants restricts the validity of our findings. Despite the number of respondents, the sample is representative of the German start-up scene in several dimensions (age of entrepreneurs, industry structure, company age, and investment stage). The results can thus serve as indicators for future research avenues. It especially opens up the discussion of different resource types that are needed by start-ups as well as the interconnectedness of financing choices and exit aspirations.

Moreover, the study deliberately leaves out the question of whether the start-up can protect its unique intellectual property (IP) through safeguard mechanisms. Several studies have highlighted the role of IP protection in the likelihood that a CVC investment is accepted (Colombo & Shafi, 2016; Dushnitsky & Shaver, 2009; Katila et al., 2008; Maula et al., 2009). The complexity of the topic including the evaluation of key factors such as industry overlap of start-up and incumbent, the complementarity or competition between their products, as well as the IP protection regime (Dushnitsky & Shaver, 2009; Hellmann & Puri, 2002) require a separate evaluation.

Besides CVC investments other cooperative models between corporations and start-ups are widespread such as buyer-supplier relationships or innovation consortia (Battistini et al., 2013; Simon et al., 2019). These types of cooperative models might as well be able to provide start-ups with relevant resources such as access to technological expertise, or even network partners. Adding to the resource dependence perspective, future research should take different types of inter-organizational partnerships into account and compare their attractiveness for start-up entrepreneurs.

The reality of financing decisions includes a high degree of syndication between investors (Sorenson & Stuart, 2001). Co-investments of several investors are typically initiated by the investors and not the entrepreneurs throughout different phases of the investment process (De Clercq et al., 2006). The entrepreneurs' view on co-investments and especially the interplay between CVC and IVC investors is so far completely unexplored. We hope our study inspires further research on the academically neglected perspective of entrepreneurs in financing decisions.

We moreover believe that our results regarding the role of potential future acquisitions deserve a deeper investigation. Our study is insofar limited, as it does not evaluate the role of certain CVC investor attributes. Entrepreneurs who are faced with a financing opportunity from a CVC investor that offers a complementary product might evaluate this specific CVC investor differently than a CVC investor with no relation to the product or industry. In general, the interplay of exit intentions and financing decisions deserves further attention not only when it comes to IPOs and acquisitions as exit channels but also further exit channels such as buyouts.

3.6. Conclusion

This paper joins earlier studies that view the investment decision as the representation of entrepreneurial strategy beyond the pure access to financial capital. Especially the role of CVC investors and their competition with IVC investors have been of long debate as this financing form comes with benefits and downsides for everyone involved. We contribute a differentiated view on two main distinguishing aspects of CVC investment from an entrepreneurial perspective – resource requirements and the aspired exit strategy. In accordance with the resource dependence theory, we show that resource requirements are a driving factor in the entrepreneurs' preference for different investor types. Our findings point out that hereby the venture's need for marketing resources and access to the corporate network play a significant role in their preference for CVC over IVC. Additionally, we show that the preference for an investor is further affected by the entrepreneur's exit intention. Drawing on the theory of planned behavior, we demonstrate that if an entrepreneur aspires a certain exit path this also affects the entrepreneurs' evaluation of investor options which in turn might increase the likelihood of realizing the aspired exit path. Our results show that entrepreneurs striving for an IPO are less likely to prefer CVC. However, we dispel the myth that CVC is seen as a starting point for a future acquisition. Altogether, we expand literature in CVC attractiveness and add to the differentiated view on resource requirements and exit aspiration. For entrepreneurs and investors, the paper highlights the need to disentangle preconceptions and realities and emphasizes the importance of signaling in the investment process.

4. Essay III | Corporate Venturing in times of crisis: securing resources through legitimacy

Abstract

Accelerating innovation and creating new businesses have become a top priority for today's firms. Various corporate venturing (CV) modes have helped them achieve this goal. Yet, scholars and practitioners have noted the dynamic nature of CV initiatives that compete with other strategic initiatives for organizational resources and top management support. The fear that CV units face drastic cuts in times of crisis seems reasonable. To shed light on the resource dynamics and the CV units' responsive actions, we conducted an abductive study with 16 CV units to analyze the CV units' response to the COVID-19 crisis that transformed the world in the spring of 2020. Our findings show that an external crisis can unsettle a CV unit's internal legitimacy. In the adaption processes observed, we identify three different legitimacy-seeking mechanisms–sensing, focusing, and mobilizing–used by the CV units to secure resources, support, and goodwill from relevant internal stakeholders. The mechanisms uncovered differ from previously studied strategies as they emphasize the dynamic nature of legitimation efforts. The strategies used are affected by the perceived organizational distress caused by the crisis as well as the CV unit's pre-crisis legitimacy. Drawing on the critical role played by legitimacy in resource allocation decisions, this study allows us to understand better theoretically and practically how CV is embedded in organizational settings and how CV units can preserve internal (financial) resources.

Keywords: Corporate venturing · Crisis response · Legitimacy · Resource allocation

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4.1. Introduction

Faced with a rapidly changing business environment, more and more corporations have adopted corporate venturing (CV) practices with the goal "*to accelerate innovation and business creation*" (Gutmann, 2019, p. 123). The phenomenon of CV has been constantly evolving over the last two decades. It covers different modes such as corporate accelerators (e.g., Shankar & Shepherd, 2019), corporate incubators (e.g., Kruft et al., 2018), corporate venture capital (e.g., Dushnitsky & Lenox, 2005b; Hill et al., 2009), or other forms of strategic partnerships with start-ups (e.g., Weiblen & Chesbrough, 2015). Scholars and practitioners have increasingly taken up the issue due to its ability to foster innovation and competitiveness in today's economic realities (Kuratko et al., 2015). Centrally steered R&D activities are no longer sufficient and get complemented by entrepreneurial initiatives to capture knowledge, insights, and skills wherever they might crop up–internally or externally–to produce and deliver innovation (Birkinshaw & Hill, 2005).

Scholarly research on corporate venturing has repeatedly indicated the temporal embeddedness of CV. It found that the configuration of CV is affected by external influences such as technological and demand factors, as well as organizational factors such as top management support or corporate culture (Narayanan et al., 2009). Considering the dynamics underlying these factors, CV activities are bound to change over time. In the extensively studied field of CVC, different observations have highlighted its evolving nature without fully exploring the external and internal dynamics that trigger these adaptations. Key examples are the observation of different CVC waves (e.g., Dushnitsky, 2012) or the remark of dynamics in isomorphism within CVC units that shift their focus from internal to external or back (Souitaris & Zerbinati, 2014). To explain these dynamics, previous researchers have commonly referred to the CV units' dependence on internal resources for funding and supporting the activities (Zu Knyphausen-Aufseß, 2005). Similar to other strategic initiatives, they fight for organizational resources and top management support (Reihlen et al., 2021). However, the interrelatedness of

CV and the availability of internal resources remains poorly understood. We argue that these dependencies become significantly pronounced in times of crisis when adverse conditions, internal and external to the corporations, require the CV units to adapt to survive in the long run. Our study is thus concerned with how CV units strive to secure internal resources in times of crisis.

Existing researchers in institutional and resource dependence theory recognize the critical role of legitimacy in resource allocation decisions (Bitektine, 2011). Emerging from our data and aiming to better understand the CV unit's behavior in times of crisis, we take up the concept of legitimacy. In their competition for internal resources and support, CV units strive to be perceived as meaningful and trustworthy by aligning with and contributing to the short-term and long-term corporate strategy (Göcke et al., 2022). We, therefore, specifically focus on the role of legitimacy-seeking strategies used by CV managers during a crisis.

We conducted an abductive study of CV programs' reactions to the COVID-19 crisis that transformed the world in the spring of 2020. The COVID-19 crisis is an excellent research setting as it unexpectedly and massively restricted the business activities of many corporations. Faced with financial uncertainty and pressure, all spendings are reviewed rigorously, raising the question of which spendings are necessary to secure the survival and recovery of the firm. Resource allocation decisions and top management priorities are affected and require CV units to respond to the changing circumstances. To capture both the immediate adaption processes as well as changes that evolved throughout the first year after the beginning of the crisis, we collected data from CV units of large corporations in the spring of 2021. The insights provided by our interview partners are supplemented with publicly available information on their corporate business and venturing activity.

Our study suggests an external crisis can unsettle a CV unit's internal legitimacy. In the adaption processes observed, we find different legitimacy-seeking strategies the CV units use to secure resources, support, and goodwill from the relevant stakeholders. How strongly CV units are forced to adapt during the crisis is affected by the perceived organizational distress caused by the crisis as well as the CV unit's pre-crisis legitimacy.

Our study makes three main contributions. First, we answer calls to investigate the temporal aspects of CV activities (e.g., Souitaris & Zerbinati, 2014). Instead of a longitudinal study of adaption processes that occur over time, we use the exogenous shock of the COVID-19 crisis to observe strategies CV managers use to quickly adapt to the changing internal and external circumstances and secure their CV unit's legitimacy. Thus, we also capture and highlight the effect of environmental changes on business activities (Davidsson, 2020). The uncovered interplay of a reduction in slack resources, the CV unit's pre-crisis legitimacy, and the purposeful legitimacy-seeking actions of CV unit managers ultimately serve as an explanation for dynamics in CV over time, such as the CVC waves observed in previous literature (e.g., Dushnitsky, 2012).

Second, legitimacy has received scant attention in CV literature, although its application is widespread in studies concerning entrepreneurial ventures (e.g., Fisher et al., 2017). We thus add to recent papers that have taken up a legitimacy perspective in closely related fields such as corporate entrepreneurship (Göcke et al., 2022) or strategic venturing (Reihlen et al., 2021). Conceptualizing adaption processes as legitimacy-seeking behavior allows us to understand theoretically and practically how CV is embedded in organizational settings and how these initiatives can preserve internal (financial) resources.

Third, we add to the legitimacy-as-a-process perspective by identifying three new legitimacy-seeking mechanisms that emerge as a response to the crisis–*sensing*, *focusing*, and *mobilizing*. This adds to many papers concerned with CV strategies and their role in securing internal resources (for an overview, see Göcke et al., 2022). The mechanisms uncovered differ from previously studied strategies as they emphasize the dynamic nature of legitimation efforts. In light of the crisis, once established practices are questioned or rejected in anticipation of the adjusted expectations of internal (resource-holding) audiences.

The paper proceeds as follows. First, we discuss the concept of CV and the role of (internal) legitimacy in securing resources and support. The theoretical context lays the ground for the following data analysis and interpretation. We then continue by describing the context of the COVID-19 crisis in which the study is embedded and the methodological approach before we come to the findings of the study. The paper concludes by discussing the implications of our findings and giving an outlook on potential future research.

4.2. Background: Corporate Venturing (in times of crisis)

CV is embedded in the larger scholarly and practical discussion around the entrepreneurial abilities of corporations, also named corporate entrepreneurship (CE). The term CE is used as an umbrella term for the realization of new ideas as part of an organization, including "*a company's innovation, renewal, and venturing efforts*" (Zahra, 1995, p. 227). In contrast to innovation and renewal, CV involves the creation of an organizational unit by a corporation aimed at creating new businesses within or outside of an organization (Narayanan et al., 2009). New companies might "*follow from or lead to innovations that exploit new markets, or new product offerings, or both*" (Sharma & Chrisman, 1999, p. 19). Corporations use CV as a strategic instrument to tap into and capture ideas, knowledge, and insights outside or inside of the organization to deliver innovation for the parent company (Birkinshaw & Hill, 2005).

The designated corporate venturing units are highly heterogeneous in their form and the objectives they pursue. Gutmann (2019) identifies differing CV dimensions in the current literature and proposes a framework for structuring the different CV modes. Most importantly CV activities can have a primarily strategic, primarily financial, or balanced goal orientation (see for example, Battistini et al., 2013; Gutmann, 2019; Miles & Covin, 2002). Also, the direction of innovation flow can take various forms: “*inside-in*”, “*inside-out*”, and “*outside-in*” (Gutmann, 2019). CV modes, therefore, include differing manifestations such as internal hackathons, corporate incubation (Kruft et al., 2018), or spin-off activities, as well as out-licensing, corporate accelerators (e.g., Shankar & Shepherd, 2019), corporate incubators (e.g., Kruft et al., 2018), corporate venture capital (e.g., Dushnitsky & Lenox, 2005b; Hill et al., 2009), or other forms of strategic partnerships with start-ups (e.g., Weiblen & Chesbrough, 2015). Despite the differences between the described CV modes, they all share an association with a parent corporation providing financial, social, human, and symbolic capital and setting the course for the CV activities (Biniari et al., 2015).

The type and configuration that is chosen for a CV unit is thereby influenced by several contextual factors (Biniari et al., 2015; Narayanan et al., 2009): First, there are environmental factors, outside of the control of the organization: demand conditions, as well as technological innovation. Technological change and changing customer needs require corporations to explore new technologies and business models that complement and improve existing offerings. Second, CV characteristics are shaped by intra-organizational factors, including support from top management and corporate culture. Thus, CV also reflects corporate strategy in terms of “*corporate goals, resources, skills, and priorities*” (Narayanan et al., 2009, p. 63).

As a consequence of changes in contextual factors, CV activities are less stable in terms of funding and existence and are subject to change over time. Scholars have raised the evolving nature of CV activities based on different observations, especially in the CVC context. In the early 2000s, several researchers noted the funding volatility of CVC programs that missed long-term commitment from their parent corporations (Birkinshaw et al., 2002; Gompers, 2002). Due to the dot-com bubble, a quarter of firms investing in CVC programs stopped investing in 2001 (Birkinshaw et al., 2002). The notion of different CVC waves has been expressed again later, with CVC investments rapidly growing and then reducing (e.g., Dushnitsky, 2012).

Corporations might change their activities because they simply follow market trends or free cash flow (Zu Knyphausen-Aufseß, 2005). Further internal dynamics were observed within CVC units shifting their focus from internal to external isomorphism or back, which might be motivated by the pursuit of legitimacy towards different stakeholders (Souitaris & Zerbinati, 2014). Although these dynamics have been observed especially in the CVC context the dynamics are transferable to other CV modes, which all depend on the resources provided by their parent organization (Biniari et al., 2015). In general, researchers seem to agree that challenging market conditions and a reduction in slack resources are often detrimental to CV efforts (Narayanan et al., 2009). However, the dynamics that help CV units to secure resources remain poorly understood.

We argue that the general economic downturn due to an external crisis limits the free cash flow to be invested in CV activities. If the main business is majorly affected by a downturn, CV units might get under specific pressure. Practitioners such as Pradeep Tagare (head of the $250 million CV fund of National Grid) confirm the challenges CV activities are facing during the COVID-19 crisis: "*In that hunker-down scenario, all spending goes through a rigorous review, obviously, (…). One of the first things that gets hit is the venture capital part of it because that's an easy thing to step back on*" (Davis, 2020). On the contrary, studies have found that in times of crisis, innovation promotes firm recovery (Hausman & Johnston, 2014) and firm performance after the crisis (Devece et al., 2016). CV initiatives that are designed to distill innovation into large organizations could, therefore, also experience a boost. Overall, there is substantial evidence that CV activities are affected by the crisis. How the adverse conditions in times of crisis impact CV activities, is the subject of the following pages.

4.3. Theoretical foundations

4.3.1. Securing CV resources through (internal) legitimacy

To explore new business opportunities through corporate venturing, CV units need to be equipped with the necessary financial, intellectual, and relational resources (Garrett & Neubaum, 2013; Ma et al., 2016). Gaining and securing these resources requires CV units to reach legitimacy in their stakeholder's eyes (Y. Wang & Wang, 2017; Zimmerman & Zeitz, 2002). Legitimacy can be defined as "*a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions*" (Suchman, 1995, p. 574). However, a multitude of different definitions and typologies exist that have been used to highlight specific elements of the concept of legitimacy (Bitektine, 2011). What unites these definitions is the formation of a social judgment that affects people's actions toward an organizational entity (Bitektine, 2011).

The importance of legitimacy in resource allocation decisions has long been acknowledged by scholars in organizational ecology (Hannan & Freeman, 1977), resource dependence theory (Pfeffer & Salancik, 1978), and institutional theory (Meyer & Rowan, 1977). In the last years, various studies addressed the role of new venture legitimacy in attracting resources from different stakeholders such as investors, governmental institutions, or the broader ecosystem (Kuratko et al., 2017; T. Wang et al., 2017; Zimmerman & Zeitz, 2002). A recent study by Göcke et al. (2022) applies the concept of legitimacy to organize research on resource allocation decisions related to corporate entrepreneurship. More specifically for CV, and CE in general, internal legitimacy is particularly important. In contrast to external legitimacy, internal legitimacy refers to the perceptions and judgments of an organization's insiders (Drori & Honig, 2013; Kostova & Roth, 2002; Kostova & Zaheer, 1999). Thereby organizational entities such as strategic programs (Frandsen & Johansen, 2020), subsidiaries (Kostova & Roth, 2002), or departments (H.-S. Park et al., 2012) strive to be perceived as appropriate within the organization's socially constructed norms and beliefs. Internal stakeholders are resource-holding audiences whose judgment is essential for the success of the organizational entity (Reihlen et al., 2021). The audience focused on is essential because different institutional logics across audiences lead to different legitimacy judgments (Fisher et al., 2017). An audience's "*shared system of meaning*" (Reihlen et al., 2021, p. 4) shapes the interpretation of organizational practices in terms of their appropriateness and validity (Fisher et al., 2017). The legitimacy judgments are thereby made with respect to different dimensions of the entity's practices at hand. In one of the most popular typologies of legitimacy judgments, Suchman (1995) differentiates between (1) pragmatic legitimacy–creating benefits for the stakeholders–, (2) moral legitimacy–aligning with the moral values of stakeholders–, and (3) cognitive legitimacy–behaving rationally and meaningfully in the eyes of the stakeholders. The different dimensions again put the audiences' perception at the center of discussion who then serve as gatekeepers for different types of resources, including financial resources and political, social, or organizational resources (Göcke et al., 2022).

4.3.2. Building and maintaining legitimacy

While the perceptionist view focuses on how legitimacy occurs through the perception and judgment of the audience, one can also take an actor-centered perspective. Thereby, legitimacy occurs as a result of the "*purposive efforts of change agents*" (Suddaby et al., 2017, p. 453) that are involved in a continuous process of social negotiation with diverse audiences (Suddaby et al., 2017). This perspective thereby assumes "*that legitimacy can be mobilized deliberately through various mechanisms*" (Reihlen et al., 2021, p. 5), which are under the control of the management (Suchman, 1995). Process-oriented research thus focuses on identifying mechanisms by which actors strive to gain and preserve legitimacy. In their literature review, Göcke et al. (2022) identified legitimation strategies for CE entities to influence resource allocation decisions. Similarly, Reihlen et al. (2021) build on literature in the field of new venture legitimation to identify legitimation mechanisms in the context of strategic venturing. Three broad categories that come up in previous legitimation research include (1) identity, (2) associative, and (3) organizational mechanisms (review by Fisher et al., 2017). Identity mechanisms (1) refer to the use of identity claims to gain legitimacy. Symbols, stories, and statements are used to portray the impression of being aligned with the stakeholder's identity expectations. Associative mechanisms (2) describe the use of relationships and connections to demonstrate approval by other relevant persons or organizations and thus establish legitimacy. Last, organizational mechanisms (3) refer to organizational structures and processes that are aligned with the standard expectations of those in the field.

Following the inherent dynamism of this process view, legitimacy is not stable but needs to be continuously created or recreated (Suddaby et al., 2017). This is especially relevant for the crisis context of this study, as a crisis can unsettle previously taken-for-granted support and validity of existence. Besides gaining legitimacy, the purpose of legitimation thus can as well be to maintain or regain legitimacy (Überbacher, 2014). In the discussion around the dynamics of legitimacy, the concept of "*legitimacy thresholds*" is frequently referred to (e.g., Fisher et al., 2016; Nagy et al., 2017; Zimmerman & Zeitz, 2002). Legitimacy thresholds embody distinctive milestones in the perception of powerful audiences that, if passed, unlock further access to resources and growth, while if not passed, the existence is at stake (Zimmerman & Zeitz, 2002). Depending on the conceptualization, previous researcher argue that there is only one (Nagy et al., 2017; Zimmerman & Zeitz, 2002) or several legitimacy thresholds (Fisher et al., 2016; Tracey et al., 2018) in the course of the development process of an organizational entity. The concept of thresholds reflects the view of legitimacy as a resource or asset (Suddaby et al., 2017). In this view, legitimacy indicates a certain fit with environmental expectations gained through the use of structures, symbols, or practices (Suddaby et al., 2017). Thereby, it is assumed that legitimacy, the organization, and its environment are stable properties, and thus legitimacy is understood as a "*commodity that can be possessed*" (Suddaby et al., 2017, p. 458).

However, when looking at it from the dynamic process view, in which legitimacy is continuously constructed between diverse social actors, legitimacy might diminish, and organizational entities might fall below a threshold. So far, however, research lacks a closer look at drawbacks or discontinuities in the legitimation process (Reihlen et al., 2021; Überbacher, 2014).

4.3.3. Contextuality of CV legitimacy

While corporate actors engage in legitimation processes and resource-holding audiences judge these actions based on their moral, pragmatic, and cognitive validity, they do so in a certain context. Various factors, internal and external to an organization, relate to each other and build the context in which legitimacy-seeking agents strive to secure resources (Fisher, 2020; Navis & Glynn, 2011). "*When viewed as a property, legitimacy is seen to occur as the outcome of mechanisms of contingency between the legitimacy object and its external environment*" (Suddaby et al., 2017, p. 452). Especially high-velocity environments thus challenge the legitimacy of an organization (Überbacher, 2014). Dynamics in the market context, more specifically the emergence of new market categories, technological change, new regulations, or changes in the competitive environment, give rise to legitimation challenges of organizations (Navis & Glynn, 2011, 2010; Überbacher, 2014). Further, Göcke et al. (2022) argue that in addition to factors in the organizational environment, contextual factors within a corporation, specifically the corporation's entrepreneurial orientation, affect the CE entities' legitimacy-seeking actions. For the setting of our study, we infer that a macro-level event such as an external crisis constitutes a challenge to the pursuit of internal legitimacy by CV unit managers as it impacts the internal audiences' judgment of the CV activities' cognitive, moral, and pragmatic validity.

Going forward, this paper focuses on adaption processes in CV activities due to adverse conditions in times of crisis. It thereby analyzes the actions of CV managers in practically establishing or preserving legitimacy for their CV unit during the COVID-19 crisis to secure further access to resources and the survival of the CV unit. Following Reihlen et al. (2021) we thereby argue that the before-mentioned theoretical views of legitimacy as property, process, or perception (Suddaby et al., 2017) provide complementary insights and suggest that CV units gain legitimacy through the interaction of different corporate actors who adopt mechanisms to gain, maintain or regain legitimacy in the eyes of powerful resource-holding audiences internal to their corporation who continuously judge the CV units legitimacy with respect to its moral, pragmatic, and cognitive properties.

4.4. Context and methodology

To find out how CV activities change in times of crisis, we conducted a qualitative study with 16 CV units by triangulating interviews and complementary information during the spring of 2021–one year after the COVID-19 crisis had its first major impact on the business world.

4.4.1. Setting: The COVID-19 crisis

With the discovery of SARS-CoV-2 late in the year 2019, the coronavirus disease (COVID-19) started its spread around the globe. The enormous pressure it caused on health systems and the economic consequences resulting from measures to combat the virus led to an unprecedented major exogenous shock to people and companies worldwide (Baker et al., 2020). The virus was transmitted instantaneously, and the economic shock waves hit the economy worldwide instantly due to its interdependences (Brown & Rocha, 2020). The shock required companies to rapidly respond to changes in nearly all business activities, such as changing customer demand, frictions in supply chains, different policy measures to slow the spread of infections (shop closures, travel restrictions, work from home, etc.), or turmoil at the public stock markets. The effects seen in the global economy were manifold.

When the effects on companies became evident, management scholars started to study how different stakeholders and activities were affected by the crisis: entrepreneurship (e.g., Kuckertz et al., 2020), innovation (e.g., Ferrigno & Cucino, 2021), financial markets (e.g., Uddin et al., 2021), equity investments (e.g., Brown et al., 2020), digital transformation (e.g., Amankwah-Amoah et al., 2021), etc. (for an overview, see for example Verma & Gustafsson, 2020).

The COVID-19 crisis was characterized by high uncertainty for all business activity and intense financial pressure for those sectors and companies most affected (Evans, 2020). At the beginning of the crisis, many actors, thus, reacted by protecting the status quo. Measures described in recent papers show how venture capital investors were focused on protecting their existing portfolios (Brown et al., 2020) and firms cutting down their spendings (Salamzadeh & Dana, 2021). Similar rationalization efforts have also been described in other crisis settings, such as the financial crisis in 2008 (Laperche et al., 2011). On the contrary, the COVID-19 crisis also served as a trigger to innovate concerning the health challenges in the pandemic but also the economic dynamics that put pressure on many firms to adapt, as old business models were no longer viable (Ebersberger & Kuckertz, 2021; Kuckertz et al., 2020). This opportunity-focused research perspective characterizes the COVID-19 crisis as an enabler of innovation (Ferrigno & Cucino, 2021; Sultan & Sultan, 2020) and new venture creation (Davidsson et al., 2020). First studies show that this is not only true for innovative start-ups that strive to exploit entrepreneurial opportunities in the crisis (Kuckertz et al., 2020; Manolova et al., 2020) but also for established firms adapting their business models (Breier et al., 2021; Kraus et al., 2020). This is especially relevant, as studies have found that in times of crisis, innovation promotes firm recovery (Hausman & Johnston, 2014) and firm performance after the crisis (Devece et al., 2016). Ebersberger & Kuckertz (2021), therefore, argue that innovation might be critical to overcome the health-related and economic challenges of the COVID-19 crisis. Based on their analysis of organizational actor's innovation response time to the COVID-19 crisis, they argue that "*engaging in asymmetric partnerships [...] with innovative start-*ups *will thus be a promising route for [established firms and their] innovation management to benefit from those fast innovators' organizational characteristics*" (Ebersberger & Kuckertz, 2021, p. 133). Accelerating innovation through CV activities thus seems not only a fruitful strategy in times of economic expansion and positive cash flow but might also be highly relevant to overcome an economic crisis.

4.4.2. Data sources

This study is based on qualitative and quantitative data from the spring of 2021. The COVID-19 crisis transformed the world in the year 2020 when it unexpectedly and massively restricted the business activities of many corporations due to its pressure on health systems and the measures to combat the virus. Faced with financial uncertainty, all spendings are reviewed rigorously, raising the question of which spendings are necessary to secure the survival and recovery of a firm. Resource allocation decisions and top management priorities are affected and require CV units to respond to the changing circumstances. To capture both the immediate adaption processes as well as changes that evolved throughout the first year after the beginning of the crisis, we collected data from CV units of large corporations one year after the first major economic shock of the crisis. We deliberately chose that point in time to ensure our interview partners were able to easily recollect the events while the crisis evolved and to allow for diverse dynamics to emerge and settle.

Countries, as well as industry sectors, have been hit by the crisis to a variable extent (Evans, 2020). While travel had almost completely stopped for some time, digital services (e.g., digital communication, online retail, online training, and learning) have seen a major surge worldwide.

To account for these differences, we followed a purposeful sampling approach selecting cases that fill specific conceptual categories (Eisenhardt, 1989). In our case, we specifically focused on incorporating different industries (more or less affected by the crisis), different CV types (CVC, incubators, etc.), globally active corporations, public and private companies, as well as CV units of different ages (long-established, newly established). We added cases until a large enough variety of cases had been covered and the interviews stopped to provide significant new information. For an overview of corporations and interview partners see Table 4-1. In the whole paper, corporations and interview partners are anonymized and referenced following the Greek alphabet.

For each CV unit, we interviewed at least one program manager per CV unit in their preferred language via the online communication tools ZOOM or Microsoft Teams and recorded the interviews with the interviewee's approval. The interviews took between 30 and 90 minutes and were transcribed afterward. The conversation followed a semi-structured interview approach (Myers, 2009) that included the topics we wanted to discuss. The content of the interview was thereby inspired by previous research in the field of CV. The theoretical perspective of legitimacy theory was not revealed upfront or during the interview, as we matched the theoretical perspective with our data not until after the second round of coding. We asked follow-up questions to gain further insights into the processes that took place and remove ambiguity. Each interview began with a short introduction of the study's goal, which had also been communicated upfront. In the next step, the interviewee was asked to briefly introduce his person and role in the CV unit. Afterward, we discussed the goal and motivation of the CV unit and its parent, the unit's general structure, and its embeddedness in the corporation. We also touched on more sensitive topics, such as the internal perception and support of the CV unit in general. In the interview's second half, we focused on adaption processes resulting from the COVID-19 crisis. We thereby covered both–the reaction of the

Table 4-1: Overview sample of CV units

Company Pseudonym	Interview Partner	CV Type	Parent Industry	Private / Publicly Listed
Alpha	investment director	corporate venture capital	financial services	public
Alpha	manager platforms & acquisitions	corporate venture capital	financial services	public
Beta	lead for disruptive technology segment at CVC	corporate venture capital and other CV modes (non-traditional partnerships, new markets)	transportation	public
Gamma	senior investment manager	corporate venture capital	multinational conglomerate with a focus on electronics	public
Delta1*	head of marketing of incubator	incubator	multinational conglomerate with a focus on engineering and technology	private
Delta2*	senior manager CVC unit & co-founder startup partnerships	corporate venture capital and venture partnerships	multinational conglomerate with a focus on engineering and technology	private
Delta3*	venture partner	venture partnerships	electronics	private
Epsilon	principal CVC	corporate venture capital	mobility	public
Zeta	investment manager	corporate venture capital	mobility services	private
Eta	director partnerships	CV unit including partnerships, investments, trend scouting	mobility services	public
Theta	director venture client platform	venture partnerships	construction	public
Jota	senior associate	corporate venture capital	energy & engineering	private
Kappa	investment manager	corporate venture capital	electronics	public
Lambda	lead CVC unit	corporate venture capital	mobility	public
My	investment manager	corporate venture capital	engineering	private
Ny	managing director	corporate venture capital	food and beverage	private
Xi	investment manager	corporate PE-like majority acquisitions in startups	media	public

*Delta1/2/3 refer to different CV units within the parent company Delta; Delta3 is part of an independet subsidiary of Delta. Delta1+2 are active on group level.

parent company in general and the CV unit more specifically. It was thereby differentiated between short-term and medium- to long-term adaption processes. In the end, we also asked for their outlook on the next few months. In general, we found that with the help of some guiding questions, the interviewees were easily able to retrospect the last 12 months. Before and after the interviews, the interviewers collected additional open-access data about the company as well as the CV unit specifically to get a broader picture of the cases under analysis. The qualitative data from the interviews was thereby triangulated with written quantitative and qualitative artifacts (Flick, 2014) about the companies and their CV unit activities. The written artifacts include annual reports, statistics, and press releases from the companies and their CV units' web pages. We additionally collected stock market data on the economic development of the companies.

4.4.3. Data analysis

Given our goal to explore this empirical phenomenon and the general temporal embeddedness of CV activities, we followed an abductive approach. Moving "*between induction and deduction while practicing the constant comparative method*" (Suddaby, 2006, p. 639), abductive research focuses on "*generating new conceptual views of the empirical world*" (Suddaby, 2006, p. 639). In general, abduction strives to generate and evaluate an explanation to understand an empirical phenomenon by applying existing theory to a new domain, thereby discovering the phenomenon more fully (Sætre & Van de Ven, 2021; Suddaby, 2006). It is, therefore, especially suitable to address empirical phenomena that are not adequately explained by existing research and to develop new explanations for the observations (Rigtering & Behrens, 2021). The paper accordingly builds on existing literature in the field of corporate venturing, as well as internal legitimacy, to guide our analysis and better understand the observed responses of CV units to the crisis.

For the analysis of the interviews, we used the MAXQDA software to code the data. We thereby combined inductive and deductive coding procedures to generate new insights in an abductive manner. We first started with a within-case analysis to ensure every case and its context is deeply understood (Eisenhardt, 1989). Then we started the first coding cycle following an inductive approach. As suggested by Corbin & Strauss (2014) and Gioia et al. (2012), we began with open coding and generated codes covering the observations in our cases and coding all transcripts accordingly. Next, we used axial coding to arrange the codes into categories by linking and structuring them hierarchically. In the third step, the selective coding, we then went back to the existing theory and searched for a match with the observations from our study. From the data and the theoretical work, it became apparent that legitimacy theory fits well to explain the observed empirical phenomenon. We then repeated the cycle and iteratively adapted our coding scheme until theoretical saturation was achieved and our most important categories could be integrated into the theoretical framework. The coding scheme is illustrated in Figure 4-1. We follow prior studies in their approach to presenting the findings (for example, Souitaris & Zerbinati, 2014): In the text, we use "*power quotes*" to illustrate our results (Pratt, 2008). (Where necessary, quotes have been translated from the original language to English for this paper.)

This study follows a triangulation approach integrating qualitative and quantitative data providing us with insights beyond what a qualitative or quantitative approach alone could achieve (Bazeley, 2018). To explore the role of contextual factors in explaining the variety of crisis response strategies amongst the CV units we consulted additional data we had collected. Subsequently to the coding we conducted intensive cross-case analysis and integrated the findings from the quantitative analysis described below to refine emerging "*themes, concepts, and possibly even relationships between variables*" (Eisenhardt, 1989, p. 541). The available quantitative data was used to generate valuable insights into how strongly the parent company was affected by the crisis. To do so, we collected data from annual and quarterly reports complementing the interviewees' statements regarding the economic impact COVID-19 had on their business. Based on the combination of the interviews and the financial statements we assigned the companies a category that best reflects the financial distress of the parent organizations: "*profited*", "*not seriously affected*", "*affected*", "*suffering*", and "*extremely suffering*".

Analogous to the content analysis approach (Krippendorff, 2012) used by Wang et al. (2017) to construct measurements for new venture legitimacy, we further used the information from the interviews and publicly available data on the CV units to compile measures of the CV unit's pre-crisis legitimacy: (1) The parent organization's motivation to start the CV unit, (2) the parent organization's dependence on innovation, (3) the CV unit's resource autonomy, (4) the CV unit's support by top management, (5) the CV unit's internal promoter score. The argumentation for the selection of these five factors is described in more detail in the findings section. We then use the five factors to build a simple informative score ranging from zero to five by assigning one point each if (1) the parent organization pursues a strategic benefit through the CV activities (beyond a purely financial benefit), (2) the parent organizations business model is highly dependent on innovative products or services, (3) the CV unit has a high degree of autonomy regarding the use of resources, (4) the CV unit's perceived support by the top management is high, and (5) if it perceives strong internal support from diverse business units. The assignment of scores can be viewed in Table A-3 in the appendix. Table A-4 provides illustrative quotes substantiating the assignment of the score for each CV unit.

4.5. Findings

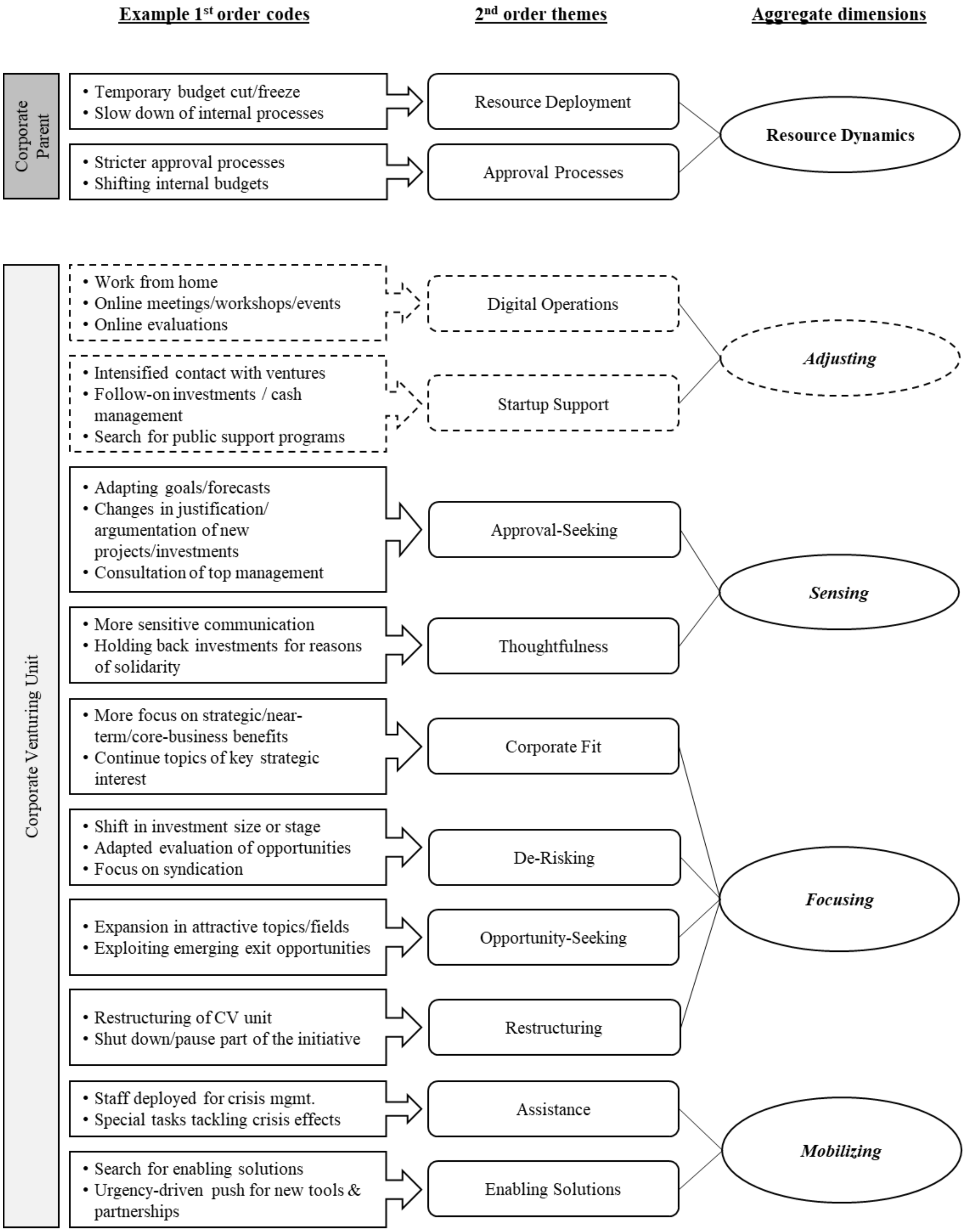
We start by describing the observed resource dynamics affecting CV activities during the crisis. We then focus on illustrating the patterns in CV units' responses to the crisis seeking legitimacy and securing resources within the parent organization. Figure 4-1 presents the coding system of

CV units' crisis response. (Illustrative quotes representing first order codes can be found in Table A-5 in the appendix.) Next, we integrate the findings from the quantitative analysis and explain observed variation across the CV units' responses based on the impact the crisis had on the parent organization. In the last step, we present pre-crisis factors that (positively or negatively) influence the response strategies observed.

4.5.1. Resource dynamics during the crisis

The COVID-19 crisis came with a sudden exogenous shock that disrupted supply chains, changed customer demand, and led to a sudden stock market crash (Kuckertz & Brändle, 2022). As a consequence, companies introduced measures to face the (financial) uncertainty during the crisis. Before investigating closely how the CV managers responded to the crisis, the resource dynamics within the parent organizations are illustrated. In our sample, we found two aspects that changed in terms of resource dynamics within corporations that affected CV units' activities: First, the resource deployment to CV units and, second, changes in approval processes for the activities. Regarding changes in resource deployment, we saw several parent companies which reacted by cutting or temporarily freezing budgets for CV unit activities. "*We found a good start-up with a good fit, but because of COVID / because we didn't know what was going to happen in the coming months, we had to be careful with the money, and since we are a strategic investor and not a financial VC, the value of holding it and making more deals is less than the value for the corporate of staying alive. And with that consideration, …well, I mean, to put it in plain language: [The company] actually just cut off the money supply for a few months and waited"* (Kappa). This type of cost-cutting also indirectly affected CV units' work, as several parent organizations also reduced other business activities, leading to an overall slowdown of internal processes the CV units were dependent on.

Figure 4-1: Overview of the coding system and aggregate dimensions of CV units' crisis response



In terms of approval processes, interviewees reported stricter budget limits and extended approval processes. "*[With COVID], we have to pay even more attention to costs and cash flows. As a result, many thresholds suddenly dropped to zero. And since then, we've had to suddenly approach the finance department, even with smaller amounts, and then you have to actually start again and explain to them: why are we doing this? [...] But that's the kind of tension you have between the purchasing department, finance, and controlling"* (Theta). Similarly, interviewees reported shifts in internal budgets and, thus, the question of which unit has to pay for a new project.

The duration of changes in resource deployment and approval process highly varied between the cases at hand. At the time of the interviews, roughly one year after the start of the COVID-19 crisis, most resource dynamics had settled and seemed better predictable in terms of future developments. Others had even returned to business as usual with their CV units.

4.5.2. CV units' legitimacy-seeking strategies in times of crisis

As the core of this study, we investigated how CV units adapted their operational and strategic business activities in response to the COVID-19 crisis to secure internal resources for their initiatives. We thereby reveal how CV managers engage in activities to create and maintain their units' internal legitimacy by influencing perceptions of appropriateness within their parent organizations. As illustrated by the second-order themes in our coding scheme (see Figure 4-1), we identified several recurring strategies to preserve or gain internal legitimacy. We further aggregated these legitimacy-seeking strategies to identify different mechanisms CV units make use of in times of crisis. The activities observed thereby illustrate that legitimacy is a central concern to CV managers in times of crisis.

What we found for all CV units under analysis were immediate reactions to the crisis that concerned the daily business operations of CV units: Transfer of daily operational activities to the digital space, working from home, canceling events and business trips, and shifting their activities into the online space (e.g., venture evaluation or due diligence). Additionally, in the short term, the priorities in their daily work shifted to protecting and securing current projects and start-ups they cooperated with. This was ensured through intensified contact with the teams and different kinds of support to help them navigate the crisis financially and strategically. Beyond these operational adjustments, our analysis mainly focused on identifying how CV units secure internal resources in times of crisis. During the data analysis, three main mechanisms emerged that resemble legitimation efforts to secure internal resources: (1) *sensing*, (2) *focusing*, (3) m*obilizing*. The legitimacy-seeking efforts were triggered by the exogenous shock of the COVID-19 crisis and the resulting (financial) uncertainty within the CV units' parent organizations.

Sensing

To align with the parent companies, CV units have altered and/ or intensified their communication with their internal stakeholder in the top management. This included reassuring their plan with top management representatives in regular meetings and presenting new forecasts and goals that needed approval. We further observed changes in the argumentation for CV projects: "*We did our first investment committee in September, basically in the middle of the COVID-19 crisis. I think just before the second wave in the middle of 2020 when the books all looked so bad. But what has helped is when we showed them very clearly, okay, the financial matters, but what has now become very important again, what was already crucial before, but now more or less clearly stated, is that we clearly show the benefits for the Zeta group"* (Zeta).

Our interview partners also showed a high awareness that in a situation when people are laid off or working only reduced hours, companies are getting public loans to ensure survival, and everyone had to cut back their interests for the health and safety of others, the communication to the public needs to be adapted. The senior manager of Delta2 clearly expressed this sentiment in the following statement: "*We did not want to give the signal to the business units during this Corona crisis, and in Delta, so to speak, the belts are tightened everywhere here, and we are still walking around with loads of money. And that's why we restricted our communication and said we no longer communicate everything. Sometimes we somehow made up for it later in some other reports. So we deliberately held back a little, because there was just this crisis mood and thus such investments in start-ups did not fit well in communication"* (Delta2).

Focusing

What stood out in the analysis was that nearly all CV units actively introduced changes to their CV practices to adapt to the new situation and align with their parent companies. With adaptions in venturing practices, the CV units strive to de-risk their activities (e.g., smaller investments, focus on strong syndication partners, shifting priorities away from specific crisis-related fields), at the same time exploiting new opportunities (in new fields that profited from the crisis), and focusing on the strategic benefit the parent company can derive from the activities (e.g., near-term rather than long term opportunities, closer relation to the core business, or high strategic relevance): "*So really, a lot of our focus over the last year has been okay, we can't stop investing, but it's just we can't invest at the same levels that we historically had through this. So how do we prioritize and get the most bang for our buck in terms of, you know, not just return on investment, but really, what are the critical things we need to be investing in to be successful in the future? So I would say that that thesis of kind of applied in the CVC-unit Beta sense as well*" (Beta). Or as our interview partner from Ny described it: "*It was, so to speak, a focus on what we are good at. And I had the feeling that we had become much more strategic because before that we had thought about what might be left and right from our business and* *what were things that were really essentially what we are good at and what we are able to do. So it was more of a focus, so to speak. So it was not connected with crushing everything, but rather overinvesting, so to speak, in areas that we had already proven*" (Ny).

Besides the resource provision, CV units such as Eta or Beta also reported restructuring efforts by their CV unit as a reaction to the crisis and the financial strain it had put on their parent company: "*The sub-unit 'investments' is no longer an issue. So we had always worked towards our own fund beforehand, that also looked very good, but the crisis has ruled the topic off the table*" (Eta). By changing their organizational structure, they actively adapted to the internal resource scarcity: "*And also because we lost this growth perspective for the time being, our structure was basically a bit over-engineered. Because it was designed for a larger structure. And as a result, we have now adjusted the structure or are in the process of adjusting it*" (Eta)

The restructuring effort thereby was not led by corporate headquarters but followed a self-inflicted realignment of priorities. *"So, you know, kind of long-term with, you know, with business unit N, we ended up deciding to shut down N, or hit pause on that, and that was a really significant investment for the company. So that was all our work in this specific new segment. […] We really had obligations to other parties, but a lot of the internal-only stuff stopped or slowed down.*" (Beta). "*But I'll say, you know, like the decision to stop business unit N was actually our decision because we're at the corporate level, we understand what's going on in the company*" (Beta).

Mobilizing

CV units can also be of help to corporations during times of crisis. The entrepreneurial mindset of CV units that comes with agility and speed has shown to be useful in crisis management. We documented that CV unit staff had been deployed for crisis management tasks, as well as CV units assigned to come up with solutions tackling key business challenges during the crisis: "*We* *did a different type of project immediately after the crisis last year. So we did projects that were much closer to the core business. For example, we very quickly, because we are simply much faster than other areas, we built and developed a platform very quickly, which has led to [the cash flow of Eta being stabilized]. There wasn't that before, the possibility. We did that in a few weeks, for example. That would be something we would not have done before because it is actually a core business topic*" (Eta). Our interview partner from Theta described a similar situation as the CV unit immediately started to look for solutions to address new challenges that have come up during the crisis (e.g., in terms of shift scheduling, working from home, or paperless ordering). Digital solutions that have been out there already and have been discussed by the CV unit before have thus received heightened relevance and have quickly made their way into the company.

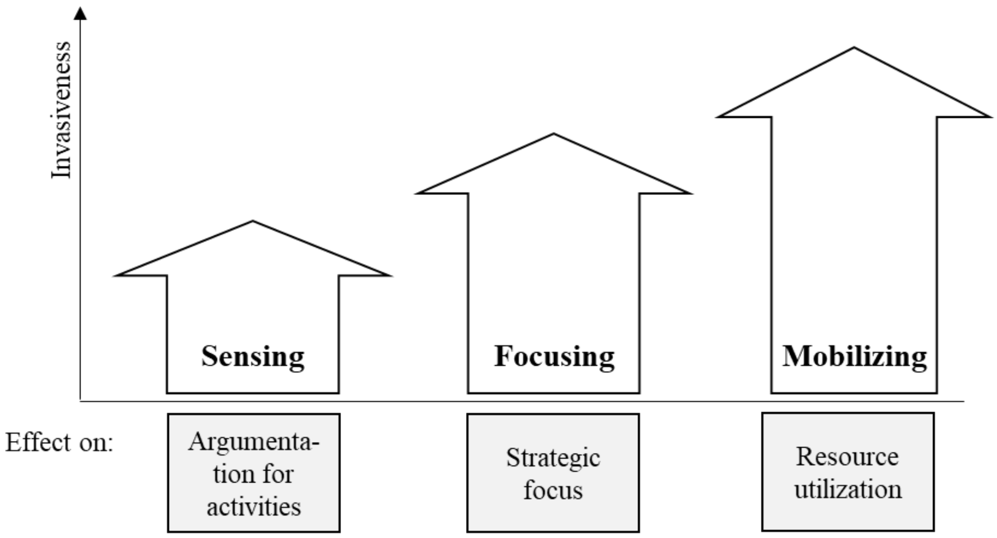
Table 4-2: Quantitative occurrence of the documented legitimacy-seeking mechanisms in the sample

Number of CV units using the legitimacy-seeking mechanisms	
Sensing	11
Focusing	11
Mobilizing	4

The occurrence with which we found the documented legitimacy-seeking mechanisms in the data set varies highly. *Mobilizing* mechanisms were only used by four CV units, while the occurrence of *sensing* and *focusing* mechanisms was very prevalent in the sample. Table 4-2 provides a first overview of the documented occurrence.

When comparing the three main legitimacy-seeking mechanisms, we find different levels of invasiveness of the performed strategies concerning the CV units' pre-crisis practices (see Figure 4-2). While *sensing* mechanisms require adapting the argumentation for certain activities, the described focusing mechanisms changed the CV units' strategic focus in what they do. And last, mobilizing mechanisms lead to a transformation of what activities the CV units are carrying out, considering the resources available to them.

Figure 4-2: Invasiveness of legitimacy-seeking mechanisms observed during the crisis



4.5.3. The role of financial distress during the crisis

By using additional publicly available quantitative data, we were able to approximate and rank the financial impact the crisis had on the parent organizations' business. During the COVID-19 crisis, not all industries faced the same economic challenges, and some even profited from the crisis and its impact on consumer behavior (Evans, 2020). Our results support the line of argumentation of previous studies that incredibly challenging market conditions and the consequential reduction in slack resources put a strain on CV activities (Narayanan et al., 2009). Table 4-3 integrates the crisis response patterns of the CV units under consideration with the crisis impact categorization. Empty fields indicate that the interview partners did not explicitly mention this topic. All CV units studied underwent operational adaptions because of the COVID-19 crisis (*adjusting*). CV units of companies under (extreme) financial constraints show more adaptions induced by the parent company in terms of resource dynamics but also

Table 4-3: Crisis impact and CV units' response patterns

Company Pseudonym	Resource Dynamics		Mobilizing		Focusing				Sensing		Adjusting		Crisis Impact on Parent
	Resource Deployment	Approval Processes	Assistance	Enabling Solutions	Restructuring	Corporate Fit	De-Risking	Opportunity-Seeking	Approval-Seeking	Thoughtful-ness	Digital Operations	Startup Support	Rating Category
Beta	☑		☑		☑	☑				☑	(☑)	☑	extremely suffering
Eta	☑		☑		☑	☑				☑	(☑)		extremely suffering
Zeta	☑	☑				☑	☑		☑	☑	(☑)	☑	extremely suffering
Ny	☑					☑	☑	☑	☑	☑	(☑)	☑	suffering
Theta	☑	☑		☑			☑		☑		☑		suffering
Lambda	☑								☑		☑	☑	suffering
Kappa	☑					☑	☑				(☑)	☑	suffering
Delta2	☑									☑	(☑)	☑	affected
Delta1									☑		☑	☑	affected
Epsilon							☑			☑	(☑)	☑	affected
Alpha									☑		☑	☑	not seriously affected
My								☑		☑	☑	☑	not seriously affected
Jota											(☑)	☑	not seriously affected
Xi								☑			☑	☑	not seriously affected
Gamma						☑	☑	☑			(☑)	☑	profited
Delta3	☑			☑				☑			☑		profited

(☑) The interviewees did no explicitly mention changes to their daily operations such as working from home in the interview, but based on he location of their offices we can assume that they were forced to switch their operations into the digital space due to local COVID19-restrictions.

adopted by the CV units themselves in the form of legitimacy-seeking strategies. In terms of our *mobilizing* mechanism, companies Beta and Eta were the only ones we found to employ assistance as strategy, and Theta and Delta3 offering enabling solutions to their parent organizations. *Focusing* mechanisms could be found vastly in all CV units that were (extremely) suffering from the crisis. We also find adaptations of CV units' activities in those companies that have profited from or have not been significantly affected by the crisis. However, these adaptations have an increasingly opportunity-driven character, such as focusing on new attractive fields. The *sensing* aspect has especially shown to be a concern for those CV units whose parent organizations were more affected by the crisis. For company Gamma, numerous legitimacy-seeking strategies were used, although the parent organization benefitted from the crisis. Thus, there seem to be further (non-crisis related) factors influencing the CV units' response in times of crisis. We will have a closer look at potential factors in the next sub-chapter.

4.5.4. The role of CV units' pre-crisis legitimacy

The observed differences in the usage of legitimacy-seeking mechanisms that the crisis effect cannot explain led us to look for additional patterns in our data. For this purpose, we examined additional information gathered during the interviews and from publicly available data sources, such as the motivation of the CV unit, its general setup, the venturing practices it implemented, etc. Drawing on previous literature in the context of CV, we identified several factors that are indicators of whether a CV unit is highly established within their parent organization or, in general rather questioned: (1) The parent organization's motivation to start the CV unit, (2) the parent organization's dependence on innovation, (3) the CV unit's resource autonomy, (4) the CV unit's support by top management, (5) the CV unit's internal promoter score.

These factors draw on the view that legitimacy constitutes an asset of an organizational entity and thereby reflects a particular fit with environmental expectations, which is gained through the use of structures, symbols, or practices (Suddaby et al., 2017). We chose the factors as indicators reflecting this fit with environmental expectations. The first indicator, the parent organization's motivation to start the CV unit (1), refers to the objectives prioritized by the chosen CV mode in either financial, strategic, or a combination of both (see Gutmann, 2019). While hybrid approaches are widespread (Battistini et al., 2013; Röhm et al., 2018), it is especially the prioritization of strategic benefits that provides a unique way for organizations to gain a competitive advantage as it offers insights into emerging technologies, opportunities for strategic partnerships, and a shift in the entrepreneurial climate within the organization (Battistini et al., 2013; Benson & Ziedonis, 2009; Birkinshaw & Hill, 2005; Narayanan et al., 2009). The parent organization's dependence on innovation (2) is closely linked because in an ever-changing complex environment, organizations must strategically renew themselves to keep their competitive advantage by exploiting internal ideas and exploring external opportunities (Weiss & K. Kanbach, 2022). It can thus be inferred that the relevance of CV is particularly elevated in innovation-dependent environments. The third factor, a CV unit's resource autonomy (3), has a reflective nature, as the resource autonomy both in terms of financial resources allocated as well as the decision rights that are assigned to the CV unit's management, implies a high faith in the CV activities performed. Under high degrees of autonomy, the CV units bear full accountability for achieving the mandate given by their parent organization (Birkinshaw & Hill, 2005). CV is also highly sensitive toward intra-organizational support. Especially top management support (4) has been found to play a crucial role in CV (Göcke et al., 2022; Narayanan et al., 2009). Top management support determines the financial and social resources available to the CV unit and thus controls the organizational conditions in which CV can thrive (De Bettignies & Chemla, 2008; Garrett & Neubaum, 2013; Hornsby et al., 2009). A similar effect was found for the support by middle management (5). Middle managers help promote CV activities internally and even organize scarce resources (Halme et al., 2012; Hornsby et al., 2002, 2009). We, thus, argue that by assessing the just mentioned five factors for the CV units under observation, we can gain some insights into how legitimate the CV units are perceived internally absent any impact from the COVID-19 crisis.

The scoring inferred based on these five factors (see data analysis) implies a high degree of simplification and thus needs to be interpreted as a tendency regarding CV units' pre-crisis legitimacy rather than a measuring scale. The assumption builds on the understanding that legitimacy is a "*commodity that can be possessed*" (Suddaby et al., 2017, p. 458) and is linked to certain thresholds that are achieved when a fit with environmental expectations is reached (Suddaby et al., 2017).

Combining the CV units' response patterns and the score we derived indicates a positive relationship between the extent of legitimacy-seeking response mechanisms used by the CV units and their pre-crisis legitimacy. Table 4-4 follows the same structure as Table 4-3 but is sorted based on the pre-crisis legitimacy we inferred for each CV unit (from low to high).

The resulting table provides more information to explain why some CV units chose to pursue a range of legitimacy-seeking response strategies, although the crisis had no significant effect on the parent organization, while others showed less response despite a relatively high crisis impact. A very illustrative example is CV unit Delta3 which responded to the crisis on several levels (s*ensing* and *focusing* mechanisms) although the parent organization actually was able to increase its revenues remarkably. A key issue here might be that the CV unit faced a newly appointed CEO and thus had to prove its relevance to gain internal legitimacy within the top management's perception. Interestingly we find that CV units Delta1 and Delta2 (part of the same corporate conglomerate as Delta3 but a different organizational entity) made only minor use of legitimacy-seeking strategies despite their parent organization being affected by the

Table 4-4: Pre-crisis legitimacy and CV units' response patterns

Company Pseudonym	Resource Dynamics		Mobilizing		Focusing				Sensing		Adjusting		Pre-Crisis Legitimacy
	Resource Deployment	Approval Processes	Assistance	Enabling Solutions	Restructuring	Corporate Fit	De-Risking	Opportunity-Seeking	Approval-Seeking	Thoughtful-ness	Digital Operations	Startup Support	Score (0-5)
Xi								☑			☑	☑	1
Eta	☑		☑		☑	☑				☑	(☑)		1
Zeta	☑	☑				☑	☑		☑	☑	(☑)	☑	1
Theta	☑	☑		☑			☑		☑		☑		2
Delta3	☑			☑				☑			☑		2
Ny	☑					☑	☑	☑	☑	☑	(☑)	☑	2
Kappa	☑					☑	☑				(☑)	☑	2
Lambda	☑								☑		☑	☑	2
Alpha									☑		☑	☑	2
Delta1									☑		☑	☑	3
Beta	☑		☑		☑	☑				☑	(☑)	☑	3
Epsilon							☑			☑	(☑)	☑	4
My								☑		☑	☑	☑	4
Jota											(☑)	☑	5
Delta2	☑									☑	(☑)	☑	5
Gamma						☑	☑	☑			(☑)	☑	5

(☑) The interviewees did no explicitly mention changes to their daily operations such as working from home in the interview, but based on he location of their offices we can assume that they were forced to switch their operations into the digital space due to local COVID19-restrictions.

crisis. Both CV units, however, report a higher degree of internal legitimacy (pre-crisis) and thus have a lower need to prove their legitimacy during the crisis. CV units Xi and Alpha did not see the necessity to employ various legitimacy-seeking strategies, although their pre-crisis legitimacy seems rather low, probably because their parent organizations were not seriously affected by the crisis.

Theta, Zeta, and Eta faced a twofold challenge of a high crisis impact on their parent organizations and a low level of pre-crisis legitimacy. This is also reflected in some very drastic statements: "*And we really thought at first in March, April: Well, maybe that was it for CVC-Zeta, because with such a large [financial] gap and with what is being shown to us right now as an outlook, then something like Ventures is very first, which is somehow at least greatly reduced or restructured or whatever. It didn't come to that. […] We felt that we were not wanted. This is a development that existed before COVID-19*" (Zeta).

Two cases that do seem to contradict the argumentation of the pre-crisis legitimacy effect are Lambda and Gamma. Gamma is a CV unit that is highly established within a multinational organization that had profited financially during the crisis and still performed a variety of legitimacy-seeking strategies. Thus, there might be other factors that we were not able to control for with the information we had available and were considering. Lambda, on the other hand, did not report many legitimacy-seeking strategies although the parent organization was negatively affected during the crisis. What might come into effect here is the relatively young history of the CV unit, which was started in 2019, just one year before COVID-19 hit the world. Thus, the definition stage (Reihlen et al., 2021) it was still in during the year 2020 might have shaped the legitimacy-seeking strategies used by the CV unit and repressed the need to react to the crisis in particular.

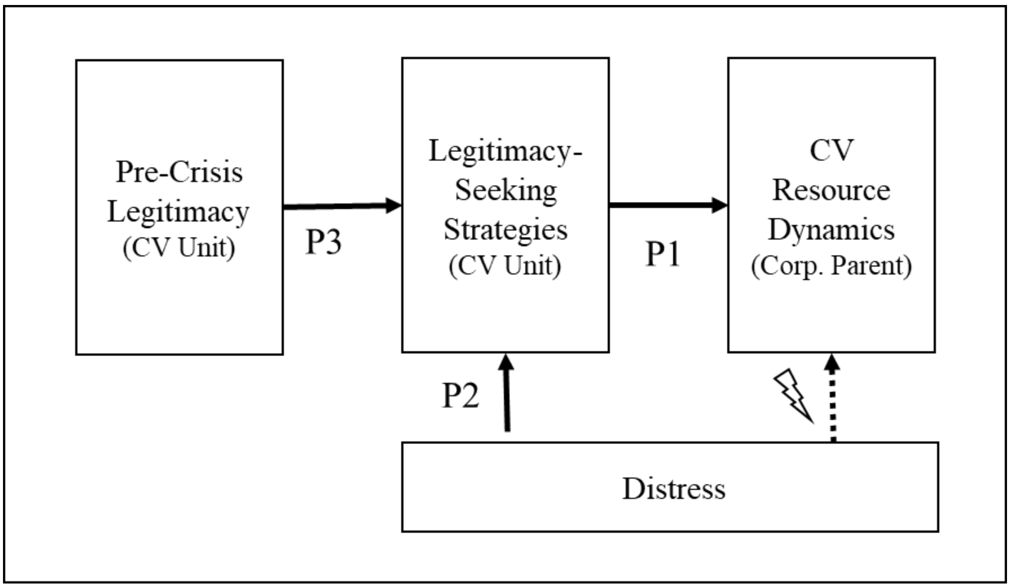
4.6. Discussion

Our study illustrates how CV units turn toward their intra-organizational stakeholders during crises and try to secure resources and support for their activities. With our unique sample of 16 CV units, we identified three main legitimacy-seeking mechanisms internally used by CV units in response to the crisis. We further discovered contextual factors internal and external to the organization that shape the CV unit's crisis response. In the following discussion, we will link our findings to existing perspectives in legitimacy literature and present generalized propositions for corporate venturing in times of crisis. The propositions we infer from our findings are summarized in a conceptual framework (see Figure 4-3).

4.6.1. Mechanisms to maintain legitimacy

The impact of the external crisis triggered the CV units' management to take purposeful action to mobilize legitimacy and secure resources. Our study shows that due to the external shock, previously taken-for-granted internal support and validity of existence had become unsettled or at least uncertain. The purposeful action of CV managers thus gears towards maintaining their CV units' legitimacy in light of the environmental turbulences the parent organization is facing.

Figure 4-3: Conceptual framework for CV in times of crisis



Grounded in the dynamic view, in which legitimacy needs to be created but also continuously recreated, our study identifies three main mechanisms CV managers use in times of crisis to secure their unit's internal legitimacy. The mechanisms described highlight the social negotiation between several actors and levels of analysis inherent to the legitimacy-as-process perspective (Suddaby et al., 2017). The legitimacy-seeking activities described thereby constitute deliberate deviations from pre-crisis CV practices. The CV units resort to these legitimacy-seeking strategies to respond to the perceived uncertainty regarding the parent organization's resource commitment.

> <u>Proposition 1</u>: *In times of crisis, CV units employ specific legitimacy-seeking strategies to maintain or (re-)gain resources from their parent organization.*

The three identified legitimacy-seeking mechanisms–*sensing, focusing,* and *mobilizing*–vary with regard to the extent they differ from pre-crisis practices. The *sensing* mechanism portrays the deliberate communication efforts of CV units with internal stakeholders and external audiences aimed at shaping the internal perception of their activities. The discourse thereby focuses on rationalizing their activities in light of the crisis towards the parent organization but also preventing the loss of internal support by not showing solidarity and alignment with the parent organization. The *focusing* mechanism portrays strategic rethinking performed by the CV units in which they question previous practices and structures considering the changed environment. Consequentially, we find practices aimed at reducing risks, increasing corporate benefits, pursuing new opportunities, and prioritizing core activities. The deviation from pre-crisis CV practices becomes even more pronounced in the *mobilizing* mechanism identified. Here CV units become part of the internal crisis management, using their resources to assist the parent organization in maneuvering through the storm or providing solutions to emerging problems. The observed legitimacy-seeking mechanisms all serve to realign the moral, normative, and cognitive appropriateness of the CV unit within the parent organization. Induced by the crisis context, the mechanisms found extend previous literature on internal legitimation mechanisms.

Existing literature has already highlighted legitimacy-seeking strategies that find resemblance in the mechanisms described in our findings. For example, reporting is broadly accepted as a strategy to secure internal support (McGrath, 1995; Miller et al., 1991; Sykes, 1990). The *sensing* mechanism described includes reporting processes. When seeking approval, CV managers use reporting mechanisms to portray their activities favorably or justify deviations from the expectations of internal stakeholders. However, it is not the reporting itself that establishes legitimacy in the crisis but the swift change in how the activities are portrayed. Similarly, previous literature identified compliance with the norms and values of a corporation as a strategy to gain internal legitimacy (Biniari, 2012; O'Kane et al., 2015). Legitimacy-seeking behavior, we termed thoughtfulness, echoes aspects of this compliance. What sets the strategies apart that we identified in the *sensing* mechanism is the sensitivity toward changes in the external environment and an immediate adaptation in the evaluation of previously established practices. In particular, we show that CV managers follow their inner sense of what is appropriate in the new situation and quickly adjust to the changed sentiment within the organization anticipating a potentially damaging effect if communication stays unadjusted.

Similarly, the role of corporate fit or strategic direction is widely established in the context of CV (e.g., Behrens & Patzelt, 2016; DeSarbo et al., 1987; Hill & Birkinshaw, 2008; Sykes, 1990). Previous research showed that CV activities more or less emphasize strategic fit depending on which objectives are prioritized – financial, strategic, or a mix of both (for an overview, see for example Gutmann, 2019). Our *focusing* mechanism describes a dynamic version of previous legitimation efforts subsumed under corporate fit or strategic direction. It demonstrates how the core interests of the parent organization regain center stage in CV activities–be it de-risking, opportunity-seeking, or concentrating on core activities–and thereby constitutes a rejection of earlier, more explorative activities.

Lastly, our *mobilizing* mechanism offers new insight into how supportive behavior within an organization is employed as a legitimacy-seeking strategy. The assistance behavior found in our study demonstrates how the willingness to completely shift the scope of activities to an area that requires immediate support can strengthen the internal reputation. The CV units' willingness to help, also in the form of enabling solutions helping to maneuver through the crisis, depicts social action within the parent organization. While social action has been shown to be a legitimacy-creating strategy for social enterprises (Moizer & Tracey, 2010), our *mobilizing* mechanism echoes this perspective in the intra-organizational environment. The support offered creates awareness for the CV unit and appreciation by internal (resource-holding) stakeholders, which in turn helps to secure the internal survival of the CV initiative.

Overall, the three mechanisms–*sensing*, *focusing*, and *mobilizing*–emphasize immediate shifts in the CV units' internal legitimation efforts as a response to the crisis.

4.6.2. The interplay of legitimation, distress, and pre-crisis legitimacy

Our study also has implications for understanding the role of contextual factors on legitimacy dynamics. It supports prior research highlighting external factors as a frame of reference in which legitimacy occurs (e.g., Navis & Glynn, 2011, 2010; Überbacher, 2014). For internal legitimacy, the frame of reference is twofold: First, the external environment of the organization and, second, the internal environment within the parent organization. Our study adds to previous findings by showing that an economic shock in the extra-organizational context also raises internal legitimation challenges in the intra-organizational context. The findings suggest that the higher the perceived distress of the parent organization, the higher the internal legitimation challenge and the more effort CV units put into seeking legitimacy. CV units with parent organizations facing high distress during the crisis have shown a greater variety and intensity in their legitimation efforts. We, thus, infer a proposition emphasizing the impact of distress on internal legitimation processes.

> Proposition 2: *The crisis-induced distress on the parent organization affects the extent to which the CV unit employs legitimacy-seeking strategies.*

However, our study also shows that despite facing enormous economic turbulences, corporations showed commitment to their CV units. Drawing on the concept of legitimacy thresholds (e.g., Fisher et al., 2016; Nagy et al., 2017; Zimmerman & Zeitz, 2002), there seems to be a threshold of existence that none of the CV units in our sample had fallen short of. The concept of legitimacy, nevertheless, seems to be a fruitful perspective to explain, for example, the observation of different CVC waves (e.g., Dushnitsky, 2012). Up until now, researchers have mainly argued about the detrimental effect of challenging market conditions and a reduction in slack resources on CV efforts (Narayanan et al., 2009). We illustrate that, in fact, financial distress (as triggered by an exogenous crisis) comes with legitimation challenges for CV units. However, we also show that other factors can counteract these forces, namely the purposeful usage of legitimacy-seeking strategies employed by the CV unit managers and certain pre-crisis factors. In their literature review on the legitimacy of corporate entrepreneurship (CE), Göcke et al. (2022) refer to the "*foundations*" of CE legitimacy and raise the question of what psychological and sociological factors come into play in the dynamics of CE legitimacy. Our findings suggest that several crisis-unrelated factors establish a certain level of pre-crisis legitimacy for the CV unit, which takes effect when the CV legitimacy is challenged. The five factors we evaluated to gain an insightful assessment of the pre-crisis legitimacy are of formative and reflective nature. This means that in part CV managers can actively strive to influence the unit's internal legitimacy, such as the support from top and middle management. And other factors relate to the establishment of the CV unit and its context, for example the parent organization's motivation to start the CV unit or its dependence on innovation. From what we were able to observe, we infer that a CV unit's internal legitimacy before the crisis shapes the crisis response of the CV unit. The analysis suggests that a lower pre-crisis legitimacy comes with a higher uncertainty regarding the internal resource commitment and thus requires more extensive legitimation efforts.

> Proposition 3: *The legitimacy-seeking strategies employed in response to a crisis are affected by the CV unit's internal pre-crisis legitimacy.*

As suggested by the two exceptions found in our analysis, more factors might take effect when explaining the legitimacy-seeking strategies applied. The case of the newly established CV unit Lambda substantiates Reihlen et al. (2021)s' line of argumentation that the expectations towards CV units and the evaluation of appropriateness might vary in different stages of development.

On a theoretical level, our study unites the process view of legitimacy with the property view of legitimacy view (see Suddaby et al., 2017). Based on our study, we argue that legitimacy is an asset that can be gained through the purposeful efforts of organizational actors. However, exogenous factors such as a crisis can erode legitimacy, and in certain circumstances, it can fall below a threshold of existence that questions the survival of the organizational entity. It thus requires continuous monitoring and effort.

4.6.3. Managerial implications

Our study's findings provide valuable implications for CV unit managers and supporters. They illustrate different techniques to increase the internal CV legitimacy in times of crisis and offer a deeper understanding of how resource uncertainty, pre-crisis legitimacy, and the level of distress affect the response required from the CV unit. Legitimacy thereby provides a useful lens for CV units to analyze their internal standing in the light of external turbulences and plan their internal response strategy. The results also highlight the CV units' need to continuously work on their internal legitimacy, thereby counteracting the risk of falling below a legitimacy threshold in times of turbulence. The *mobilizing* mechanism described also provides an additional line of argumentation as the flexibility of CV units can become an asset for corporations in times of crisis, helping them to tackle and overcome crisis-induced challenges.

Overall, our interviews show that CV units have become established throughout the business world, and even in times of crisis, corporations show their commitment to CV as an important tool to spur innovation or even overcome a crisis.

4.6.4. Limitations and future research

With our study, we provide insights into the question of how CV units strive to secure resources in times of crisis. As our insights are bound to the specific context of the COVID-19 crisis, we invite scholars to validate and expand our model in other settings that evoke CV units to adapt their legitimacy-seeking behavior. Since the interviews took place one year after the start of the crisis, we cannot conclude the mechanisms' usefulness and the crisis's long-term impact on CV activities. A longitudinal study could thereby test our findings in times of crisis and document the long-term dynamics of CV activities.

We further invite researchers to take up the concept of internal legitimacy in the context of corporate venturing as proposed also by Göcke et al. (2022). Our study showed that legitimacy theory provides a valuable theoretical perspective for future research that strives to understand the organizational embeddedness of CV units. Studies in this field could relate to the question of how the foundation of a CV unit is created in the first place versus maintained. The initial setup of a CV unit (resource autonomy, resources committed, personnel selected, etc.) already represents a manifestation of its initial legitimacy. While such factors are specified in the beginning, other elements of legitimacy, such as support from management, are created throughout the unit’s existence. To advance research in this field, scholars must establish a common understanding of what encompasses or reflects internal CV legitimacy. The scoring model used in our study to assess the CV unit’s pre-crisis legitimacy could build a starting point to develop further assessment tools.

4.6.5. Conclusion

Our qualitative explorative study of 16 CV units and their adaptation process during the COVID-19 crisis suggests that an external crisis can unsettle CV units’ internal legitimacy. Thus, the CV units use different strategies to maintain their legitimacy and succeed in the internal fight for resources. The strategies used are affected by the perceived organizational distress caused by the crisis as well as the CV unit’s pre-crisis legitimacy. Conceptualizing adaption processes as legitimacy-seeking behavior allows us to understand better theoretically and practically how CV is embedded in organizational settings and how it can secure internal resources. The uncovered interplay of a reduction in slack resources, the CV unit's pre-crisis legitimacy, and the purposeful legitimacy-seeking actions of CV managers ultimately serves as an explanation for dynamics in CV activities over time such as the CVC waves observed in previous literature (e.g., Dushnitsky, 2012).

5. Conclusion

5.1. Summary of results and implications

The corporate parent, the CV(C) unit, and the associated start-ups form a trilateral relationship that is characterized by multiple opportunities and interdependences. This dissertation provides a more refined understanding of how these interrelations come into play (a) during the formation of an investment relationship between a CVC investor and a start-up and (b) during times of crisis when CV units are engaged in securing the needed internal resources. An enhanced understanding of these interrelations is of theoretical and practical relevance as it ultimately improves the chances of realizing innovation for start-ups and corporations.

Essay I and II add to a research stream that acknowledges the entrepreneurs' influential role in financing decisions (Fairchild, 2011; Hallen & Eisenhardt, 2012; Katila et al., 2008; Maula et al., 2009). Essay I is concerned with how entrepreneurs trade off the benefits and risks of a potential CVC investment. It is found that the corporate parent's financial commitment to its CVC activities is the most crucial criterion for entrepreneurs evaluating potential CVC investors, as it might serve as a signal of serious interest in establishing a long-term relationship with its portfolio companies (Wadhwa & Basu, 2013). To establish a relationship with more experienced entrepreneurs (compared to those with a lower fundraising experience), a high financial commitment of the corporate parent is even more critical. The essay also shows that in contrast to the widespread assumption, a highly strategically motivated CVC investor is not perceived as inherently harmful. A key factor influencing the entrepreneur's evaluation of a CVC investor is the venture's need for complementary resources. The likelihood of gaining access to the corporate parent's firm-specific resources increases the willingness to approach a CVC investor, especially for entrepreneurs of ventures with a high need for complementary resources. From a practical perspective, credibly signaling the willingness to provide access to firm-specific resources and then keeping this pledge increases a CVC investor's chances to access highly desirable investment opportunities.

The study advances previous research on entrepreneurial decision-making in venture capital financing (Bengtsson & Wang, 2010; Drover, Wood, & Fassin, 2014; Hallen & Eisenhardt, 2012; Smith, 2001; Valliere & Peterson, 2007; Zheng, 2011). It focuses on the benefits and risks associated with CVC investors (Maula, 2001; H. D. Park & Steensma, 2012; Zu Knyphausen-Aufseß, 2005) and analyzes anticipatory processes and trade-offs before an investment relationship is formed (Hallen et al., 2014). Adding to the resource dependence lens, the findings show how entrepreneurs anticipate their venture's resource dependence and incorporate it into their consideration of raising funds from a potential CVC investor. It further contributes to the discussion on the role of entrepreneurial experience in the fundraising process, specifically highlighting the role of fundraising experience (for example, Valliere & Peterson, 2007).

Essay II confirms the importance of resource access as a critical characteristic differentiating CVC investors, as they highly differ regarding the expertise, facilities, and networks they can provide to their portfolio companies. The study expands the findings of essay I by shedding light on the entrepreneurs' preference for CVC investors compared to IVC investors. It thereby strives to answer the question of what makes entrepreneurs more likely to prefer a CVC investor over an IVC investor. It breaks down the need for complementary resources into distinct resource categories and assesses the role of the entrepreneur's exit aspiration in the fundraising decision. The results demonstrate that the venture's need for marketing resources and access to the corporate network are the main drivers of an entrepreneur's preference for CVC over IVC. On the contrary, CVC investors are less likely to be preferred by entrepreneurs if the entrepreneur strives for an IPO as an exit channel. Inferring from the results, entrepreneurs seem to perceive a CVC investor as less able to support the growth needed to go public. The often-discussed scenario of CVC investors and acquisitions does not seem to influence the decision.

By providing more details on what type of resources add to the attractiveness of CVC investors, the study advances the literature on CVC attractiveness (e.g., Colombo & Shafi, 2016; Katila et al., 2008) and adds to previous research on the role of different resources that can be accessed through CVC investors (e.g., Katila et al., 2008; Maula et al., 2005). While marketing resources and the corporate network seem to evoke a differentiation in the mind of entrepreneurs, financial and technological resources don't do so. When controlling for ventures that offer a hardware product, the study uncovers a significant preference for CVC, further highlighting the specific resource need of hardware start-ups. The findings thus support the widespread notion that CVC investors' firm-specific resources can add value to the venture beyond what IVC investors can provide (Katila et al., 2008; Maula et al., 2005; H. D. Park & Steensma, 2012).

Moreover, essay II extends research on exit intentions (e.g., DeTienne & Cardon, 2012; Wennberg et al., 2010) and links it to entrepreneurs' evaluation of financing options. Providing further evidence for the causation approach to entrepreneurial decision-making (Sarasvathy, 2001) and the theory of planned behavior (Ajzen, 1991, 2011; Ajzen & Fishbein, 1980), the findings show that the entrepreneur's exit intention does not only influence the final exit path (DeTienne et al., 2015; Hohen & Schweizer, 2021) but also the investor choice. As a practical implication for entrepreneurs and investors, the study underscores the role of preconceptions in decision-making and the importance of signaling. CVC investors highlighting their corporate assets, especially marketing resources and the corporate network, to potential portfolio companies can increase their appeal to entrepreneurs. Furthermore, CVC managers should be proactive regarding what exit paths they have facilitated in the past and which they seek for the future. Entrepreneurs should recognize their preconceptions and make an informed decision when approaching potential investors for fundraising.

Essay III focuses on the internal adaptation processes CV units use in times of distress. It adds to recent papers taking up the legitimacy perspective to shed light on internal processes related to an organization's strategic venturing and corporate entrepreneurship efforts (Göcke et al., 2022; Reihlen et al., 2021). Conceptualizing the CV unit's adaption processes as legitimacy-seeking behavior allows us to understand better theoretically and practically how CV is embedded in organizational settings and how it can secure internal resources. It is found that an external crisis can unsettle a CV unit's internal legitimacy. Different strategies are used to succeed in the internal fight for resources depending on the perceived organizational distress caused by the crisis and the CV unit's pre-crisis legitimacy. The study highlights three legitimacy-seeking mechanisms that emerge as a response to the crisis–sensing, focusing, and mobilizing. Triggered by the crisis, the legitimacy-seeking behavior has a dynamic nature, questioning or rejecting previously established practices in anticipation of the adjusted expectations of internal (resource-holding) audiences. The uncovered interplay of a reduction in slack resources, the CV unit's pre-crisis legitimacy, and the purposeful legitimacy-seeking actions of CV managers expands the understanding of the temporal embeddedness of CV activities (e.g., Souitaris & Zerbinati, 2014). It serves as an explanation for dynamics in CV activities over time such as the CVC waves observed in previous literature (e.g., Dushnitsky, 2012). The findings also provide valuable implications for CV unit managers and supporters. The results emphasize the CV units' need to continuously work on their internal legitimacy to secure resources, especially in times of crisis. It also describes different response mechanisms that CV unit managers can apply. As highlighted by the mobilizing mechanism described, CV units can become an asset for corporations in times of crisis, helping them to tackle and overcome crisis-induced challenges. Overall, the study shows a widespread commitment to CV as an important tool to spur innovation and overcome a crisis.

5.2. Future research and outlook

This dissertation is concerned with the strategic decisions and activities that shape the interrelations between a corporate parent, a CV(C) unit, and the associated start-ups. It emphasizes the entrepreneurs' motivation to enter an investment relationship and the corporate managers' efforts to attract and maintain internal support for their corporate venturing efforts. Shedding light on the mechanisms that impact the relationship between entrepreneurs and corporate partners also invites further research to follow up on the topics discussed.

There are several directions for future research on entrepreneurial decision-making in investment decisions. First, our survey with entrepreneurs omitted the fact that start-ups are, in most cases, founded and run by teams. Analyzing decision-making dynamics within entrepreneurial teams (West, 2007) could provide fruitful insights into investment decisions and further refine our results. Studies in the context of opportunity development have already shown that team processes impact critical entrepreneurial decisions (Preller et al., 2020). Another avenue for future research is how entrepreneurs' evaluation criteria for investors change throughout different fundraising phases. While essay I and II focus on the deal origination stage, there is good reason to believe that other influencing factors prevail in later phases, such as the negotiation phase. An additional factor that is so far unexplored from the perspective of entrepreneurs is the role of syndicates between investors. It is widely recognized that syndication between investors is a key element of VC financing (e.g., Sorenson & Stuart, 2001). However, research mainly focuses on the investors' perspective as it is argued that investors typically initiate co-investments (De Clercq et al., 2006). It is an interesting avenue for future research to explore the entrepreneurs' evaluation of and role in the formation of investment syndicates. While drawing on resource dependence theory, both essays I and II have furthermore raised the question of the entrepreneurs' ability to judge their start-up's future resource needs. Having a more elaborate knowledge of which resources must be attracted for the start-up to prosper could potentially change the tie formation with investors. In a similar vein it needs to be argued that relevant resources held by established corporations can also potentially be accessed through cooperative relationships other than CVC. Expanding the resource dependence perspective, future research should investigate and compare the resource exchange of different cooperative models such as buyer-supplier relationships or innovation consortia. As shown by our findings in essay II the interplay of exit intentions and financing decisions also offers the opportunity for deeper investigation, not only in the context of CVC but more generally. It could also be worth considering the entrepreneurs' knowledge about different and less familiar exit channels such as buyouts. Overall, we have shown that entrepreneurs' beliefs and attitudes about investors and the expected consequences of fundraising offer the potential for further investigation.

In contrast, essay III opens avenues for future research on CV and its inter-organizational setting. Foremost, there is a need to validate and expand our model derived during the COVID-19 crisis in other settings that evoke CV units to adapt their legitimacy-seeking behavior. The long-term impact on CV units as well as the specific nature of the crisis, needs to be further explored. In general, the concept of internal legitimacy has been shown to provide a useful theoretical perspective that future research can build on to understand the CV units' organizational embeddedness better. Especially the question of how internal CV legitimacy is built in the first place versus maintained in times of turbulence poses an interesting opportunity for future research. To advance legitimacy research in the CV context, scholars need to establish a shared understanding of internal CV legitimacy. While this dissertation takes a first step in this direction by applying a scoring model to assess the CV unit's pre-crisis legitimacy, the measurement concept requires further specification and validation.

Concluding, entrepreneurs' beliefs and attitudes are important determinants in financing decisions. The unique aspects of CVC can deter or attract entrepreneurs. Managers of CVC units, or more general CV units, thus need to consider their external perception. At the same time, CV managers must focus on their internal perception and legitimacy to secure internal support. The dependence between these three layers – the corporate parent, the CV(C) unit, and the start-ups – is highly challenging in practice and provides a unique setting for future research.

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Appendix

Appendix essay I

Table A-1: Introductory text and task description as seen by the participants

<table>
<tr><th>Original text in German</th><th>English translation</th></tr>
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<td>
Einführung

Als Entscheidungsträger in Ihrem Start-Up werden Sie gebeten, eine Anzahl hypothetischer Corporate Venture Capital (CVC) Investoren zu beurteilen. Als CVC Investor wird dabei ein Investor verstanden, bei welchem das zur Finanzierung von jungen Unternehmen benötigte Eigenkapital von einem etablierten Unternehmen zur Verfügung gestellt wird. Im Gegenzug erhält der Investor Anteile an dem Unternehmen.

<u>Ihre Aufgabe</u>

Stellen Sie sich vor, dass Ihre nächste größere Finanzierungsrunde ansteht. Hierfür liegen Ihnen auch die Kontakte zu verschiedenen CVC Investoren vor. Sie müssen nun eine Priorisierung vornehmen, mit welchen CVC Investoren Sie eine Investitionsbeziehung anstreben möchten.

▪ Im Folgenden werden die Eigenschaften verschiedener potentieller CVC Investoren anhand von vier Parametern beschrieben (siehe nächste Seite).
▪ Sie müssen für mehrere aufeinanderfolgende Investor-Profile eine Bewertung vornehmen, wie wahrscheinlich Sie eine Investition durch den jeweiligen Investor anstreben würden.
▪ Kreuzen Sie die Bewertungsziffer an, die Ihrer Einschätzung am nächsten kommt.
▪ Treffen Sie Ihre Beurteilungen bestmöglich, basierend auf den Ihnen zur Verfügung stehenden Informationen und entscheiden Sie intuitiv.
▪ Gehen Sie davon aus, dass Ihr Bedarf an finanziellen Ressourcen für die anstehende Finanzierungsrunde durch alle dargestellten Investoren abgedeckt werden kann.
▪ Alle weiteren potentiellen Entscheidungsparameter und Umwelteinflüsse sind als konstant anzusehen.

Back Next
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Introduction

As a decision maker in your start-up, you will be asked to rate several hypothetical corporate venture capital (CVC) investors. A CVC investor is understood to be an investor for whom the equity required to finance young companies is made available by an established company. In return, the investor receives shares in the company.

<u>Your task</u>

Imagine that your next major round of funding is coming up. For this purpose, you also have contacts to various CVC investors. You now need to prioritize which CVC investors you want to pursue an investment relationship with.

▪ In the following, the characteristics of various potential CVC investors are described using four parameters (see next page).
▪ For several consecutive investor profiles, you must assess how likely you are to seek an investment from each investor.
▪ Tick the rating number that comes closest to your assessment.
▪ Make your best judgment based on the information available to you and decide intuitively.
▪ Assume that your need for financial resources for the upcoming round of financing can be covered by all the investors shown.
▪ All other potential decision parameters are to be regarded as constant.
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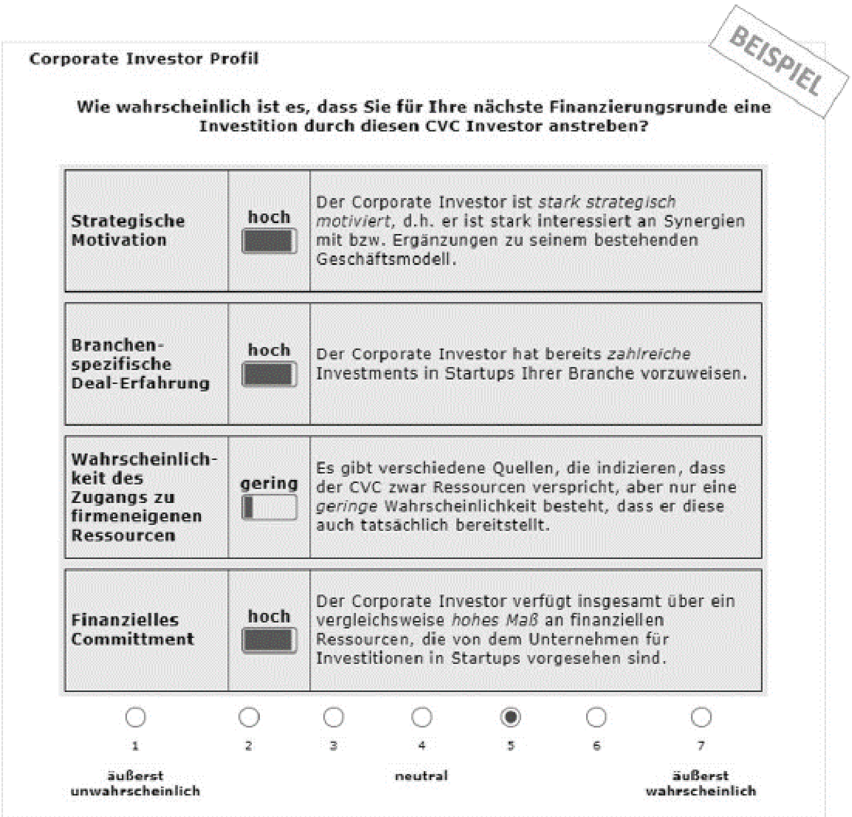
Table A-2: Main effects as tested in the conjoint experiment

Attribute	Value	Description
Strategic Motivation	High	The CVC investor is highly strategically motivated (i.e., it is very interested in synergies with or additions to its existing business model).
	Low	The CVC investor is only slightly strategically motivated (i.e., it is not very interested in synergies with or additions to its existing business model).
Industry-specific Deal Experience	High	The CVC investor has invested in numerous start-ups in your industry before.
	Low	The CVC investor has so far barely invested in start-ups in your industry.
Access to Firm-Specific Resources	High	Several sources indicate that the CVC investor is highly likely to provide the promised proprietary resources.
	Low	Several sources indicate that the CVC investor promises resources but there is little chance of actually receiving them.
Financial Commitment	High	Overall, the CVC investor has a relatively high level of financial resources that the company plans to invest in start-ups.
	Low	Overall, the CVC investor has a relatively low level of financial resources that the company plans to invest in start-ups.
How likely is it that you strive to obtain an investment from this CVC investor in your next fundraising round? Seven-point Likert scale: 1 = “very unlikely”, 7 = “very likely”		

Figure A-1: Investor profile as seen by the participants in the online conjoint experiment



BEISPIEL

Corporate Investor Profil

Wie wahrscheinlich ist es, dass Sie für Ihre nächste Finanzierungsrunde eine Investition durch diesen CVC Investor anstreben?

Strategische Motivation	**hoch**	Der Corporate Investor ist *stark strategisch motiviert*, d.h. er ist stark interessiert an Synergien mit bzw. Ergänzungen zu seinem bestehenden Geschäftsmodell.
Branchen-spezifische Deal-Erfahrung	**hoch**	Der Corporate Investor hat bereits *zahlreiche* Investments in Startups Ihrer Branche vorzuweisen.
Wahrscheinlich-keit des Zugangs zu firmeneigenen Ressourcen	**gering**	Es gibt verschiedene Quellen, die indizieren, dass der CVC zwar Ressourcen verspricht, aber nur eine *geringe* Wahrscheinlichkeit besteht, dass er diese auch tatsächlich bereitstellt.
Finanzielles Committment	**hoch**	Der Corporate Investor verfügt insgesamt über ein vergleichsweise *hohes Maß* an finanziellen Ressourcen, die von dem Unternehmen für Investitionen in Startups vorgesehen sind.

1 2 3 4 5 6 7

äußerst unwahrscheinlich — neutral — äußerst wahrscheinlich

The original text was German. For a translation of the text in English see Table 4.

Figure A-2: Z-standardized HLM coefficients of investor attributes and 95% confidence intervals

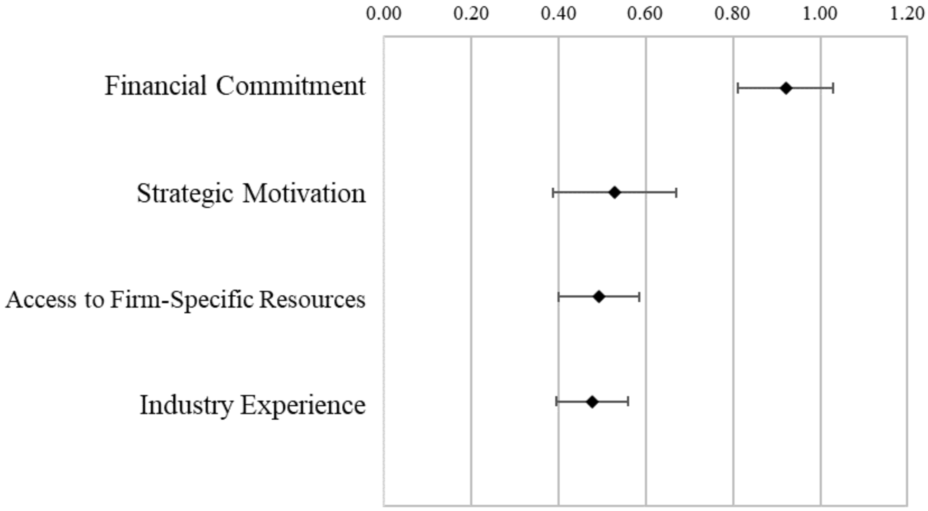
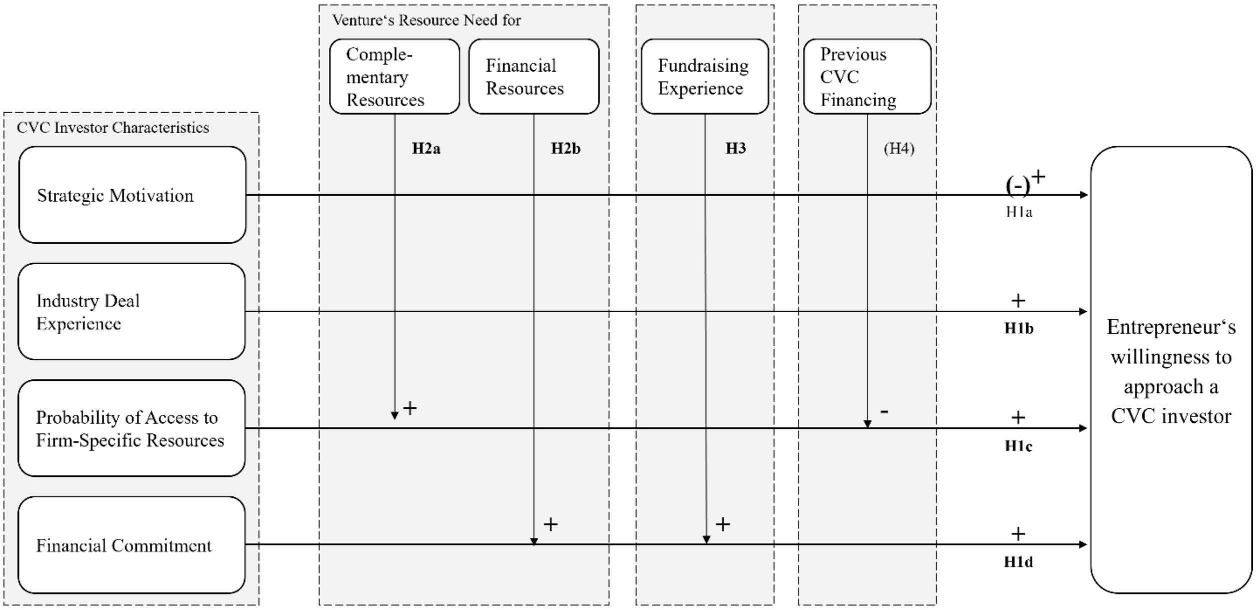


Figure A-3: Overview of confirmed/rejected hypotheses



Confirmed hypotheses are printed in ***bold.***

Appendix essay III

Table A-3: Pre-crisis legitimacy score assignment

CV Unit Pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Strong Internal Support	Pre-Crisis Legitimacy SCORE
Xi					+1	1
Eta	+1					1
Zeta	+1					1
Theta	+1			+1		2
Delta3		+1			+1	2
Ny	+1			+1		2
Kappa	+1	+1				2
Lambda	+1	+1				2
Alpha	+1			+1		2
Delta1	+1	+1		+1		3
Beta	+1	+1		+1		3
Epsilon	+1	+1	+1	+1		4
My	+1	+1	+1	+1		4
Jota	+1	+1	+1	+1	+1	5
Delta2	+1	+1	+1	+1	+1	5
Gamma	+1	+1	+1	+1	+1	5

Assignment of Points

(1) the parent organization pursues a strategic benefit through the CV activities
(2) the parent organizations business model is highly dependent on innovative products or services
(3) the CV unit has a high degree of flexibility regarding the use of resources
(4) the CV unit's perceived support by the top management is high
(5) if it perceives a strong internal support from diverse business units.

Table A-4: Quotes illustrating the pre-crisis legitimacy score

CV unit pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Internal Support / Promoter Score
Alpha	***"On the one hand, all of our investments that we make and all of the projects that we carry out have to have some relation to the business areas, because those are simply the core interests of Group Alpha, of the value chain, of the business areas. Nevertheless, it goes beyond the classic strategic fields of the Alpha Group. [...] It's slowly changing beyond the core business. It's not the blatant disruptive stuff now because we always have to make sure we still have some connection to Grupe Alpha."***	*Industry: financial services*	*"And if it went beyond a [certain] volume, [the investment committee] was expanded by further board members from the parent company Alpha. So I think except for 1 or 2 members of the Alpha board we had to ask all board members for approval for each deal in addition to legal, compliance, tax, risk, accounting, etc.."*	***"We also had an incredible amount of attention from the entire holding board. Were then also embedded in the actual control process with a strategic dialogue and a planning dialogue."***	*"Well, I do believe that we had a coolness factor and that everyone was curious at first. [...] Well, when it was new and the [money committed] was announced and so on, we had a lot of attention. [...] Yes. But somehow I think this spillover, it didn't work out somehow, and I think there were sometimes more expectations than we could really achieve in a small team. And I think it's more the case now that there has been a shift towards [other topics]."*
Beta	***"And then, you know, we have a specific value proposition to our portfolio companies on the back end, which is to really using the resources of company Beta to help accelerate them, and then vice versa. So we play an active role in helping realize those kinds of strategic hypotheses related to the investment."***	***Industry: transportation***		***"Yeah. I mean, the corporate policy before making an equity investment requires pretty high-level approvals. I guess I don't know if I can get into all the details, but, yeah, it's pretty high executive type, executive council type level of approvals. A lot of it was, you know, unless it was something really controversial. A lot of it was pretty, you know, rubber-stamped. You know, you have thought of the deal thesis deeply at that point."***	*"So we collaborate with the business units, but we're not beholden to the business units in any way. And that was important, to allow us to be disruptive or even come up with ideas that might cannibalize existing core businesses or future growth."*
Gamma	***"What we want is really to - and now I will sound like everyone else -.to foster innovation in areas that are adjacent to Gamma business, of course, we don't invest in start-ups that might be exactly the same area of Gamma because we don't need to invest in that but in technologies and start-ups that might create some synergy with us in the next two or three years."***	***Industry: multinational conglomerate with a focus on electronics***	***"[We invest] off the balance sheet.[...] It is a pot of money already allocated. […] When we finished this pot there will be another pot or another solution."***	***"[The CEO] is really committed to this activity. When we finished this pot there will be another pot or another solution."***	***"Ok this is quite difficult becauses we have twice a year, we have internal meetings [...] where the business units present to us their really confidential mid-range plan. [...] And that is really useful information for us because then we know they are going that direction or another direction and then we can decide if we want to invest in that area or not. At the same time especially in the country of our headquarter, there are a lot of conversations between the CVC fund people and the business units, as I said they are focused on their own development, on their own P&L. They want to know from us what is happening in the wider market. They don't have the time to look at all the different subcategories. [...]So there is a lot of exchange of information, […]."***

Table A-4: Quotes illustrating the pre-crisis legitimacy score (continued)

CV unit pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Internal Support / Promoter Score
Delta1	***"I think we are a very important building block because we can bring together new business across all business areas or enable new products and services that are beyond the horizon of existing business units. And you mentioned it earlier: Of course, there are a lot of units, but they are often located directly in the business units, in the business areas and mainly take care of adjacent business, i.e. topics that are very close to the core. And we can afford to think three steps ahead for Delta and do things that a business unit may not be able to afford due to its strategy or its financial resources. And we actually see ourselves as an important link between the developing units, i.e. whether it is corporate research or the development department from a business unit, from a subsidiary and the market, in order to build this bridge there."*** ***"We have a few search fields that we are exploring for Delta, so we always work very closely with Delta's headquarters. As I said, it is important for us that the products and the technology do not have to be completely reinvented, but that there are touchpoints to the group [...]."***	***Industry: multinational conglomerate with a focus on engineering and technology*** ***"And yes, based on our DNA, I would also say that Delta has always been brave in the sense that when I came to Delta, IoT and the Internet of Things were mentioned for the first time, nobody knew what that was at that time. And that was already being done back then. So I see this courage, now also with regard to the incubator, very strong and it is present in the management, even if we are very conservative in one way or another."***	*"So for us it works like this: We calculate with a certain number of start-ups per year. Unfortunately, it is still the case that we are funded annually. We register our budget in advance and get our budget from a so-called growth measures pot, the incubator. [...] So everything comes from one pot, which is always very well filled for a corporate, I would say. And we register a number x, which is of course based on what we know from the past, but also from the needs that the current start-ups see, and then always reserve a certain part for new teams. [...]. And then again, we are very fortunate that we have a relatively high level of trust in Delta, that we usually get the budget that we register paid out without major cuts. And that has to be enough for a year."*	***"We have a steering committee with three Delta managing directors twice a year. But that's more of a dialogue. So it's not the case that they have to give us tough targets. They then tend to ask: "Can you somehow use more financial resources?" Or "What is your strategy? Shall we or can we support you somehow?" Well, they really reach out to us. Regarding the decision, we actually decide ourselves during the process whether a start-up goes into spin-out. It is of course the case that the entire Delta management has to give the go."*** ***"There again we are very fortunate that we have a relatively high level of trust in Delta, that we usually get the budget that we ask for paid out without major cuts."***	*"We are now actually doing a baseline measurement [of our net promoter score] in the group for the first time, which means that this is my subjective opinion: because I came from headquarters, I think I can assess it quite well. It was really bad for a long time, I have to tell you honestly. It was more like this: They have a colorful hall in X with lots of cool furnishings. But what are they actually doing? And that was also completely correct in my opinion because the results just didn't add up. So before 2019, it was very difficult. So if you now take these two target groups, I'd say senior management,[...]. So we're not where we want to be yet, but something is happening; we slowly go up the ladder. And when it comes to employees, we're also trying to clean up this playground image and "you can try it out and do it" and say it's tough business and if you have a start-up with us, you can achieve a lot. It's good for you personally, it's good for your career."*
Delta2	***"Yes, we are a classic strategic [CVC], absolutely. Although, I would say [we invest] maybe not in a classically strategic way because the classically strategic CVC makes investments that are often very, very clear, very, very close to the core business. Sometimes we are financially driven. And are therefore, I would say, perhaps not purely strategic, but we still have such a financial component."***	***Industry: multinational conglomerate with a focus on engineering and technology***	***"So we are fund-organized and we have to set up a new fund from the balance sheet once every three years, and this money is then put aside, allocated and we can dispose of it."***	***"But I think, as I said, our CVC unit is very old, very well-established, and is, so to speak, no longer an experiment."*** ***"We have an Advisory Board above us, which is the steering committee of the CVC unit and this steering committee consists, among other things, of the C-Level of our group. So the CTO and CDO are in there, but sometimes there are also other management levels on the second level, top down."***	***"[...], so part of our KPI consists of asking the business units how big our impact on the innovation roadmap is. This is a part from which our salary is derived, so to speak. So of course not from all of them, but we get top marks from 80%/ 90% of the business units. [...] But I think as I said, our CVC unit is very old, very well-established, and is, so to speak, no longer an experimental field."***

Table A-4: Quotes illustrating the pre-crisis legitimacy score (continued)

CV unit pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Internal Support / Promoter Score
Delta3	*"So in a very classic way, I would say [we have] the role of an enabler. So when the innovation strategy is in place and it is clear what needs to be done, we can help implement it through intelligent search and sourcing of star-tups. It is very implementation-heavy, so to speak. But life is never black and white, which means that we ourselves see gaps in the innovation strategy or certain topics that are perhaps underrepresented. [...] And that in turn informs the innovation strategy enormously and offers input."*	***Industry: electronics***	*"We just support the projects that are currently running and that is also reflected in the fact that we don't have a central budget, for example. So we have one for the unit and also for external support partners, for example, we have enough budget for that. But we don't finance pilot projects, we say that his department has to do it himself, a venture clienting unit of group B, for example, does it differently."*	*"We defined the [strategic fields], we presented them and they fit. That's already with on-board level backing and support in the sense of: "Look here, these are the fields on which we focus when it comes to start-ups or collaboration."* *"And now tomorrow, for example, we'll talk with the CEO / introduce her to two start-ups in detail, getting deeper into it because she wanted that. She just wanted to know: what exactly are you doing there? She has only recently joined the company, has inherited the topic a bit from the predecessor, so to speak, but is interested in it and just wanted to understand it better."*	***"So we've already [assessed] a net promoter score, of course. So actually internally, because we see ourselves as an internal service unit. That means that one of our biggest currencies, in addition to the business case, [...] is actually: How are we perceived internally? And is our support, what we do, and how we do it, appreciated, is it well received, will it be recommended? And so we did an NPS last year because we didn't know what would come of it either. It came out as NPS 63, which made us happy at first."***
Epsilon	***"So actually really [we define success] exactly on the two dimensions: strategy and financial. So we need a good financial return and it should be venture-like. So if we do our 10x, then of course it's fantastic. [...] If, in the meantime, while we hold this company, we also manage to enable exciting partnerships with Epsilon, such as bringing the product into an Epsilon product, improving service with it, then that's actually the sweet spot."***	***Industry: mobility***	***"We now have a classic GP-LP setup with Epsilon and a [...] fund. Epsilon is the only LP in this fund and the CVC unit is just a separate management company, (...). We are headquartered in Silicon Valley and have now created the flexibility to act really quickly and like a classic VC. This means that we no longer need a corporate decision in order to spend money, but we can decide within the venture group what our investments are like."***	***"We managed to raise a new fund during the crisis and to get the stamp "approved" from the current board of directors. And we will get our follow-up fund approved next year, so you can definitely say that I think we have a good standing at the top management level."***	*"And in general, I would also say that our net promoter score is also largely good. There is, of course, always: We are not a tool for a business unit to achieve a very specific, strategic goal that a business unit can have: "Oh, I like this company, I want you to invest in this because then I have a lever to improve my business contract." We don't do something like that, we can't do that, it doesn't work in a venture [investing]either; [...] Long story. But I think the honest answer is, that of course you can't be friends with everyone if you make your own decisions."*
Zeta	***"It is very important to us that we have this market-driven position. That means we have our own deal flow and we look for things that we think could fit well strategically with Zeta and then we first approach the business units with them."***	*Industry: mobility services*	*"We don't have our own fund, which means we invest from Zeta's balance sheet. As soon as we agree internally on a start-up, CVC internally, we go to an investment committee (IC) that has to approve the investment. They then do a capital increase with us, and we in turn do a capital increase with the start-up for the investment. That's how it works."* *"Yes, exactly, the [budget] is allocated annually. It is allocated to the entire T-unit, i.e. technology unit, and we are entitled to a part of it."*	*"At [the beginning]we had a CEO who was very supportive and as is always the case in a corporate: you have someone who acts as a patron."* *"And the investment committee, [...] actually consists exclusively of internal Zeta stakeholders, in the beginning, there was even a very strong top management, so even the CEO was there, the CFO, CTO. So a very high line-up for some small investments in their eyes [...].It's honestly said, maybe that's also a bit part of this change process, it's always a bit in flux. We sometimes don't know in front of each IC how precise the lineup will be at the end."*	*"We are the ones who, in their eyes, are wasting millions in Silicon Valley, to put it bluntly. And also the hypothesis, this idea in general, that we do something like this, is already for many / so very critical questions sometimes come from very high up and so on. We always have to face that. [...]"*

Table A-4: Quotes illustrating the pre-crisis legitimacy score (continued)

CV unit pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Internal Support / Promoter Score
Eta	***"We are basically the unit for the visionary topics that are further away from the core business. There used to be a framework that was used a lot until recently, and that's McKinsey's horizons framework. [...] Basically, there is a distinction between innovation topics that digitize operational processes, the first horizon. We explicitly don't do that at all, i.e. we don't introduce or optimize any new IT tool. Then there's H2, which is basically an evolution of existing products and services, the second horizon. We're doing that to some extent, but actually, we're strategically located in the third horizon and that means building up completely new products and services, completely new business."***	*Industry: mobility services*	*"We have our own budget, which isn't particularly generous. But that's basically how we build MVPs and push the projects forward. And then there are different pots within the group which have also changed fundamentally in the context of the crisis. There used to be large pots that you could apply for in stages, and basically, we always got the funding in the past. This means that the project is being developed further, for example in the direction of a spin-off, and similar to a start-up, you get internal financing rounds."*	*"We are explicitly very free, which means we design our project agenda independently. Of course, there are inquiries about specific problems or projects, which we can then accept or not. In the end, of course, we depend on the board and when the board says, "You have to work on this or that topic now," then it becomes very difficult to get out of something like that. That doesn't actually happen, but in principle, it is of course conceivable. What is already happening is that issues that we think make sense are not being supported, so they are being shot down. It happens, but I think that's normal."*	*"Well, I think in the past we had a lot of fans within Eta who always thought it was great how fast we work, how differently we work. But there were also many who didn't take us seriously. There's a bit of the nasty word [German contest for young scientists] that's been circulating. That means there are the classic clichés, which cannot be completely dismissed, of innovation circus, colorful sneakers, hip appearance, but a lot of hot air and little competence behind it."*
Theta	***"[What we are doing] is absolutely strategic because it's really about discovering new business models; new ways in which we interact with our customers. So absolutely strategic and innovative. And I mean, we also have different platforms now, where on the one hand we make more than a billion sales in the emerging market via such quasi-e-commerce platforms or in mature markets where we are used almost daily in 10,000 locations and more there too than a billion sales orders about something like this going on. Well, I mean, you can tell that we're achieving a certain degree of penetration in the Group and something where you really have leverage so that you can just somehow move up a gear."***	*Industry: construction* *"So, historically, of course, we are a company that works in a very traditional way and where you probably don't have the greatest possible innovative mindset"*	*"Because in our industry you don't have a huge innovation budget; it's not pharmaceuticals or whatever or any other innovative company. That means you watch every penny."* *"With such a venture client approach, where you can buy and test a solution or a service so to speak for a limited time, for two to four months, we have projects that cost us between maybe a few thousand euros maybe 40/ 50,000 somehow."* *"So somehow we have the requirement that it should somehow, as you said before, have a certain connection to the existing business. It should also have a certain short-term nature in terms of impact generation. Moonshots that are totally five years out or something now that we have a lot less backing left. At the same time, we actually got a free pass over the budget when it comes to pilots. That they just say we don't question every time you spend 10 or 20,000."*	***"Exactly, we have the support [from our CEO]. I mean, he brought this CDO (Chief Digital Officer) in because he has a very high level of trust there. He also gave him a lot of freedom. But freedom and trust are great, it's important, but that's not always everything. Because if you want to penetrate the organization, then somehow you have to have the commitment, not only that he supports you with a glass of wine and a one-to-one, but that he also stands up and says: "Guys, I mean, now everyone has to cooperate in this undertaking and not just our digital department."***	*"I would call [the internal support] mixed."* *"And of course, there's also a bit of frustration when you say: I mean, we've explained it to them three times and they still haven't understood it. Where you then have to say: Yes, fine, but we've explained it to the Head of Engineering seven times and he doesn't want to understand it. Why do we expect them to do it differently?"*

Table A-4: Quotes illustrating the pre-crisis legitimacy score (continued)

CV unit pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Internal Support / Promoter Score
Jota	***"Our investment area is of course clearly defined, it is strategically defined, so nothing will change about that. But we are financially driven there, so of course that also ensures that the added value is there."***	***Industry: energy & engineering***	***"But we are a dedicated fund, I may say so. So we're not off the balance sheet. So that's not off the balance sheet, but we are a fund and that's just incredibly important that you have an allocated budget, otherwise, the discussion will start again with follow-up investments; [...]. Of course, at the end of the day that doesn't mean that if we didn't have any exits, that we have to go hungry at the end of the day, but of course, there is certain support. But the goal is to be financially driven and economically independent of it. So not economically independent, but earning your own money."***	***"It actually started with our Co-CEO, who returned to the group in 2017 and devoted himself to the topics of innovation and found that the business world, our economic world, is changing insanely: fourth industrial revolution, blablabla. And he has to make the company fit for it.“*** ***"Well, organizationally we are perhaps in the second row, but the e-mails actually always go directly to the first row, so it has to be said that they are relatively high up. So of course, close to the board of directors. And valued too."***	***"[The internal support] varies a lot. It depends on who you're dealing with. [...] But at its core, it varies a lot. There are people who think it's super great and then there are people, who think: "What do these guys want, these quacks?" It's totally different, you can't pinpoint that. But actually, all people who are a bit open are actually super interested. You can also see that people in management positions, who work in the individual sub-units, who have contact with start-ups, who have contact with new products, very often bring us on board before they source any service from a start-up because they want our eyes on it because they are afraid that they are now putting their trust in a company that cannot do what they actually promise them. And when in doubt, you don't even know whether the company will still exist in a year's time. And then we're happily approached to do a bit of DD, and that happens quite often"***
Kappa	***"The criteria are still: It has to be a VC deal, it has to have a certain multiple or a certain return. And it has to fit strategically just as well. This means that we are not a VC or CVC that really only looks at the strategic fit, but we really have to assess both, i.e. both must be given, otherwise, we will not invest."***	***Industry: electronics***	*"[We invest] off the balance sheet. It still is."* *"We don't have budget discussions. The budget is actually always there when the fit is strong enough. That was stupid in this case because it's just three deals at once. You have to prioritize and make decisions."*	*"And we are also a very young CVC. We've been around for about four or five years and[...] we are now facing a big change, because about a year ago, let me say, our partner company offered to buy Kappa and has now taken over Kappa. [...] That means we are now acting as a VC arm for both companies, or it is one company, but there are still two brands and this integration just takes time. They're just very, very large companies and that's why we're also in the middle of the big shift last year."*	*"Yes, well, in the beginning, I wasn't part of the VC, it was an incubator at the beginning, which means they actually wanted to support start-ups internally and then spin them off themselves. And they noticed relatively quickly that it doesn't work that easily, because people from the group have a different approach to such topics and also have a different mentality. And then transformed this arm into a VC. [...] And I would also say that the CVC unit has become more professional over the years because it just / It just took a while until, I would say, the setup fits in such a way that you even know: Okay, what do you actually want? Where do you want to go? What kind of investment do you want to make?"*

Table A-4: Quotes illustrating the pre-crisis legitimacy score (continued)

CV unit pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Internal Support / Promoter Score
Lambda	***"With our transactions, [...], we have a requirement that we always need an operational department that supports the transaction from a technical perspective and thinks it is good. So we don't make purely financial investments"*** ***"Of course, we work very closely with our business units in order to find solutions to problems and then to give start-ups a share in the core business, to find new technologies so that we can then, as I just said, develop our core business further. But that's not the only thing, we really try to look a bit beyond it; try to participate in other start-ups beyond our core business, with the background that the customer is still the focus. Because I think we want to try to offer the customer the best possible service, the best possible support. And ultimately we look beyond and don't just invest in our core business."***	***Industry: mobility***	*"We have an annual budget, which is replenished almost every year and the CFO himself published the number at the balance sheet press conference. We can for M&A and venturing, but that is not divided, we can currently draw on >XXX million annually for investments. So theoretically we have >XXX million euros available for venturing activities."*	*"We actually still have the feeling that we are always in defensive mode when we present topics due to this committee situation. We always have to justify the investments. We have the feeling that, precisely because there are six people there, two of whom are in favor per se, we as the process owner, otherwise we wouldn't even join this body and the business owner, but then we actually have four critical questioners, who we then have to try to convince. [...]. And it's also difficult, maybe that's specific to us and that's why we're in the defense mode: It's not discussed in relation to function, but everyone gives their opinion on the business model and the potential of the start-up. And that, in my view, is the wrong approach. [...]. And that's why we say yes, it's a long process, and I think we're developing well because I don't want to hide that either: it's more the overall organization that limits us and slows us down a bit."*	*"It's still an issue, venture capital in particular, which is still relatively young and fresh in Germany. In other words, many people at Lambda don't really know what venture capital actually means. From that, it is quite difficult to position such topics at Lambda. But I would say that we have already learned from the past that we are really willing to learn now and are really on the right track to position venture capital a bit better within Lambda. Of course, it was always quite difficult at first, as it is, because we actually had to repeat to ourselves what it actually means every day. And that is still quite difficult."*
My	***"We see ourselves as part of the innovation strategy. It is essentially about learning things and actually learning about how markets or environments could change in the future. So what can be positive or negative for [My]. And accordingly to derive for us how we will have to position ourselves in the future or how [My] may have to position itself in the future or what new business opportunities there are. That is essentially the strategic pillar. So as I said, actually based on learning. Our VC arm itself has two goals that we combine and that is of course financial and strategic on the one hand. So, we are financially incentivized. At the end of the day, that's the only KPI that's really hard to measure. And in principle, we are trying to generate returns with this instrument, naturally in the top quartiles. But at the same time investing in fields that allow this strategic added value."***	***Industry: engineering***	***"We started the first fund a few years ago; it has a size of XX million euros. In terms of setup, we are our own GmbH, our own team, with really dedicated resources and actually with a great deal of independence."*** ***"There are no specifications. There is this XX million euro fund. Since it is linked to a term, there is of course an expectation that we will also invest in it."***	***"I think by now the management, the entire management team, i.e. the top 20%, have understood very, very well what we are doing, why we are doing it, and what the benefit is."***	*"I think it was actually critical at the beginning, because of course we take money, which every employee with sweat and blood also helps to generate and really put that into high-risk investments. And not every investment and not with every investment is immediately obvious why we are doing it or where the strategic benefit could lie. And of course, not all of these strategic bets work out. [...] With the employees it is actually still very mixed. But I think that's a process that every corporate VC has to go through because there's a lot of explaining to do as to why that makes sense. Or then just explain the topics that you do well and try to explain this strategic link again and again. But meanwhile, we are actually there / So we get incredibly broad support, get a lot of deal flow or more and more deal flow, also from departments that are on the road at pretty much every trade fair in the world and are incredibly well networked."*

Table A-4: Quotes illustrating the pre-crisis legitimacy score (continued)

CV unit pseudonym	Strategic Motivation	Innovation-Dependence	Resource Autonomy	Top Management Support	Internal Support / Promoter Score
Ny	***"But knowing full well that our mission is not based in a humanitarian mission or something, but that we also know that we also believe in the business opportunities of this mission, because we know that it's a basic consumer need, what tends to get bigger in the future"*** ***"So we almost always have one or two synergy managers who make sure that our start-ups, our portfolio, and our core business do projects together. [...] And that is, so to speak, the only role where we really see added value, so to speak, based on the core business."***	*Industry: food and beverage*	*"Exactly, it's just a 100% subsidiary of NY. But because Ny is also 100% family-owned (...), it's a very informal construct, so to speak, since you basically just reinvest the company's profits and use the money from the balance sheet, so to speak, to position the company for the future."*	***"For all people who have already understood, so to speak, that we are not really differentiated with our product or do not have an eternal product-market fit, but rather have to focus on lifestyle and these are probably the leading personalities in the company, so to speak, of course, they understand the value add very much. Especially those who then have to stand out with this story, who also have to show, so to speak, and then quickly list what else we offer in addition to the product. Of course, they need us very much or are very happy that we exist."***	*"So there are certainly some people / maybe you could say all people who still think that company Ny essentially sells a product and not a lifestyle, naturally have an extreme difficulty in bridging what company Ny does and that that we might invest in a lifestyle."*
Xi	*"So we're really focused on maximizing value, focueds on value and ultimately making money."*	*Industry: media*	*"We invest from the balance sheet, correct."*	*"And what I also have to say, the share price has already suffered significantly [before COVID]. We also had a CEO change in the group. And I do believe that it has gotten a little worse with COVID. [...] and that's why I might have to show on the capital market that we can [make a financial return through an exit], for example, because the share price has fallen again. And that worked."*	***"No, that's actually a good relationship [with the internal business units]. So historically we are also a young company. [in our industry], the people who work here tend to be rather young. The whole group is young, quite dynamic. The group has also received several awards for this. That's why you don't have the classic core business thinking in any way, which then also separates itself in terms of content and somehow has the feeling: We are the gang and you are outside. It's always been a bit mixed and actually quite open."***

bold text: a point is assigned (see Table A1 Pre-Crisis Legitimacy Score Assignment)

Table A-5: Quotes illustrating 1st order codes

Themes	Representative Quotes
Resource Dynamics	
<u>Resource Deployment</u>	
Temporary budget cut/freeze	*"In any case, there was a budget cut for the T department, for the technology department, which also affected us. That was a significant budget cut." (Zeta)*
Slow down of internal processes	*"We just noticed that Delta had shifted down a gear and that many resources for partnerships were not available at first. Then there was short-time work in many areas and accordingly many projects were parked for the time being. They were not terminated but parked. At first, there was a bit of a stalemate, so to speak, when it came to partnerships." (Delta3)*
<u>Approval Processes</u>	
Stricter approval processes	*"At the same time, we actually had a free pass over the budget, especially when it comes to pilots. That you just say we don't question every time you spend 10 or 20,000.[…] That changed a bit 12 months ago when we took a look internally and recognized with COVID we have to pay even more attention to costs and cash flows. As a result, many thresholds suddenly dropped to zero. And since then we've had to suddenly approach the finance department, even with smaller amounts, and then you have to actually start again and explain to them: why are we doing this? […] But that's the kind of tension you have between the purchasing department, finance, and controlling." (Theta)*
Shifting internal budgets	*"Yes. So what we did is because we're really there / in the middle of the year I would have had to go to the CFO for every proof of concept and then I said to [the regional organizations]: "Hey, sorry, you have to fund these proofs of concept yourself. You just have to get the budget internally yourself." (Theta)*
Adjusting	
<u>Digital Operations</u>	
Work from home	*"And here it is also the case that, generally speaking, Alpha Group dealt with the situation very conservatively, leaving everyone working from home and only going to the office if it is unavoidable. And CVC unit Alpha has also completely followed the policy of the Alpha Group here, even though it is a separate unit." (Alpha)*
Online meetings/workshops/events	*"Ultimately, we realized relatively quickly that we had to completely rethink digital. Then we really sat down with the marketing team and tried to translate everything that we had planned to do in our change process, including change communication, into the digital world. Because we also quickly noticed: Now, simply doing an online team meeting doesn't work after all. And we have started to test: How does a two-day on-site workshop work if you split it up for two hours a day over a whole week [...]." (Delta1)*

Themes	Representative Quotes (continued)
Online evaluations	*"Of course, certain things had also changed: You couldn't visit companies, you couldn't get to know the founders personally. Of course, there are other ways of assessing such a company. Ultimately what has shown is that within the last six months, we have had, I would argue, a significantly higher deal rate than we had before. Because things simply run much more efficiently. [...] at the end of the day, there is digitalization, which is now almost inevitably running through everything from signing contracts to "I just make calls with all sorts of people that I consider important", has just become infinitely easier." (My)*
<u>Start-up Support</u>	
Intensified contact with ventures	*"And with our portfolio companies, [...], we tried to work a little more closely with them, which of course we've already done. But then, concerning the current crisis at the time, we just tried to provide a little more help with the network that the colleagues we brought on board then brought. And then we tried to put our companies, which were about to start a round of financing, in touch with the other VCs. Because it was already the case back then that capital was still flowing and VCs were still interested in participating in financing rounds, in exciting companies, of course." (Lambda)*
Follow-on investments/cash management	*"Some of them, they needed extra cash. You know we gave them some extra cash, made some follow-on investments to help them." (Gamma)*
Search for public support programs	*"Interviewer: So you did a bit of a check: How are the start-ups doing? [...]. Interviewee: Yes, exactly. And where do we have to take action? And what funding programs are there? What makes sense for the respective start-up? And then we also took these measures and yes, in one case, for example, successfully and that was really very good." (Kappa)*
Sensing	
<u>Approval -Seeking</u>	
Adapting goals/forecasts	*" In fact, we adopted target figures a year ago, which we corrected slightly downwards again at the end of last year. [...] Because we simply noticed that in the current situation they cannot be reached. That means they got a little bigger. [...] Of course, our controlling takes very large risks into account, that's clear. I can't really say too much right now, but of course, they report that we are also very cautious, very conservative at the moment: What can we really implement?" (Delta1)*
Changes in justification/ argumentation of new projects/investments	*"We did our first investment committee in September, basically in the middle of the COVID-19 crisis. I think just before the second wave in the middle of 2020 when the books all looked so bad. But what has helped is when we showed them very clearly, okay, the financial matters, but what has now become very important again, what was already crucial before, but now more or less clearly stated is that we clearly show the benefits for the Zeta group." (Zeta)*

Themes	Representative Quotes (continued)
Consultation of top management	*"And then there was a relatively hard stop, basically in mid-March, [...], so that we were informed that our budget had been reduced a bit. [...] But then also the hint a...] not to make any new, active investments. So in Q2 we were basically on hold as far as new investments were concerned. [...] But then at the end of June, we were back in the executive board committee with new topics, 2020. And from then on things went quite normally as far as investment activities were concerned. We then had to [...] position ourselves again in the group so that we can say we'll continue with the support, but from both the CEO and the CFO." (Lambda)*
Thoughtfulness	
More sensitive communication	*"Yeah. I mean, everybody knew people that were getting laid off. So it was, you know, there's a personal connection there too. So I would say it wasn't like a corporate mandate related to new investments, but just being sensitive to the things that people were going through.[...] So you know, when you make investments there's kind of this exuberance and kind of there's like a lot of enthusiasm about it, and there's kind of a tone that is made in these announcements about investments. And so part of that, too, is, and this was, I would say, applies to ventures, but applies that a lot of other things in the company where maybe we're doing cool stuff in other parts of the company that was maybe downplayed a little, because of [...] people losing their lives because of the global pandemic and our customers, you know, really struggling. So, you know, it was really I'm sure, you know, corporate communications overall, that was kind of that's been the overall posture, and that certainly applies to us. And so, you know, being cognizant of whatever our customers or passengers, or employees, you know, everyone was struggling. So, you know, continuing to innovate, but maybe not necessarily having the public-facing posture have the same tone." (Beta)*
Holding back investments for reasons of solidarity	*"And of course also by immediately sending a sign of solidarity towards the organization, so that we too, so to speak, reduce our investments at the time." (Ny)*
Focusing	
Corporate Fit	
More focus on strategic/near-term/core-business benefits	*"So really, a lot of our focus over the last year has been okay, we can't stop investing, but it's just we can't invest at the same levels that we historically had through this. So how do we prioritize and get the most bang for our buck in terms of, you know, not just return on investment, but really, what are the critical things we need to be investing in to be successful in the future? So I would say that that thesis kind of applied in the CVC unit Beta sense as well." (Beta)*

Themes	Representative Quotes (continued)
Continue topics of key strategic interest	*"We then made a decision in the summer [of 2020] to make a very, very large deal in the double-digit million range. That was then done, after practically two deals had been canceled, two maybe smaller deals, somehow two or three million each, to then making a deal with a very, very large volume, which fitted even better strategically, so it was then decided, we absolutely have to do it. That means that there were other considerations: how big is the risk? That's why it's hard for me to always say: black or white, or hard to say all deals were canceled, because in the end, if you find an investment and you see it is such a good match and that start-up performs extremely well, then you can make investments even in times of crisis, even from a corporate point of view. [...] So it really depends on the deal, the type of deal, the size of the deal, and the importance for the corporate to go into this field now." (Kappa)*
<u>De-Risking</u>	
Shift in investment size or stage	*"We simply made fewer investments in 2020 and we also made early-stage, earlier-stage deals because that was of course the better strategy for us overall, simply minimizing the dollar risk. But we have a lot of topics where we can then do a double-down in later years. And finally, so to speak, balanced out the risk a bit from this phase." (Epsilon)*
Adapted evaluation of opportunities	*"Yeah, so one of the key points that we emphasized after Covid was we don't know how the investment environment is going to be in the short term. So we don't invest if the company after the investment round has a cash runway of at least worst case 18 months. So before we could accept shorter-term runways of six months because the runway was there anyway. We had no visibility of what was going to happen so we can only invest if the company can survive 18 months, better 24 months without an extra cash injection. That was a clear change in our investment strategy besides the focus areas." (Gamma)*
Focus on syndication	*"Another thing that has changed, that is very important, we now focus a lot on who is the lead investor. So since we are only a follower, when Covid struck we gave a much higher weight in our analysis on who is going to be the lead investor, because in very difficult times you need a very experienced pair of hands to actually drive the company. So start-ups and VCs that have a track record in successfully managing the companies even more, they have always been an asset, but in difficult times they've become a survival asset. So a VC that has a clear track record of exiting and making money, they are our go-to. Companies like Lakestar, Atomic, Atlantic Bridge, they can partner with people that are so experienced, so we know if they make the investment in a start-up they will help them out until ...if they can not save a company it means the company cannot be saved by anyone else. [...] So the lead investor has become together with the cash runway the two big topics in our decision making." (Gamma)*

Themes	Representative Quotes (continued)
Opportunity-Seeking	
Expansion in attractive topics/fields	*"Thematically, a few new things have actually opened up. So actually in the area of hygiene concepts, i.e. worker safety: How can you ensure that the distances are maintained in the factories, that the shift planning is adjusted accordingly, and that employees are also informed better, faster, and more transparently if, for example, a shift is canceled? That they don't have to drive there first to find out on the spot: Oh, the factory is closed! So communication and such, blue-collar communication in particular is an important topic. And everything to do with New Work. So digital whiteboard collaboration and multimedia tools, all the engagement tools, and so on. So many software topics now too, which have gained a lot of momentum thanks to the adapted working conditions that all employees also have." (Delta3)*
Exploiting emerging exit opportunities	*"So the speed with which we have now also sold [one of our portfolio companies] was of course also driven by the fact that the company benefited to some extent from Corona. If you sell [hygiene-related products] in a corona situation, it tends not to be a bad idea. But the speed with which we then sold it was probably a bit faster than if that weren't the case." (Xi)*
Restructuring	
Restructuring of CV unit	*"Basically because of the changed project portfolio, because we did these projects closer to the core business and sometimes actually acted a bit like an in-house consultancy, it just showed that we have more of a project portfolio made up of different projects, some of which are very are close to the corporation that our structure may not be the best. And also because we lost this growth perspective for the time being, our structure was basically a bit over-engineered. Because it was designed for a larger structure. And as a result, we have now adjusted the structure or are in the process of adjusting it." (Eta)*
Shut down/pause part of the initiative	*"So, you know, kind of long-term with, you know, with business unit N, we ended up deciding to shut down N, or hit pause on that, and that was a really significant investment for the company. So that was all our work in this specific new segment. [...] We really had obligations to other parties, but a lot of the internal-only stuff stopped or slowed down." (Beta)*
Mobilizing	
Assistance	
Staff deployed for crisis mgmt.	*"But then I say, when Covid really hit and the industry basically got shut down, you know, kind of immediately, I would say a large part of the team was immediately redirected into Covid-response initiatives. Actually, some of the group went to immediate, like, Covid-response. How do we 3D print, you know, face shields and that kind of things. So there is already there is a disruption in kind of our normal flow just from that, and then some of the team immediately, you know, was more focused on Covid-response. How do we, you know, so company Beta, actually, we just license some technology we built for, anti-virus measures and stuff like that. So some of that work came out of the team as well. So that was kind of some of the immediate shock waves." (Beta)*

Themes	Representative Quotes (continued)
Special tasks tackling crisis effects	*"We did a different type of project immediately after the crisis last year. So we did projects that were much closer to the core business. For example, we very quickly, because we are simply much faster than other areas, we built and developed a platform very quickly, which has led to [the cash flow of Eta being stabilized]. There wasn't that before, the possibility. We did that in a few weeks, for example. That would be something we would not have done before because it is actually a core business topic." (Eta)*
<u>Enabling Solutions</u>	
Search for enabling solutions	*"And our reaction was actually and the trigger was somehow from a business area, where they said: "We now have a lot of new challenges with COVID. We have much higher uncertainties, planning uncertainties regarding supply-chain, and logistics. We don't know which employees actually come to work or the employees work from home and we don't know how well that works." And then we said: "We actually have completely new challenges, new problem statements out there. Let's create a COVID search field for start-ups." And we launched this COVID program very quickly, actually within a few days with our partner. We had the idea, they launched it, let's put it that way. And have generated an incredible amount of new attraction internally." (Theta)*
Urgency-driven push for new tools & partnerships	*"So what on the software aspect and tool aspect, what I called business enablers at the beginning because we were definitely able to do a few projects that would otherwise probably not have come so quickly due to this urgency and the situation. [...] The business enablers, that was just urgent. They were probably kind of five years behind others or behind where you could be." (Delta3)*