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On the Fast Track: Three Essays on Corporate Accelerators

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List of Abbreviations

AOM	Academy of Management
BCERC	Babson College Entrepreneurship Research Conference
CA	Corporate Accelerator
CEO	Chief Executive Officer
CIMO	Context – Intervention – Mechanism – Outcome Framework
CV	Corporate Venturing
CVC	Corporate Venture Capital
DRUID	Danish Research Unit for Industrial Dynamics
e.g.	Exempli gratia (for example)
EGOS	European Group for Organizational Studies
et al.	Et alii (and others)
ICV	Internal Corporate Venturing
i.e.	Id est (that is)
IPO	Initial Public Offering
KPI	Key Performance Indicator
POC	Proof of Concept
RQ	Research Question
SMS	Strategic Management Society
UK	United Kingdom
USA	United States of America
VC	Venture Capital

ABSTRACT

Corporate Accelerators (CAs) have been increasingly adopted across organizations over the past decade for access to early external innovation, to proactively anticipate disruption, and to build bridges between the complementary capabilities of new ventures and incumbents. However, academic research on CAs is still nascent and neither sufficiently engaging in extant theoretical work, nor leading the practical discourse in the field. Furthermore, it remains largely unclear how CAs explicitly create benefits for the involved parties, and why many of these programs fail shortly after inception. Therefore, in this dissertation, I use a three-essay multi-method model to investigate a) the scholarly origins of CA programs, and to develop a proposal for future research in that area, b) how CAs enact the creation of benefits for incumbents and new ventures, and c) to which extent different potential influencing factors might affect CA discontinuation.

In the first essay (Chapter 2), I aim to chart a path forward for CA research by understanding its intellectual roots and subsequent emergence. Therefore, I use a historical lens and combine bibliometric analyses, i.e., a co-citation and a citation analysis, with a detailed inductive qualitative analysis on the broader corporate venturing (CV) literature from 1981-2021. The analysis reveals a nascent body of CA research, which is primarily descriptive, and despite its practical relevance, holds rather a peripheral position in literature. This study also demonstrates a "core lineage" of academic literature leading towards the first CA publications, including the core contexts, theories and outcomes. Based on these findings, the essay proposes an agenda for future research that is theoretically more anchored, and relevant for practice.

Building on the findings from the first study, in the second essay (Chapter 2), I empirically investigate how CAs might be able to create and shape valuable outcomes for new ventures and incumbents through institutional arbitrage. While institutional arbitrage is still a theoretical mechanism, where institutional complexity is intentionally induced and exploited for benefit, this

essay sheds light into how hybrid organizations might actively enact these mechanisms. This study complementarily draws on entrepreneurship theory and suggests that goal specificity and governance control might shape how CAs engage in and influence institutional arbitrage. In doing so, this essay contributes to institutional theory, by integrating ideas from entrepreneurship theory into institutional arbitrage mechanisms. It also offers guidelines for any practitioners seeking to understand how to actively shape CA programs.

The third essay (Chapter 4) takes on a performance-oriented perspective, and explores to which extent potential influencing factors on program-level, corporate-level and ecosystem level might affect CA program termination. Therefore, this study conducts a survival analysis on a hand-collected panel dataset of 181 CA programs between 2011 and 2022, including corresponding corporate level and ecosystem level data. The findings suggest to focus on a clear technology strategy and professionally managed CA units, and to treat CAs as complements to corporate venture capital (CVC) activities. Besides, the study suggests long-cycled, research-intensive sectors to be more favorable for CA programs. Thereby, the essay contributes to CA and CV literature, suggests some theoretical angles for further investigation, and proposes initial guidance for practitioners on the establishment and management of CA programs.

1 INTRODUCTION

Incumbent firms, especially when operating in dynamic markets, continuously need to face and respond to disruptive innovation (Dushnitsky & Birkinshaw, 2016; Gans, 2016). In this context, while searching for new technologies and business opportunities (Wadhwa & Basu, 2013), established firms increasingly seek to adopt entrepreneurial approaches and engage with new ventures (Weiblen & Chesbrough, 2015). As part of external Corporate Venturing (CV) activities, where incumbents interact with, invest in, create or develop new ventures outside their organization (Dushnitsky & Birkinshaw, 2016; Miles & Covin, 2002), Corporate Accelerator (CA) programs are an emerging, and increasingly important phenomenon (Hochberg, 2016; Kohler, 2016; Shankar & Shepherd, 2019).

CAs are generally referred to as programs, where incumbents engage with one, or a cohort of new ventures during a fixed time frame, marked by a selection and a demo day, on which new ventures can present their ideas and progress to the corporate partners and potential investors (Cohen, Fehder, Hochberg, & Murray, 2019; Hochberg & Fehder, 2015; Kanbach & Stubner, 2016; Kohler, 2016). Due to their complementary capabilities, both incumbents and new ventures can benefit from CA programs (Kohler, 2016; Kurpjuweit & Wagner, 2020; Weiblen & Chesbrough, 2015): By engaging in CA programs, established firms seek to explore new markets and technologies, and harness the new venture's creative, entrepreneurial mindset and more agile way of working (Cohen, Fehder, et al., 2019; Kohler, 2016; Weiblen & Chesbrough, 2015). In return, new ventures receive coaching and mentoring, and access to the incumbent's resources, infrastructure and networks, potentially leading to new customer relationships (Cohen, Fehder, et al., 2019; Moschner, Fink, Kurpjuweit, Wagner, & Herstatt, 2019; Shankar & Shepherd, 2019). The growing practical relevance of CA programs, combined with the novelty of the phenomenon, was the initial basis of this research. As for probably most emerging phenomena and research fields,

CAs provide a number interesting and relevant undiscovered subjects for inquiry, of which I seek to address three with this dissertation:

First, despite the increasing importance and proliferation of CAs across industries (Cohen, Fehder, et al., 2019; Hochberg, 2016; Kohler, 2016; Shankar & Shepherd, 2019), academic research in the field is still in its infancy. While a nascent body of work has emerged over the past five years, which has undoubtedly provided important initial insights, it comprises primarily descriptive and phenomenon-oriented studies (Gutmann, Kanbach, & Seltman, 2019; Kanbach & Stubner, 2016; Kohler, 2016; Mahmoud-Jouini, Duvert, & Esquirol, 2018; Moschner et al., 2019; Richter, Jackson, & Schildhauer, 2018). This might not be surprising for an emerging research field (Glynn & D'Aunno, 2022). However, the lack of substantial theoretical integration of CA scholarship into the broader academic conversation around CV might be potentially problematic for the future growth and legitimation of the field (Vedula et al., 2021). Therefore, in the first essay of my dissertation, I aim to chart a path forward in the field of CA research that is theoretically more pluralistic and relevant for practice.

Second, even though the general objectives and potential benefits of CA programs have been laid out, i.e., bringing together incumbents and new ventures for exchanging and learning from complementary capabilities (Kohler, 2016; Kurpjuweit & Wagner, 2020; Weiblen & Chesbrough, 2015), little is known about how CAs might actively enact this co-creation process for mutual benefit. While extant research has characterized different CA programs and descriptively touched upon potential advantages and disadvantages (Moschner et al., 2019), a theoretically grounded understanding of how internal mechanisms might lead to different valuable outcomes remains incomplete. These mechanisms and theories are important to understand, as accelerators are complex organizations, where nuanced treatment might have an important effect

on their outcomes (Cohen, Fehder, et al., 2019). This is why in this dissertation I seek to understand how CAs might create and shape mutual benefit for new ventures and incumbents.

Third, since the emergence of CA programs in 2011 (Shankar & Shepherd, 2019), one could observe a widespread instability of these programs, represented by high termination numbers: While there has not been any systematic research, yet, some initial estimates suggest a discontinuation rate of up to 60% within the first two years (CB Insights, 2019; Winston Smith, 2020). These figures might be one of the reasons for a heated debate in academia and practice on the efficacy of CA programs (Granados, Ayala, & Rámos-Mejía, 2021; Saunders, 2022; Winston Smith, 2020). Success factors for accelerator programs in general (Cohen, Fehder, et al., 2019), and reasons for termination of CA programs in particular, have not been sufficiently investigated to-date. However, to successfully establish and manage CA programs, and to gain more legitimacy in research and practice, key factors that might affect the longevity of CA programs need to be better understood. Thus, the third ambition of this dissertation is to understand, to which extent, different individual factors might affect the hazard for CA termination.

In this dissertation, I present three individual studies, that directly address the aforementioned research objectives (Chapters 2-4): First (Chapter 2), to expand on potential future CA research questions, I seek to gain a deeper understanding of the scholarly origins of CA, i.e. CV research, as well as the historical development of the field with a mixed-method literature review. Second (Chapter 3), I study how CAs might enact the creation of mutual benefits for incumbents and new ventures through institutional arbitrage in an inductive multiple case study. Third (Chapter 4), I explore various potential influencing factors on the discontinuation of CA programs, to understand to which extent program related, corporate and contextual treatments might affect CA failure. The following sub sections summarize each of the mentioned essays. Table

1 provides an overview of the three essays. I conclude this dissertation with a discussion of these studies' key findings, their theoretical and practical implications, and avenues for future research.

Table 1. Summary of Three Dissertation Essays

Chapter	**2**	**3**	**4**
Title	**Looking Back to Speed Forward: The Origins, Evolution, and Path Forward for Corporate Accelerator Research**	**Collisions for Benefit: How Corporate Accelerators Enact Institutional Arbitrage Between New Ventures And Incumbents**	**Failing Fast: An Exploratory Analysis of Corporate Accelerator Program Survival**
Research Question	*What are the scholarly origins of the academic literature on corporate venturing, how did it in turn shape the nascent research stream on corporate accelerators, and what can we learn from this trajectory for future research on corporate accelerators?*	*How do corporate accelerators enact institutional arbitrage mechanisms for mutual value creation of new ventures and incumbents?*	*To what extent do program related, corporate and ecosystem factors affect the success or failure of corporate accelerators?*
Main Theoretical Perspectives	• Organizational Theory • Capability Based Theory • Innovation Processes/Theory	• Institutional Complexity • Institutional Arbitrage • Organizational Control	• Innovation Processes/Theory • Ambidexterity • Capability Based Theory
Approach	Literature Review • Quantitative (Bibliometric) • Qualitative (inductive coding)	Theory Building • Qualitative (inductive)	Exploratory • Quantitative
Methods	Mixed-Method • Bibliometric Analyses, i.e. Co-citation and citation analysis • Inductive qualitative review	Inductive Multiple Case Study	• Cox Survival Analysis *Complemented by* • Parametric Survival Model • Logistics Regression
Data	• 389 peer-reviewed academic articles for bibliometric analysis • Subset of 85 core papers for qualitative analysis	• 42 Interviews with 38 informants from 5 CAs • Observations from 6 event participations and multiple site visits • Archival data from 65 sources	Hand-collected data on 181 CAs & corporations from: • Crunchbase • Thomson VentureXpert • Orbis • Web Search, i.e., archive.org; annual reports, CA Database, Patentsview.org
Key Findings	• Core contexts, theories and outcome types of CV literature • Nascent but growing CA literature mostly descriptive • Missing integration into preceding core Management CV literature	• Organizational control shapes CA engagement in institutional arbitrage • Variations in depth/intensity, balance/dominant logic and direction of exchange for institutional arbitrage	• Technology strategy important for CA success • Professional (external) management setup favorable • CA complementary to CVC • Research intensive industries more promising
Implications/ Contributions	Agenda for future research with exemplar RQs proposing to: • Leverage underutilized theoretical perspectives • Connect underlying intellectual communities • Improve practical relevance	• Extension of theory on institutional arbitrage • Understanding for creation of benefits in CA programs • Practitioner guidelines for establishing and maintaining CAs	• Performance oriented study on CA programs • Indications for theoretical lenses to study CA success • Practitioner guidelines for establishing and maintaining CAs

1.1 Understanding the Academic Discourse Around Corporate Accelerators

The first study (Chapter 2), *Looking Back to Speed Forward: The Origins, Evolution, and Path Forward for Corporate Accelerator Research* lays the foundation for research on CA programs by examining the academic discourse, in which CA research might be embedded. In doing so, I aim to develop avenues for future research on CAs, that are both rigorous and relevant – that is more integrated with extant theory, while still answering research questions that are relevant to practice. In particular, I seek to answer the following multi-layered research question: *What are the scholarly origins of the academic literature on corporate venturing, how did it in turn shape the nascent research stream on corporate accelerators, and what can we learn from this trajectory for future research on corporate accelerators?*

Therefore, I historically investigate CV literature (Bylund & Packard, 2022; Glynn & D'Aunno, 2022), by conducting a mixed method analysis, starting with bibliometric analyses, followed by a qualitative investigation of core literature (Vedula et al., 2021). In particular, the bibliometric co-citation (Moed, 2005; Small, 1973; Vogel & Güttel, 2012) and citation analyses (Boyack & Klavans, 2010; Zupic & Čater, 2015) allow to understand the scholarly origins of CA, i.e., CV research and identify a "core lineage" that leads to CA publications. The subsequent qualitative investigation provides deeper insights into the key contexts, their main mechanisms and theories, as well as the outcomes of these studies. This process reveals commonly used constructs and blind spots within the research stream leading to CA.

The findings above lay the foundation to develop a specific agenda for future scholarship in the CA field along three guideposts: First, leveraging underutilized theoretical perspectives, as for example investigating innovation processes which are prevailing in general CV research but remain scarcely investigated in the specific CA context. Second, connecting intellectual communities, in particular across the scholarly origins, i.e., internal organizational processes, inter-

organizational mechanisms, as well as organizational learning and innovation. Third, this essay calls for more practical relevance, as for example studying the actual impact of CA programs on new ventures or the incumbent firms. To the best of my knowledge, the study is novel and unique in its approach and comprehensiveness regarding CV literature.

1.2 Investigating How Corporate Accelerators Create Mutual Benefits

In the second study (Chapter 3), *Collisions for Benefit: How Corporate Accelerators Enact Institutional Arbitrage Between New Ventures and Incumbents*, I follow the call for more theoretically grounded CA research with practical relevance, by investigating how CAs might engage in the co-creation process for valuable outcomes between new ventures and incumbents. To do so, I adopt an institutional theory lens, more specifically the novel theoretical mechanism of *institutional arbitrage,* which takes place, when incompatible institutional logics are purposefully brought together to create benefits by leveraging their differences (Perkmann, Phillips, & Greenwood, 2022). CAs are an ideal case for institutional arbitrage, as they provide a space for incumbents and new ventures to benefit from their complementary capabilities (Kohler, 2016; Kurpjuweit & Wagner, 2020; Weiblen & Chesbrough, 2015). For this purpose, CAs aim to create benefits by intentionally bringing together established firms and new ventures, which adhere to different taken-for granted norms, structures and practices, and thus, follow distinct institutional logics (Pahnke, Katila, & Eisenhardt, 2015; Shankar & Shepherd, 2019). This leads to the central research question of this essay: *How do corporate accelerators enact institutional arbitrage mechanisms for mutual value creation of new ventures and incumbents?*

In order to investigate how CAs might combine entrepreneurial and corporate logics for valuable outcomes, I integrate core ideas from entrepreneurship theory, and more specifically the fact that organizations differ in their willingness to bear uncertainty (McMullen & Shepherd, 2006;

Milliken, 1987). In particular, I study, how the resulting degree of organizational control that incumbents might want to retain (Ouchi, 1977; Ouchi & Maguire, 1975), affects the CA's institutional arbitrage mechanisms. By conducting a case study on the creation of benefits of five different CAs (Eisenhardt, 1989a, 2021; Eisenhardt & Graebner, 2007; Miles, Huberman, & Saldaña, 2014), this essay also aims to extend theory on institutional arbitrage.

Our model suggests that organizational choices and governance control, which reflect the willingness to bear uncertainty, might shape how CAs engage in institutional arbitrage. This may lead to variations on institutional arbitrage with regards to a) the depth or intensity of individual institutional arbitrage mechanisms, b) the balance of the colliding logics, i.e. the dominance of individual logics; as well as c) the scope, i.e. direction of arbitrage. In particular, this study suggests, that a higher degree of control in terms of goal specificity might lead to a dominating corporate logic for organizational practice adoption, while a more exploratory approach might favour an entrepreneurial logic. With regards to governance control, the findings indicate an increased bi-directional exchange between new ventures and incumbents for internally managed CAs, while external CAs might foster an exchange across organizations within the broader ecosystem. Additionally, this essay adds nuances to existing, rather static institutional arbitrage mechanisms, and provides evidence that institutional arbitrage might benefit both involved actors. In doing so, this study builds upon and extends the prior notion of institutional arbitrage. The prior understanding conceptualized institutional arbitrage without variations of its individual mechanisms and typically benefitted a single group of involved actors. Instead, in the second essay of this dissertation, I theorize that institutional arbitrage might create mutual benefits with variations in depth scope and balance of logics.

1.3 Exploring Factors for Discontinuation of Corporate Accelerator Programs

The third study (Chapter 4), *Failing Fast: An Exploratory Analysis of Corporate Accelerator Program Survival*, aims to contribute to the prevailing debate in academia and practice on the efficacy of CA programs (Granados et al., 2021; Saunders, 2022; Winston Smith, 2020), by exploring potential key factors that might influence the rapid termination of a significant number of CAs (CB Insights, 2019). This builds upon and extends prior performance oriented CA research, which captured the effect of CAs on the new venture success (Seitz, Lehmann, & Haslanger, 2019), by turning the focus towards the CA program itself. While assuming that multiple factors on different levels might influence CA program discontinuation, this study addresses the following research question: *To what extent do program related, corporate and contextual factors affect the success or failure of corporate accelerators?*

To identify potential influencing factors for CA termination, I draw on prior CV research and different management theories, which revealed four CA program-related drivers, five corporate drivers and two contextual factors for analysis. On CA level, the influencing factors are based on variations in typical CA characteristics, i.e., technology strategy, operative strategy, managerial setup, and financial support structure (Kanbach & Stubner, 2016; Kohler, 2016; Moschner et al., 2019). On a corporate level, the main input stems from the discussion, whether CAs and corporate venture capital (CVC) activities are complements or substitutes (Winston Smith, 2020), and from broader management literature, such as resource availability (Biniari, Simmons, Monsen, & Pizarro Moreno, 2015), absorptive capacity (Cohen & Levinthal, 1990) and theory around CEO changes (Weng & Lin, 2014). On a contextual level, more strategy-focused research indicated industry specific factors (Porter, 1981) and regional factors (Amezcua, Ratinho, Plummer, & Jayamohan, 2020) for investigation. To cover all relevant information for this study, I assembled a novel and unique hand-collected dataset of 181 CA programs, including information on their inception and

potential termination years, complemented by respective corporate data. To investigate the impact of the influencing factors on CA program survival, I account for potential inter-relations of covariates, by applying the multivariate Cox proportional-hazard regression model (Allison, 2010; Baek et al., 2021).

This study provides significant findings on the three levels of analysis: In particular, on a CA program level, it highlights the importance of having a clear technology strategy, as well as a professional management and governance. This is based on the findings that suggest a significant higher survival rate for CAs, a) where the venture technology is complementary to the parent company, and b) which are externally managed by a dedicated professional CA organization. Additionally, this study suggests, that CVCs and CAs might be complements, as CAs are more likely to survive with actively CVC investing parent companies. On a contextual level, this study suggests that CAs are more likely to survive in research intensive industries with long development cycles, such as Pharma, Chemicals, and Biotech. By touching upon several theoretical lenses and by providing initial insights on some key influencing factors on CA survival, this study is both relevant for academia and practice.

2 LOOKING BACK TO SPEED FORWARD: THE ORIGINS, EVOLUTION, AND PATH FORWARD FOR CORPORATE ACCELERATOR RESEARCH[1] [2]

ABSTRACT

Over the past decade, organizations have increasingly adopted corporate accelerator (CA) programs. Yet, academic research on CAs is still in its infancy and lagging behind practice. This paper aims to chart a path forward for CA research by understanding its intellectual roots, and subsequent growth trajectory. We use a historical lens, and implement a mixed method literature review from 1981-2021 on the broader corporate venturing (CV) literature (of which CA is an offshoot). We combine bibliometric analyses (co-citation and citation analysis) with a detailed inductive, qualitative analysis of influential papers. We demonstrate that the nascent but growing body of CA research, while descriptive and reflective of the importance of the phenomenon, does not sufficiently theoretically engage with the broader foundational CV research from which it has arisen. We offer an integrative and theoretically expansive agenda for more rigorous and relevant CA research.

Keywords: Corporate Venturing, Corporate Accelerators, Corporate Venture Capital, Systematic Review, Bibliometric Analyses, Qualitative Coding, CIMO

[1] Earlier versions of this essay have been presented at the (1) DRUID Conference, 2022 (Copenhagen, Denmark); (2) 82nd Annual Meeting of the Academy of Management (AOM), 2022 (Seattle, USA); (3) TUM School of Management Research Fest 2022

[2] An earlier version of this essay received the Best Conceptual Paper Award of the Entrepreneurship Division at the 82nd Annual Meeting of the Academy of Management (AOM), 2022 (Seattle, USA)

2.1 Introduction

Corporate venturing (CV) plays a fundamental role in strategic renewal, innovation, and entrepreneurship for incumbent firms. For example, by 2016, more than half of the Forbes Global 500 corporations had some form of startup engagement vehicle (Shankar & Shepherd, 2019). The most well researched form of CV is Corporate Venture Capital (CVC). CVC units have been utilized extensively by corporations to acquire external knowledge through equity investment into startups (Dushnitsky & Lenox, 2005a, 2005b). Several studies have focused on drivers for CVC adoption, governance aspects, investment procedures, performance of ventures and the corporate parents, and also, increasingly on the managerial challenges of CVC units (Jeon & Maula, 2022; Röhm, 2018).

Yet, both from a strategic and learning perspective, CVC also has some important limitations as a form of CV. In particular, there is typically little room for broad-based experimentation in CVC units, i.e., engaging with innovative technologies or strategies, and searching for opportunities that are not at the core of the incumbent's industry (Cabral, Francis, & Kumar, 2021; Hampel, Perkmann, & Phillips, 2020; Keil, Autio, & George, 2008). For example, Cabral and Colleagues (2021) indicate that CVC managers' willingness to experiment in their program has been often constrained by their own job security concerns. In a similar vein, Hampel et. al (2020) emphasize that, despite its importance, established firms have been reluctant to use experimentation in traditional forms of corporate venturing. Thus, despite their explorative ambitions, CVC units still traditionally have a strong financial focus with the expectation of a swift return on investment for incumbents (Benson & Ziedonis, 2010; Chemmanur, Loutskina, & Tian, 2014; Wadhwa & Basu, 2013). Given that experimentation is increasingly seen as an organizational imperative for innovation, especially under conditions of resource scarcity (Hampel et al., 2020),

corporations have increasingly sought out alternate modalities to engage with startups, and complement traditional CVC activity (Winston Smith, 2020).

Corporate accelerators (CAs) are one particular mode of experimentation that has increasingly been adopted by organizations (Connolly, Turner, & Potocki, 2018; Moschner et al., 2019; Winston Smith, 2020). The first CA units were established over 10 years prior to this study by corporations such as Citrix, Google, ICT, Telefonica, and have since been adopted by a wide array of firms in several industries (Gutmann, 2019; Gutmann et al., 2019; Kanbach & Stubner, 2016). Yet, academic research on CAs is still in its infancy. For example, the earliest studies on CAs were published in 2016 (Kanbach & Stubner, 2016; Kohler, 2016) and the growth trajectory of subsequent research has also been relatively slow (see Figure 2). Given their increased practical importance for incumbents and the broader entrepreneurial ecosystem (Hochberg, 2016; Mahmoud-Jouini et al., 2018), there is a need for substantially more research on CAs. Perhaps even more importantly, given its recency, existing research on CAs is largely phenomenon-oriented and descriptive in nature (Shankar & Shepherd, 2019). While such initial work has undoubtedly led to important insights, the lack of substantial theoretical integration of CA scholarship with broader foundational CV research is potentially problematic for the future growth and legitimation of the field (Vedula et al., 2021). Our goal through this study is to broaden the horizons of CA research, by providing a roadmap for future scholarship that is more theoretically pluralistic, integrated, and relevant to practice. We posit that such an approach can bring CA research to the forefront of CV literature, as opposed to the peripheral position that it currently occupies. We therefore seek answers to the following multi-faceted question: *What are the scholarly origins of the academic literature on corporate venturing, how did it in turn shape the nascent research stream on corporate accelerators, and what can we learn from this trajectory for future research on corporate accelerators?*

For this purpose, we adopt a historical lens (Bylund & Packard, 2022; Glynn & D'Aunno, 2022) and follow recent studies that have used a combination of bibliometric and qualitative methods (Vedula et al., 2021). By looking back historically across the entire CV literature (of which CA is a subset), we sought to first understand the scholarly publications and intellectual communities that laid the foundation for CA research. We then dug deeper into the "core lineage" of CA research, by qualitatively coding the papers that both directly preceded the first identified CA study (Kohler, 2016), as well all subsequent CA work. Through this process we were able to identify blind spots within this nascent research stream, and lay out a concrete agenda for future scholarship. To our knowledge, our study is novel in mapping the CV literature comprehensively in this manner, for outlining a new research stream.

More specifically, we reviewed 340 research papers from 1981, the year of the first identified CV publication, to 2021, and identified 85 papers building the "core lineage" for a detailed qualitative analysis. In section 2.2, we first provide a conceptual classification to explain how CA literature fits within the broader CV landscape. Section 2.3 summarizes the results from our bibliometric analysis, consisting of both a co-citation (Moed, 2005; Small, 1973; Vogel & Güttel, 2012) and citation analysis (Boyack & Klavans, 2010; Zupic & Čater, 2015). The co-citation analysis identifies the intellectual communities and theoretical lenses that are regularly used in CV research. These communities could – to a certain extent – be seen as the "ancestors" to CV literature, as co-citation analyses go beyond the scope of the investigated core of literature paper (Moed, 2005; Small, 1973; Vogel & Güttel, 2012). We find that organizational theories, such as those on learning (Cohen & Levinthal, 1990; March, 1991; Schildt, Maula, & Keil, 2005), internal innovation processes (Burgelman, 1983; Sharma & Chrisman, 1999) and inter-organizational relationships (Basu, Phelps, & Kotha, 2011; Chesbrough, 2002; Maula, Keil, & Zahra, 2013) feature prominently in the literature. We then trace the path from the early days of

CV to the emergence of CA studies through a citation analysis. It is not surprising that this analysis shows that CA publications, given their descriptive nature and limited engagement with extant CV literature, occupy a relatively peripheral position within the broader CV intellectual landscape (Crișan, Salanță, Beleiu, Bordean, & Bunduchi, 2021) (see Figure 4 in section 2.3.3 for more details).

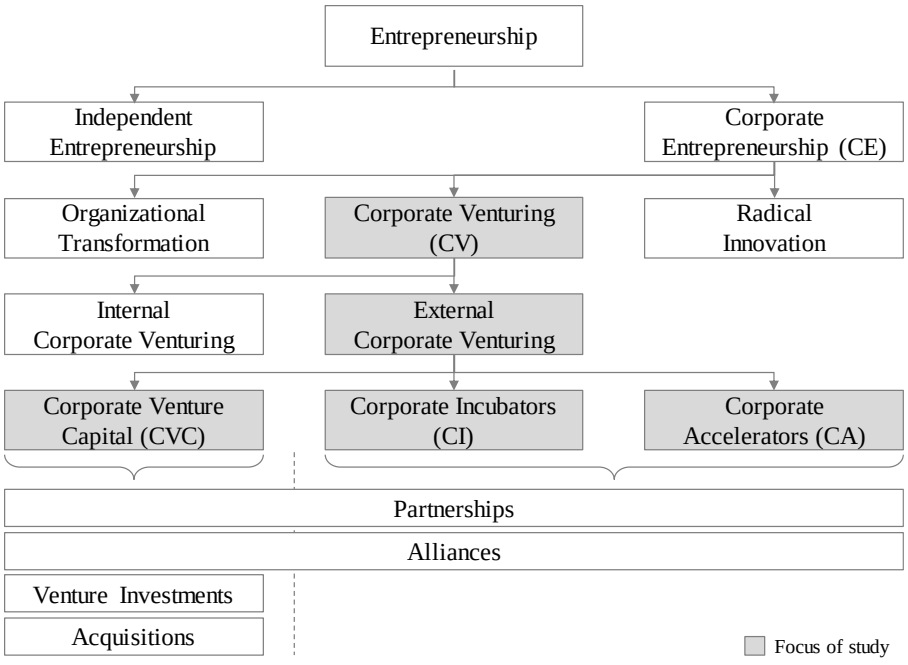
Next, in section 2.4, we build on the findings from the bibliometric analyses and conduct a qualitative review of the 85 most influential papers that have informed and shaped current CA research. We inductively coded these papers following a structured approach using the CIMO framework (Context, Intervention, Mechanism, Outcome). This, or derived frameworks, are well-established approaches to systematically analyze content in academic literature (Denyer, Tranfield, & van Aken, 2008; Keupp & Gassmann, 2009). Within the CIMO framework, we replaced "intervention" by "intermediary", represented by the investigated CV units, as CV is placed at the interface between incumbents and startups for external innovation sourcing (De Silva, Howells, & Meyer, 2018; Nambisan & Sawhney, 2007; Sawhney, Prandelli, & Verona, n.d.; Tran, Hsuan, & Mahnke, 2011; Verona, Prandelli, & Sawhney, 2006). More specifically, we connected the key CV intermediary (here the "I" of the CIMO framework) identified in each paper (e.g., CVC, CA, etc.) to its main contexts/antecedents ("C"), mechanisms ("M"), and outcomes ("O"). Through this detailed analysis we identify opportunities for increased theoretical integration and pluralism (e.g., see Tables 3-5 and Figure 6). Lastly in section 2.5, we bring the quantitative and the qualitative analyses together, by providing a specific, actionable roadmap with illustrative research questions for future CA research (see Table 6).

2.2 Classification of CA within the CV Literature

CV activities have traditionally been studied as a subset of corporate entrepreneurship (CE) (Sharma & Chrisman, 1999; Stopford & Baden-Fuller, 1994; Zahra & Covin, 1995). We position it as one of its three distinct core dimensions, next to 'Organizational Transformation' and 'Changing the Rules of Industry' (Sharma & Chrisman, 1999; Thornberry, 2001). As opposed to Thornberry's (2011) classification, we see his fourth cluster "Intrapreneuring", as overarching phenomenon across the three core dimensions above. Within CV, one can differentiate between internal and external forms of CV (Keil, 2004; Sharma & Chrisman, 1999). Internal CV refers to the creation of organizational entities for spinoff within an existing organization, while external CV activities refer to the creation, involvement, or development of ventures outside the existing organization (Dushnitsky & Birkinshaw, 2016; Miles & Covin, 2002). Within external CV, a further distinction can be made between more traditional vehicles such as CVC for venture investments, versus more novel intermediary forms such as CAs or Corporate Incubators (CI) (Shankar & Shepherd, 2019; Winston Smith, 2020). Even though accelerators are often colloquially mingled with incubators, these programs can be distinguished due to differences in operational activities (Cohen, 2013; Cohen & Hochberg, 2014; Hochberg, 2016; Pauwels, Clarysse, Wright, & Van Hove, 2016). The primary difference between accelerators and incubators is the limited duration of accelerator programs (Nesner, Tobias, Eismann, Tobias, & Voigt, Kai-Ingo, 2020). Accelerators are typically "fixed-term, cohort-based programs, including mentorship and educational components, that culminate in a pitch event or demo-day" (Cohen & Hochberg, 2014, p.4). Besides not being fixed-term, incubators typically do not necessarily provide mentorship, and education for defined cohorts. They also do not culminate in a final event due to their non-defined duration. It is also important to note that accelerators have different business models in the sense that they vary by content, structure (e.g., type of cohort model used), and

governance (Zott & Amit, 2010); they can be independent or affiliated to investment funds, corporations, universities, or other organizations (Cohen, 2013; Cohen & Hochberg, 2014; Hochberg, 2016). CAs differ from CVCs, as they usually do not involve an equity investment: as opposed to CVCs, their primary goal lies in absorbing and gaining early access to external innovation, as well as relationship building *during* the acceleration process, instead of *after* investing into new ventures (Kohler, 2016; Shankar & Shepherd, 2019; Weiblen & Chesbrough, 2015). Focusing on CAs, we use these existing definitions in literature to distinguish CAs from CI and CVC. Figure 1 provides a graphical overview of these distinctions and classification schema.

Figure 1. Hierarchical Classification of Main Corporate Venturing Intermediaries[3]



2.3 The Origins and Evolution of CA Research: Bibliometric Analyses

To identify the intellectual communities of CV research, and hence the body of work that was central to the subsequent evolution of CA research, we utilized a bibliometric approach with the

[3] Author's own illustration derived from extant literature (Röhm, 2018; Sharma & Chrisman, 1999)

goal of detecting research networks beyond obvious linkages (Zupic & Čater, 2015). We started with a co-citation analysis to visualize the structure and connections between different intellectual communities (Schildt, Zahra, & Sillanpaa, 2006; Small, 1973). To further analyze the evolution of CA research, we then conducted a citation analysis (Boyack & Klavans, 2010).

2.3.1 Sample

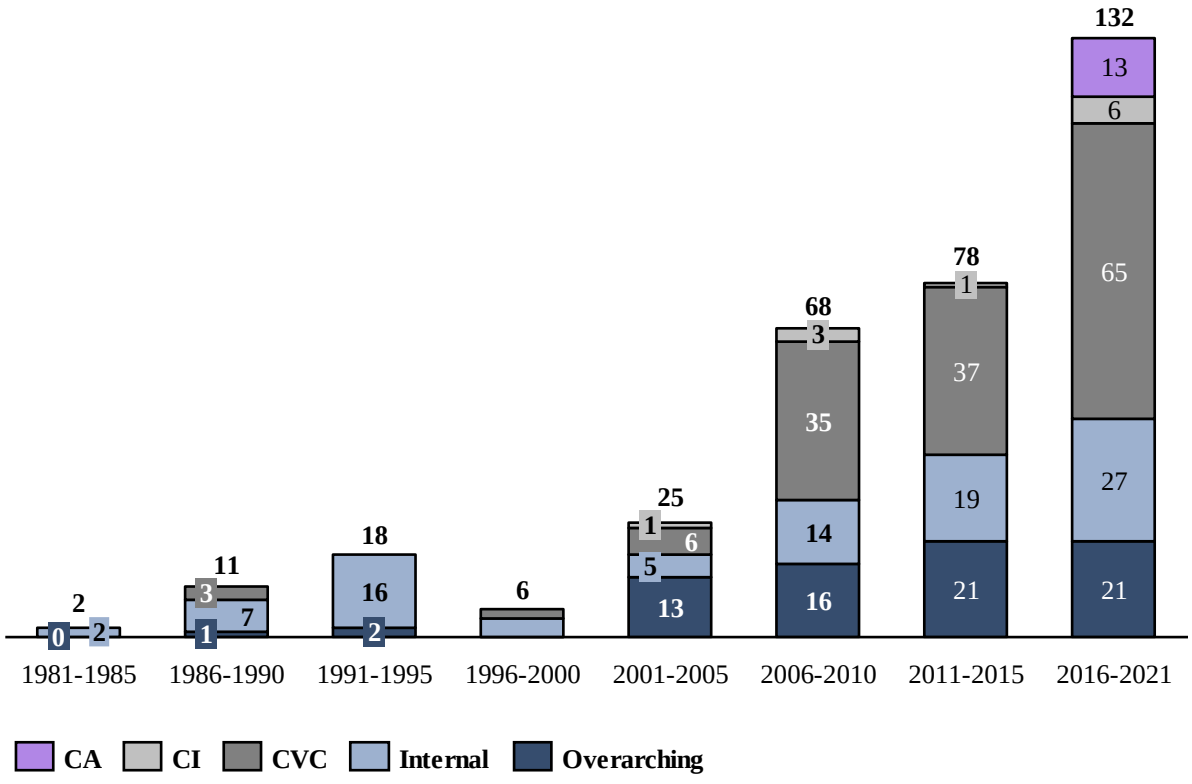
Following prior research that has used bibliometric analyses, we used Web of Science (WOS) core collection as our data source (Boyack & Klavans, 2010; Chen, Zhang, & Fu, 2019; Crișan et al., 2021; Hausberg & Korreck, 2020; Röhm, 2018). This database is frequently used in systematic reviews of the management literature (Albort-Morant & Ribeiro-Soriano, 2016; Dahlander & Gann, 2010; Hausberg & Korreck, 2020). We followed five steps to collect, clean, and organize our sample. First, we searched for all relevant papers between 1981, the earliest article in the WOS database and June 2021. Note that an initial search for CA and CI resulted in only 28 papers,[4] which emphasizes the nascency of the specific research stream. Second, to capture the broader scholar community adjacent to CAs under the CV-umbrella, we extended the search to cover the entire corporate venturing field,[5] which added 424 papers to the collection resulting in a total of 452 papers. In a third step, we restricted our sample to peer-reviewed journal articles. We therefore excluded books, book reviews, book chapters, as well as letters, resulting in the removal of 73 papers, and a new total of 389 articles. Fourth, we manually screened all abstracts of the 389 papers to verify if they addressed the core topic of this research. Through this process, we excluded 49 papers from our sample, which did not fit into the overarching topic of CV (e.g., if they focused on

[4] Search terms in all fields: "corporate accel*" OR "corporate incub*" OR "corporate startup accel*" OR "corporate startup incub*", to cover all literature on CAs, including the often mingled term "Corporate Incubator"
[5] Search terms in all fields: "corporate accel*" OR "corporate incub*" OR "corporate startup accel*" OR "corporate startup incub" OR "corporate ventur*"

one of the other two CE dimensions, i.e., organizational transformation or radical innovation, shown in Figure 1). This resulted in a final sample of 340 papers.

In the fifth and final step, the 340 papers were classified into CA-papers, CI-papers, CVC papers, internal CV papers, and overarching papers spanning more than one CV type.[6] Figure 2 visualizes the distribution of these different papers over the past 40 years. We observe that research on CV gained traction after 2005, coincidentally the same year that the first accelerator, Y Combinator, was founded (Cohen & Hochberg, 2014). During the past decade (i.e., 2011-2021), publications on CV have more than doubled compared to the previous decade (i.e., 2001-2010). Over the past 5 years (i.e., 2016-2021), there has been a significant increase in CV publications and we also witness the emergence of a nascent stream of CA research.

Figure 2. Distribution of Corporate Venturing Publications between 1981 and 2021



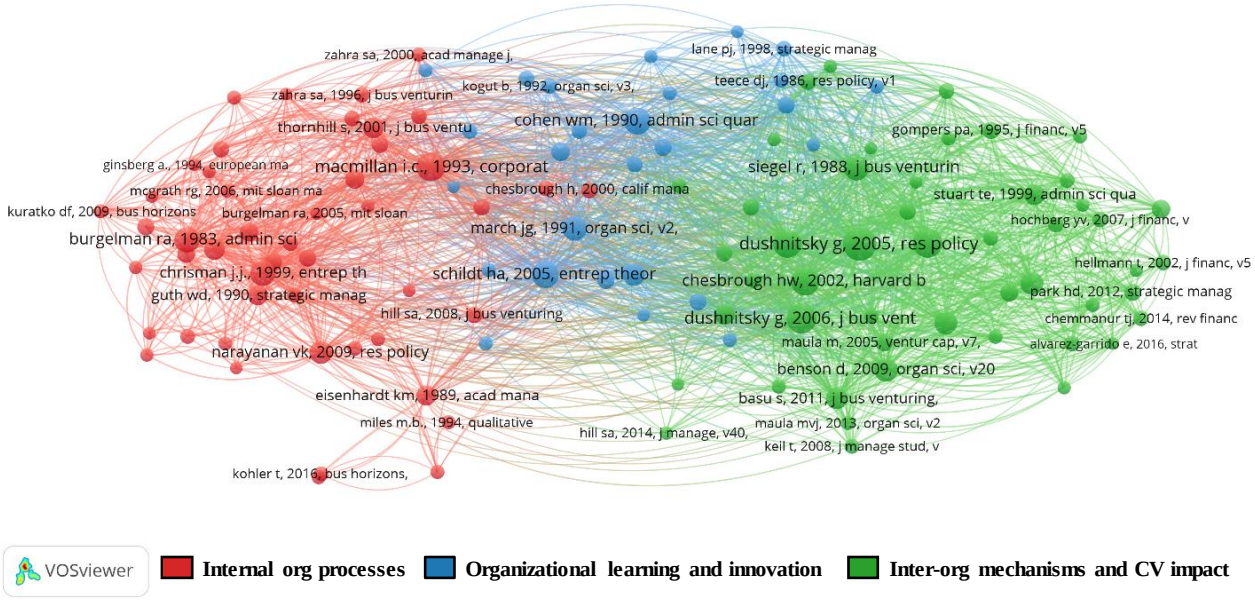
[6] Two researchers coded the papers for this classification. There was a 91% agreement between the coders. Remaining differences were reconciled.

2.3.2 Co-Citation Analysis: Intellectual Communities of CV and Origins of CA research

A co-citation analysis extends the corpus of a set of literature to associated research streams by investigating its utilized references. Co-citation captures the frequency with which two articles are jointly cited by a third paper (Moed, 2005; Small, 1973; Vogel & Güttel, 2012). The higher the number of co-citations between two documents, the stronger they are related and the more likely they belong to the same intellectual cluster (Zupic & Čater, 2015). We used the *VOSviewer* software to visualize the co-citation network through cited references as nodes and undirected lines between papers as edges (van Eck & Waltman, 2017).[7] Figure 3 shows the resulting network. The size of the nodes reflects the citation frequency, and thus importance of respective papers, while the distance between nodes reflects their relatedness (i.e., papers that are further away on the figure are less related).

[7] In this study, we used cited documents instead of cited authors, as individual authors can contribute to different intellectual communities (Hota, Subramanian, & Narayanam, 2020). In the analyzed sample, a total of 11,424 references were cited. To filter this to a manageable number of references for visualization, we defined a cutoff value of 15 co-citations, following established research, as it provided the most clearly identifiable clusters (Röhm, 2018; Schildt, Zahra, & Sillanpaa, 2006; Vedula et al., 2021). This filtering resulted in 124 remaining papers that could be visually represented

Figure 3. Intellectual Communities in the Corporate Venturing Literature (Co-Citation Analysis)



The network generated from the co-citation analysis can be seen as scholarly origin to which CV literature regularly references. It highlights three major intellectual communities. It shows that the core of the CV research field draws upon theoretical perspectives from organizational learning and innovation (blue cluster in Figure 3) (Cohen & Levinthal, 1990; March, 1991; Schildt et al., 2005). This body of work in turn acts as a theoretical bridge, linking research on internal organizational (innovation) processes (red cluster in Figure 3) (Burgelman, 1983; Sharma & Chrisman, 1999) to (green cluster in Figure 3) CV impact (Dushnitsky & Lenox, 2005a, 2005b, 2006), and inter-organizational mechanisms (Basu et al., 2011; Chesbrough, 2002; Maula et al., 2013).

For the intellectual community focusing on internal organizational (innovation) processes (red cluster in Figure 3), we identified Block & Macmillan's work (Block & MacMillan, 1993) on internal corporate venturing as a foundational paper, having strong links within its intellectual community but also building bridges to organizational learning and inter-organizational

mechanisms through its co-citations. The second most influential paper within this cluster provides a process model for internal CV (Burgelman, 1983). However, while it is strongly linked to other papers within its intellectual community (i.e., the red cluster in Figure 3), it only shares few co-citations with the other two clusters. As such, this observation highlights the general "intellectual distance" between CV scholarship focusing on internal organizational processes (the red cluster) and that focusing on inter-organizational relationships and CV outcomes (the green cluster).

As indicated above, the blue cluster on organizational learning and innovation is a boundary spanning intellectual community that forms a bridge between internal (red cluster) and inter-organizational (green cluster) processes and mechanisms. Its key papers have strong links to other papers on organizational learning and innovation (blue cluster), but also multiple co-citations with the two adjacent intellectual communities. By addressing explorative and exploitative learning, and absorptive capacities, the three key publications on organizational learning and innovation (blue cluster) build bridges between inter-organizational mechanisms (green cluster) and internal processes (red cluster) of corporate venturing (Cohen & Levinthal, 1990; March, 1991; Schildt et al., 2005).

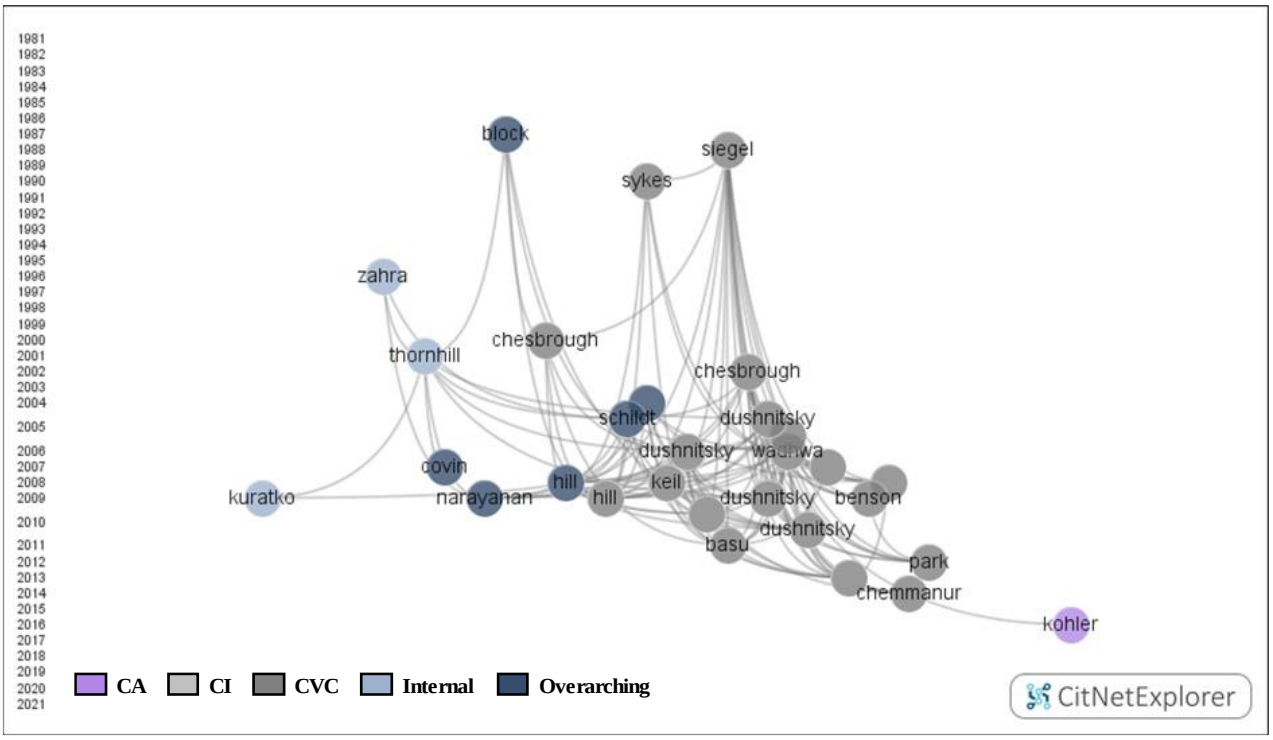
The intellectual community on inter-organizational mechanisms and CV outcomes (green cluster) contains on average the most recent as well as the most cited publications in our sample (Dushnitsky & Lenox, 2005a, 2005b, 2006; Wadhwa & Kotha, 2006). These papers focus primarily on the benefits of CVC units to both corporations and startups, as well as their implications for both organizational learning as well as firm innovation. Not surprisingly, these papers, thus, form a strong conceptual bridge to the adjacent intellectual communities via several co-citations. However, it is important to recognize that other papers within this community are more peripherally linked (we discuss this more as an opportunity for research in section 2.5).

While the co-citation visualization shown in Figure 3 does not provide a temporal lens on the evolution of the CV landscape, we are able to infer this from the publication years of the key papers. Roughly speaking, the key publications in this figure are also organized from left to right. CV research initially focused on internal CV processes, with the oldest publications (Burgelman, 1983), and then transitioned to work on organizational learning (Cohen & Levinthal, 1990; March, 1991), followed by inter-organizational relationships (Dushnitsky & Lenox, 2005a, 2005b, 2006; Wadhwa & Kotha, 2006). To verify this inference, we next carried out a citation analysis of our sample, which allows us to more clearly illustrate the temporal evolution of the research field.

2.3.3 Citation Analysis: Evolution of CV Literature Towards CAs

The initial data set of 340 CV papers was used for the citation analysis. A citation analysis creates a directed network, highlighting the most cited references within a set of papers (Boyack & Klavans, 2010; Zupic & Čater, 2015). For visualization, we used the *CitNetxplorer* software (van Eck & Waltman, 2017). The horizontal location of a publication is determined by its citation relations with other publications. The vertical location of a publication is determined by its publication year with the oldest paper on the top of the figure. The curved lines represent citation relations between the articles. Figure 4 shows the citation network of the 30 most frequently cited papers since the first related publication in 1981, starting with a paper on corporate manager compensation in 1987 (Block & Ornati, 1987), and ending with Kohler's paper on CA design in 2016 (Kohler, 2016). The initial categorization of CA, CI, CVC, internal CV, and overarching CV literature has been maintained in the citation analysis.

Figure 4. Citation Network of 30 Most Frequently Cited Papers on Corporate Venturing



The citation analysis suggests that the emerging research field on CAs originates from two distinct research domains that we, broadly speaking, classify as strategic management and finance. On the left, we observe papers on internal CV and overarching CV, which might be more strategy-oriented while on the right, we identified papers focused on CVC, which might address more finance oriented scholars. Perhaps not surprisingly, the visualization also shows that these two schools of thought remain relatively distinct, with only sporadic connections between internal CV and CVC papers. This suggests little exchange and cross-pollination between scholars in these respective academic fields, despite their shared interest in the phenomenon. It is also interesting to note that a paper on CAs being the latest of the most cited papers in this sample emphasizes the increasing importance and emergence of CA research (Kohler, 2016).

By digging deeper into the 30 most frequently cited papers, we identified a high density and interconnectedness of publications in the 10 years between 2004 and 2014, accounting for 22 of the 30 most cited references, which also represent the years of rapid growth and establishment of

CV literature in the academic space (see Figure 2). The papers visualized in Figure 4 between 1987 and 2002, a period when CV research was relatively nascent, were primarily descriptive. They provide a general understanding of phenomena around CV, such as management incentives, operational approaches, and strategic options. Between 2004 and 2014, we see a shift in the literature with papers that are more grounded in general management theory, namely: 1) organizational structures and dynamics, such as interfirm relationships (Basu et al., 2011; Dushnitsky & Lavie, 2010; Hill, Maula, Birkinshaw, & Murray, 2009), 2) capability based theory, encompassing a resourced based view and the strategic role of the CV intermediaries (Covin & Miles, 2007; Hill & Birkinshaw, 2008; Kuratko, Covin, & Garrett, 2009), as well as 3) innovation processes, including knowledge based view and brokerage, organizational learning and search (Dushnitsky & Lenox, 2005b, 2005a; Schildt et al., 2005). An important takeaway here is that the transition to research with a greater theoretical grounding and contribution also coincides with the growth and legitimation of the academic field. Table 2 provides a summary of the 30 most cited CV papers. We identify Gary Dushnitsky, Thomas Keil, and Markku Maula as the most relevant scholars in the CV space, as demonstrated in their publication frequency shown in Table 2.

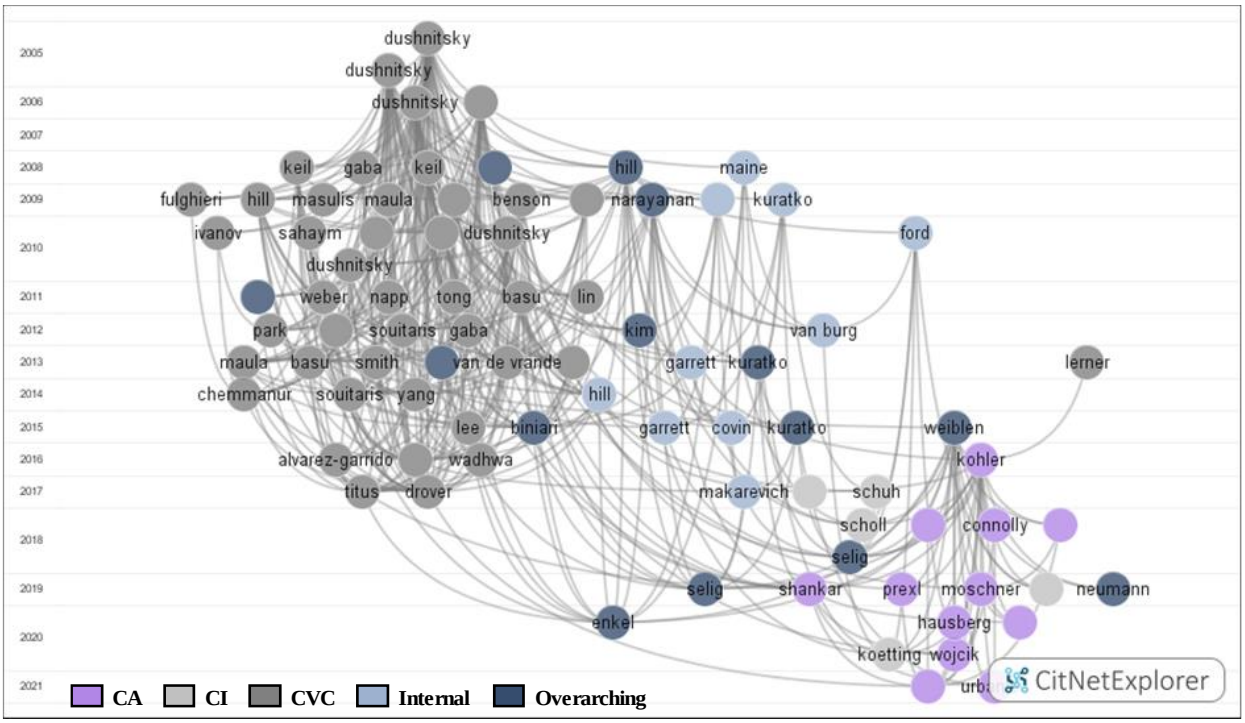
Table 2. Overview of the 30 Most Cited Papers in Scope

Year	Author(s)	Short Title	Core (theoretical) lens
1987	Block, Z., Ornati, OA.	Compensating corporate venture managers	Descriptive
1988	Siegel, R.; Siegel, E.; Macmillan, IC.	Corporate venture capitalists - autonomy, obstacles, and performance	Descriptive
1990	Sykes, HB.	Corporate venture capital - strategies for success	Descriptive
1996	Zahra, SA.	Technology strategy and new venture performance: a study of corporate-sponsored and independent biotechnology ventures	Descriptive
2000	Chesbrough, H	Designing corporate ventures in the shadow of private venture capital	Descriptive
2001	Thornhill, S.; Amit, R.	A dynamic perspective of internal fit in corporate venturing	Org. dynamics, Cap. based theory
2002	Chesbrough, H.	Making sense of corporate venture capital	Descriptive
2004	Keil, T.	Building external corporate venturing capability	Innov. processes; org.learning
2005	Dushnitsky, G; Lenox, MJ.	When do incumbents learn from entrepreneurial ventures? Corporate venture capital and investing firm innovation rates	Innov. processes;
2005	Dushnitsky, G; Lenox, MJ	When do firms undertake r&d by investing in new ventures?	Innov. processes; cap. based theory
2005	Schildt, HA.; Maula, MVJ.; keil, t	Explorative and exploitative learning from external corporate ventures	Innov. processes
2006	Dushnitsky, G; Lenox, MJ.	When does corporate venture capital investment create firm value?	Innov. processes Cap. based theory
2006	Wadhwa, A; Kotha, S.	Knowledge creation through external venturing: evidence from the telecommunications equipment manufacturing industry	Innov. processes Org. dynamics
2007	Covin, JG.; Miles, MP.	Strategic use of corporate venturing	Cap. based theory
2007	Allen, SA.; Hevert, KT.	Venture capital investing by information technology companies: did it pay?	Finance
2008	Keil, T; Maula, M. ; Schildt, H.; Zahra, SA.	The effect of governance modes and relatedness of external business development activities on innovative performance	Innov. Processes Org. Dynamics
2008	Hill, SA; Birkinshaw, J.	Strategy-organization configurations in corporate venture units: impact on performance and survival	Cap. based theory
2008	Keil, T.; Autio, E.; George, G.	Corporate venture capital, disembodied experimentation and capability development	Innov. process
2009	Benson, D.; Ziedonis, RH.	Corporate venture capital as a window on new technologies: implications for the performance of corporate investors when acquiring startups	Innov. processes Finance
2009	Dushnitsky,G; Shaver, JM	Limitations to interorganizational knowledge acquisition: the paradox of corporate venture capital	Innov. based theory
2009	Narayanan, VK.; Yang, Y; Zahra, SA	Corporate venturing and value creation: a review and proposed framework	Descriptive
2009	Kuratko, DF; Covin, JG; Garrett, RP	Corporate venturing: insights from actual performance	Cap. based theory
2009	Hill, SA; Maula, MVJ; Birkinshaw, JM; Murray, GC	Transferability of the venture capital model to the corporate context: implications for the performance of corporate venture units	Org. dynamics
2010	Dushnitsky, G.; Shapira, Z	Entrepreneurial finance meets organizational reality: comparing investment practices and performance of corporate and independent venture capitalists	Finance
2010	Dushnitsky, G; Lavie, D.	How alliance formation shapes corporate venture capital investment in the software industry: a resource-based perspective	Org. dynamics; Cap. based theory
2011	Basu, S; Phelps, C; Kotha, S.	Towards understanding who makes corporate venture capital investments and why	Org. dynamics; Cap. based theory
2012	Park, HD. ; Steensma, HK	When does corporate venture capital add value for new ventures?	Cap. based theory
2013	Maula, MVJ; Keil, T.; Zahra, SA	Top management's attention to discontinuous technological change: corporate venture capital as an alert mechanism	Org. dynamics; Soc. networks
2014	Chemmanur, TJ; Loutskina, E; Tian, X.	Corporate venture capital, value creation, and innovation	Org. dynamics
2016	Kohler, T.	Corporate accelerators: building bridges between corporations and startups	Descriptive

Based on the initial visualization of the 30 top cited CV papers, we next investigated the bibliometric trajectory of CA-focused research. Interestingly, Figure 4 highlights that the study by Kohler (2016) which is arguably the core paper in the CA literature emerges exclusively from the

more finance oriented stream of CV literature (i.e. it is not connected to and spatially distant from the strategic management set of papers on the left side of the diagram). As a next step, to examine the literature following the first significant publication dedicated to CAs and tracing its previous path, we "drilled down" (van Eck & Waltman, 2017) on Kohler's paper, by visualizing its predecessor publication (Dushnitsky & Lenox, 2005a) (which is directly cited by Kohler) and its successors (which directly cite Kohler) in this sample, as well as all intermediate publications (those which build citation links between predecessor and successor). This revealed a sub-network of 85 core papers, depicted in Figure 5.

Figure 5. "Drill Down" Citation Network of Kohler (2016), Including Predecessors and Successors



The resulting sub-network shows an emerging stream on CA (right), with 12 papers directly or indirectly related to Kohler's publication on CA design (Kohler, 2016). Additionally, 4 papers on CIs and 3 overarching CV papers cite Kohler (2016). It is also interesting to note that while we see a large number of CVC articles *preceding* research on CAs, there is no specific CVC study that *follows* (i.e., that directly cites) a CA article. Through the pattern observed in Figure 5, we can

visually verify that while CA has emerged as a new stream over the past five years, its current evolutionary trajectory is one that is largely disjointed from both foundational work as well as adjacent CVC research. In essence, the "satellite" CA sub-network remains intellectually distant and theoretically disconnected from the "origin CV" literature that it should draw more squarely upon. This is one of the key findings of our bibliometric analyses, and a pattern that we view as potentially problematic for the future growth and legitimation of CA research within the academic community.

We next looked into the papers of the emerging CA stream individually. Table 3 summarizes the 12 emerging papers on CA, presenting – if any – their theoretical underpinnings. Even though the table highlights some theoretical contributions of the papers, our analysis highlights that they remain primarily descriptive (except for Wojcik, et. al 2020). This is reminiscent of our observation in Figure 4, where the initial papers in the CV literature were also primarily descriptive (Block & Ornati, 1987; Chesbrough, 2000), whereas the subsequent growth of the field was driven by work more grounded in general management theory (Dushnitsky & Shaver, 2009; Keil, 2004). These lessons from the past on how the field of CV was able to legitimize itself, provides an opportunity and template for CA scholars to learn and follow.

Table 3. Overview of the 12 CA Specific Papers

Year	Author(s)	Short Title	Core (theoretical) lens
2016	Kohler, T.	Corporate accelerators: building bridges between corporations and startups	Org. dynamics
2018	Richter, N; Jackson, P; Schildhauer, T	Outsourcing creativity: an abductive study of open innovation using corporate accelerators	Cap. Based theory
2018	Connolly, AJ; Turner, J; Potocki, AD	Ignite your corporate innovation: insights from setting up an ag-tech start-up accelerator	Descriptive
2018	Ben Mahmoud-Jouini, S; Duvert, C; Esquirol, M	Key factors in building a corporate accelerator capability	Org. dynamics
2019	Shankar, RK; Shepherd, DA	Accelerating strategic fit or venture emergence: different paths adopted by corporate accelerators	Cap. based theory
2019	Prexl, KM; Hubert, M; Beck, S; Heiden, C; Prugl, R	Identifying and analysing the drivers of heterogeneity among ecosystem builder accelerators	Cap. based theory
2019	Moschner, SL; Fink, AA; Kurpjuweit, S; wagner, SM; Herstatt, C	Toward a better understanding of corporate accelerator models	Org. dynamics
2020	Wojcik, P; Obloj, K; Wasowska, A; Wiercinski, s	Corporate acceleration process: a systems psychodynamics perspective	Psych. theory
2020	Kurpjuweit, S; Wagner, SM	Startup supplier programs: a new model for managing corporate-startup partnerships	Org. dynamics
2020	Hausberg, JP; Korreck, S	Business incubators and accelerators: a co-citation analysis-based, systematic literature review	Descriptive
2021	Urbaniec, M; Zur, A	Business model innovation in corporate entrepreneurship: exploratory insights from corporate accelerators	Org. dynamics
2021	Crisan, EL; Salanta, II; Beleiu, IN; Bordean, ON; Bunduchi, R	A systematic literature review on accelerators	Descriptive

2.3.4 Key Insights from Bibliometric Analyses

The bibliometric analyses provide three main takeaways. First and foremost, we observed that CV research has grown significantly since initial studies in the early 80's (see Figure 2). There was a steep rise particularly around 2006-2010. During this time, the first significant startup accelerator programs, such as Y Combinator (2005) and Techstars (2007) were established, which might have drawn more attention to the broader startup ecosystem (Cohen, Fehder, et al., 2019). We posit that this might have also led to more scholarly interest in how corporations could engage with startups. In addition, the financial crisis of 2008 might have also led to a strategic shift by incumbents (Taran, Boer, & Lindgren, 2015), seeking alternative business models in CV (Biniari et al., 2015). Both phenomena might have been part of the motivation for more academic research on CV.

Second, we identified the primary intellectual communities within the CV literature, which help shed light on the origins of CA research. We find that theories of internal innovation processes,

organizational learning, and inter-organizational relationships are core to CV research (see Figure 3). This suggests that, in order to guarantee organizational learning and innovation, corporations still seek to find the right organizational setup for CV activities, both internally, developing optimal processes and structures, as well as externally, by interacting with other corporations and startups. CA as new form of CV, might be a part of the answer of how corporates and new ventures can continue to engage through the formation of hybrid organizational forms (Shankar & Shepherd, 2019; Winston Smith, 2020). In return, their proliferation and extensive adoption by corporation also raises several new and interesting research questions. For example, CAs as a boundary spanning organization must be established properly, and their operating model is inherently institutionally complex as it should both fulfill internal corporate requirements while providing value to startups (Gans, Stern, & Wu, 2019; Jones & Thornton, 2005; Perkmann, McKelvey, & Phillips, 2019; Weiblen & Chesbrough, 2015).

Third, the citation analysis unveils the evolution of the CV landscape leading up towards CA research, beginning in 2016 (Figures 4 and 5). The directionality of the citations also confirms CVC as the more dominant and established form of CV scholarship with CA seen as a complement to existing CV activities. The citation analysis also indicates that the rapid growth of CV literature and its maturation in the period between 2004 and 2014 might be driven by a stronger theoretical focus in its articles, something that the nascent CA literature should take heed and seek to potentially emulate. While twelve publications on CA in five years are still comparably few and definitely do not constitute a new research area, drawing on the lessons of their predecessors can accelerate the growth and legitimation of CA as a research stream.

2.4 Qualitative Analysis: Key Themes in Core Papers

Our bibliometric analyses on the nascent field of CA research was followed by a deeper investigation of work core to CA. Thus, we next conducted a qualitative analysis (Gioia, Corley, & Hamilton, 2013; Miles et al., 2014) of the 85 key papers (64 preceding and 20 following) around Kohler's publication on CAs in 2016.

2.4.1 Inductive Coding Approach

We engaged in a thematic study of the literature (Siddaway, Wood, & Hedges, 2019; Tranfield, Denyer, & Smart, 2003). To structure the qualitative literature analysis, we followed prior studies that have used similarly established frameworks to pre-organize inductive coding (Keupp & Gassmann, 2009). Specifically, we utilize the CIMO-logic framework[8], which has previously been utilized for research synthesis in management and organization studies to gain a comprehensive view of the analyzed literature (Denyer et al., 2008; Jones & Gatrell, 2014). We adapted the framework for our study as follows: 'C' represents the research context, or antecedents and input factors on CV within individual studies, spanning from an individual person level to societal level; 'I' represents the previously classified CV intermediaries in focus (CA, CI, CVC, overarching, internal); the mechanisms in 'M' cover theories and constructs, and 'O' outlines the outcome of the analyzed papers. With this framework, in each paper, CV units ("I") were linked to their respective contexts ("C"), theories and mechanisms ("M"), and outcomes ("O") to understand the evolution of CA research in more detail.

Three researchers were involved in the coding process. First and second author created a code book along the CIMO framework during the first iterations of reviewing the papers. Then, the

[8] The framework is categorized in four clusters: while 'C' stands for context, 'I' describes interventions, 'M' mechanisms and 'O' outcomes (Denyer et al., 2008; Jones & Gatrell, 2014)

lead author and one research assistant inductively coded the 85 core papers, following the procedures for inductive research proposed by tenets of grounded theory (Easterby-Smith, Golden-Biddle, & Locke, 2008; Gioia et al., 2013). The iterative process, organized using the MAXQDA software, led to an inter-code reliability of 89.81% among all coders[9]. The outcome, regrouped within the CIMO structure, helped structure the landscape of the 85 core papers that have led to the nascent but emerging body of CA research.

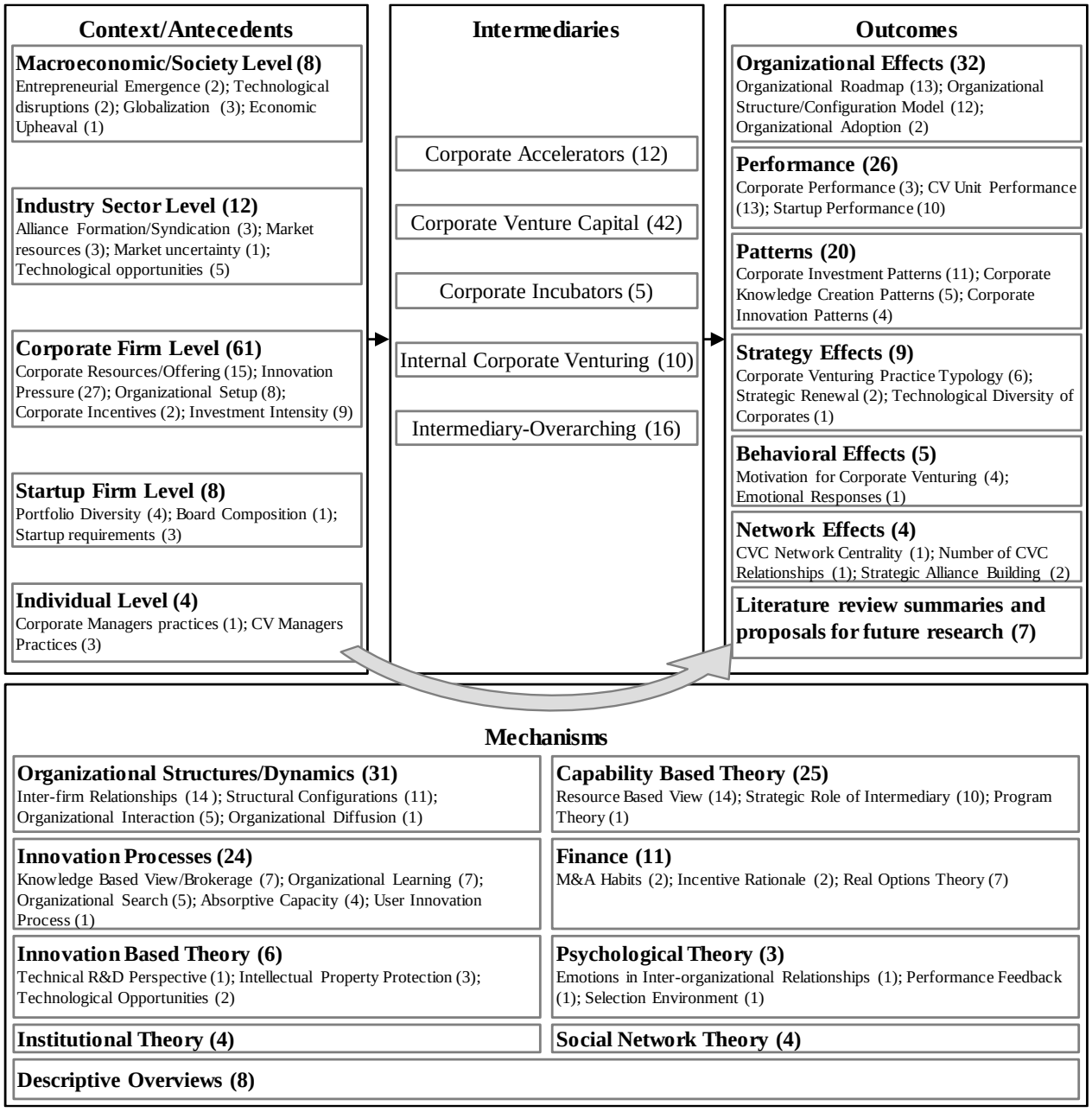
2.4.2 The Corporate Accelerator Research Landscape

In the following section, we outline the main research topics around the various CV intermediaries within the organizing CIMO framework. Thus, we provide a comprehensive picture of the CV research landscape as it relates to the subfield of CA. While the allocation of CV intermediaries per paper is mutually exclusive[10], a paper can be embedded in more than one context ("C"), discuss multiple theories or mechanisms ("M"), and generate several outcomes ("O"). Figure 6 summarizes the underlying clusters and frequency with which they occur in the analyzed sample. As indicated in the bibliometric analysis, the most frequent CV research is on CVC, and the main antecedent of CA research. Few papers focus on internal CV, CI and CA, although the recent trend suggests that this proportion is increasing.

[9] The first author created a codebook during a first round of coding. The codebook was subsequently revised and re-arranged, based on the second author's feedback. As a next step, the 85 papers were independently coded by an additional researcher. This third researcher coded in chunks of 20 papers and iterated with the first author. The researchers compared results and discussed every single code. For differing codes, the researchers discussed their positions and in the majority of cases aligned on a common classification. Still, they agreed to disagree for a few individual cases and proceeded with different codes. After discussing a batch of 20 papers, the researchers went back to refine their codes. During this process further codes were re-arranged and consolidated, leading to the final codebook and codes.

[10] Note: The cluster 'Overarching' as collective term for papers address CV in general or several types of intermediaries.

Figure 6. Research Landscape Leading towards Corporate Accelerator Research[11]



Context/Antecedents. The antecedents describe the driving actors influencing the studied CV intermediaries. During the analysis, we identified 5 primary clusters of CV contexts: macroeconomic/society level, industrial sector level, corporate level, startup firm level and

[11] Author's own illustration, based on an adaption of Keupp and Gassmann (2009)

individual level. Table 4 visualizes the frequency of articles per intermediary, addressing the different antecedent/context types.

Table 4. Number of Articles per Intermediary Studying the Various Antecedent Types[12]

Intermediaries	Macroeconomic/ Society Level	Industry Sector Level	Corporate Firm Level	Startup Firm Level	Individual Level
CA	2	1	9	1	0
CVC	0	8	30	7	2
CI	1	2	2	0	0
Internal	0	0	10	0	1
Overarching	5	1	10	0	1
Total	8	12	61	8	4

Corporate level is the most common context for all intermediaries in this sample. This suggests that the embeddedness of CV intermediaries in their corporate parent is one of the most pressing issues in research and practice. On a corporate level, innovation pressure seems the most critical factor across all CV intermediaries, mainly suggesting that external knowledge is critical to firm innovation (Dushnitsky & Lenox, 2005a) or emphasizing the benefits of CV for strategic renewal (Narayanan, Yang, & Zahra, 2009). The second most discussed input factor to CV intermediaries in this cluster is the availability of corporate resources. These include financial resources to fund CV activities (Dushnitsky & Lenox, 2005b) as well as non-financial resources involved in corporate-startup partnerships (Basu et al., 2011; Biniari et al., 2015; Wadhwa & Basu, 2013). Additionally, several papers study the influence of corporate investment intensity on CVC activities (Benson & Ziedonis, 2009, 2010; Drover et al., 2017; Dushnitsky & Lenox, 2005a, 2006; Lee & Kang, 2015; Sahaym, Steensma, & Barden, 2010; van de Vrande, Vanhaverbeke, & Duysters, 2011; Wadhwa & Kotha, 2006). However, investment intensity does not play a role as a key driver of other CV forms such as CA or CI. This finding supports the initial classification

[12] Darkness of cells indicate relative intensity of addressed topics (within contexts, mechanisms, outcomes)

schema of CV literature (see Figure 1), with CVC as the only intermediary that is focused on shareholder investments and potential acquisitions.

The second largest investigated context group in the sample is the industrial sector level. Here, 'Technological Opportunities' in respective industry sectors outside the corporations seem to be a main driver for external CV activities (Dushnitsky & Shaver, 2009; Gaba & Meyer, 2008; Shankar & Shepherd, 2019). Other important factors are corporations' aspirations to form alliances with unequal peers (Dushnitsky & Lavie, 2010; Keil, Maula, Schildt, & Zahra, 2008; Keil, Maula, & Wilson, 2010) and the exploitation of available market resources (Park & Steensma, 2012; Weber & Weber, 2011).

Third, a number of studies investigate the influence of startups on CV activities, i.e. CVC. Studies have looked at the effects of portfolio diversity (Lee & Kang, 2015; Lin & Lee, 2011; Wadhwa, Phelps, & Kotha, 2016; Yang, Narayanan, & De Carolis, 2014), as well as how startup requirements shape CV activities (Maula, Autio, & Murray, 2009; Park & Steensma, 2012; Wójcik, Obłój, Wąsowska, & Wierciński, 2020). In sum, this body of work draws attention to the important role of startup selection processes for CV activities while also highlighting that successful programs need to create value for both corporations and startups.

Fourth, some authors take a broader macroeconomic perspective on CV, mostly as an antecedent for CV initiation. Principal arguments are globalization (Kötting, 2019; Kuratko, Covin, & Garrett, 2009; Kuratko, Hornsby, & Hayton, 2015), technological disruptions (Battistini, Hacklin, & Baschera, 2017; Selig, Gasser, & Baltes, 2018) and the emergence of an entrepreneurial attitude (Hausberg & Korreck, 2020; Urbaniec & Żur, 2020). Most papers focusing on CV activities in more general terms (i.e., overarching CV) take this perspective, with a few select studies looking at the influences of macroeconomic factors on CA or CI (Hausberg & Korreck, 2020; Kötting, 2019). However, none of the identified papers that focus on CVC specifically focus

on the macroeconomic/societal context. This is a potential gap in the literature, but also reflective of the fact that CVC formation decisions are likely more due to strategic considerations within firm boundaries.

Fifth, and finally, few, if any articles address the influence of individuals on CV activities. The small body of work that does exist focuses primarily on corporate managers' practices (Maula et al., 2013), and almost exclusively on managers within CV units (de Bettignies & Chemla, 2008; Dokko & Gaba, 2012; Garrett & Neubaum, 2013). The small number of articles in this cluster indicates that the impact of managers' approaches on CV are interesting to study, but likely limited, possibly due to challenges collecting granular data.

Mechanisms The mechanisms in this framework stand for theories, processes, and constructs that connect the contexts of CV research with the outcomes of the studies. We identified 8 mechanism clusters of varying importance and frequency. The main cluster identified is on organizational structures/dynamics, followed by innovation processes and capability based theory. Finance aspects and innovation based theories occur, but at a medium frequency. Institutional theories, social network theories, and psychological theories are also used but appear with a comparably lower frequency. Table 5 visualizes this distribution.

Table 5. Number of Articles per Intermediary Studying the Various Mechanism Types

Intermediaries	**Org Structures /Dynamics**	**Capability Based Theory**	**Innovation Processes**	**Finance**	**Innovation Based Theory**	**Psychol. Theory**	**Institutional Theory**	**Social Network Theory**	**Descriptive Overview**
CA	6	3	0	0	0	1	0	0	2
CVC	14	12	19	10	4	1	3	4	1
CI	2	1	0	0	1	0	0	0	1
Internal	5	3	3	0	1	1	0	0	0
Overarching	4	6	2	1	0	0	1	0	4
Total	31	25	24	11	6	3	4	4	8

The main cluster, we identified, focuses on organizational structures and organizational dynamics. Here, studies primarily focus on inter-firm relationships, mainly between corporations and startups (Basu et al., 2011; Kohler, 2016; Kurpjuweit & Wagner, 2020; Lin & Lee, 2011; Mahmoud-Jouini et al., 2018; Masulis & Nahata, 2009; Maula et al., 2009; Wadhwa & Kotha, 2006; Wadhwa et al., 2016; Weiblen & Chesbrough, 2015) but also across various organizational governance modes such as corporate alliances, or relationships across corporations or CV units (Dushnitsky & Lavie, 2010; Gaba & Meyer, 2008; Maula et al., 2013; van de Vrande et al., 2011). The second most important topic in this cluster are structural configurations of organizations, such as the selection of overarching organizational directions (Chemmanur et al., 2014; Fulghieri & Sevilir, 2009; Hill & Birkinshaw, 2008; Hill et al., 2009; Urbaniec & Żur, 2020) but also more specific organizational design options (Burgers, Jansen, Van den Bosch, & Volberda, 2009; Connolly et al., 2018; Moschner et al., 2019; Neumann, Hintzen, Riel, Waldhausen, & Dismon, 2019; Souitaris, Zerbinati, & Liu, 2012; van Burg, de Jager, Reymen, & Cloodt, 2012). This sub-cluster emphasizes the importance of the internal organization for CV intermediaries, but also discusses their role as boundary-spanning brokers with external organizations.

The second mechanism cluster covers capability based theories, particularly discussing the strategic role of intermediaries and a resource based view. For example, a paper by Richter and colleagues (Richter et al., 2018) addresses the early stage program planning and implementation. The resource based view (Barney, 2001) is used to discuss the corporate offerings of CV intermediaries and their respective fit for startups. The resources provided span financial support, human capital, social and networking effects as well as symbolic values and legitimacy (Biniari et al., 2015; Garrett & Neubaum, 2013; Ivanov & Xie, 2010). These studies reveal the importance of asset complementarity between corporates, CV entities and the partnering ventures (Alvarez-Garrido & Dushnitsky, 2016; Basu et al., 2011; Dushnitsky & Lavie, 2010; Dushnitsky & Lenox,

2005b, 2006; Kim, Bae, & Bruton, 2012; Maula et al., 2009; Park & Steensma, 2012; Scholl & Hirte, 2018). The most recent studies in this sub-stream of focus on the dynamic capabilities of corporates and their renewal through CV activities (Enkel & Sagmeister, 2020; Selig et al., 2018). Discussions on the strategic role of intermediaries, and about the ambidexterity of CV activities, have been particularly central to this research (Basu, Phelps, & Kotha, 2016; Hill & Birkinshaw, 2008, 2014; Kuratko et al., 2009; Napp & Minshall, 2011; Shankar & Shepherd, 2019). The remaining papers identified for this mechanism cluster discuss the role of the CV intermediaries for technological or organizational and strategic innovation (Basu & Wadhwa, 2013; Prexl, Hubert, Beck, Heiden, & Prügl, 2019; Selig et al., 2018).

Innovation processes are the third most frequently studied mechanism. It has been mainly investigated in CVC papers, some internal CV and overarching CV, but no CA publications to-date. In this sub-cluster, the primary theoretical lenses utilized are organizational learning and the knowledge based view of the firm. For organizational learning, the focus lies in the process of knowledge acquisition of individuals and entire organizations (Lee & Kang, 2015). Work on organizational learning can be split into experimental learning and acquisitive learning (Yang, Narayanan, & Zahra, 2009) – or in a more classical way – into exploration and exploitation (March, 1991). In CV literature, the focus lies in acquisitive (rather exploitative) learning through external knowledge acquisition, mainly through CVC activities (Benson & Ziedonis, 2010; Keil, Autio, et al., 2008; Keil, Maula, et al., 2008). For example, some studies highlight the importance of manager's previous experiences on the effect of organizational learning (Dokko & Gaba, 2012). Studies that use the knowledge based view as a theoretical lens in this context highlight how CV activities can create that is of core value to firms (Weber & Weber, 2011). Besides, a knowledge based view can also address the flow of knowledge assets into firms (Garrett & Covin, 2015) or knowledge exchange and reconfiguration, as in the case of knowledge brokerage by CVCs

(Wadhwa et al., 2016). Some papers integrate perspectives from both organizational learning theory and knowledge based view (Benson & Ziedonis, 2010; Covin, Garrett, Kuratko, & Johnson, 2013; Keil, Autio, et al., 2008). Topics around organizational search and absorptive capacity are also adjacent to organizational learning and the knowledge based view, but somewhat less frequently observed in this area of research (Dushnitsky & Lenox, 2005a, 2006; Titus, House, & Covin, 2017; Wadhwa & Basu, 2013; Wadhwa & Kotha, 2006). Work that has used an absorptive capacity lens has primarily used it to predict CVC performance (Benson & Ziedonis, 2010; Dushnitsky & Lenox, 2005a, 2006; Sahaym et al., 2010).

The fourth mechanism group focuses on the financial aspects of CV, and is addressed only by CVC as it is the only intermediary with an investment focus. Thus, for CA this cluster is less relevant than the other clusters might be. Here, the focus is on real options theory, investigating how CVCs conduct their investments, by making small initial investments to reduce uncertainty on target ventures (Basu & Wadhwa, 2013; Sahaym et al., 2010; Wadhwa & Basu, 2013; Yang et al., 2014, 2014). Besides studies that use real options theory, M&A activities as well as incentives for managers are also investigated in this cluster (Benson & Ziedonis, 2009, 2010; de Bettignies & Chemla, 2008; Dushnitsky & Shapira, 2010).

We also identified four other less frequently used, but still potentially important mechanisms within the analyzed papers. These were innovation based theory, institutional theory, social network theory, and psychological theory. The papers using innovation based theories, discuss the role of intellectual property protection for CVC investments (Dushnitsky & Lenox, 2005a, 2005b; Dushnitsky & Shaver, 2009), as well as technological opportunities in specific sectors (Dushnitsky & Lenox, 2005b; Jordanius, Viktoria, & Kailas, 2019).

With regards to institutional theory, Souitaris and colleagues investigate how CVCs handle competing institutional logics and how they influence their investment practices (Souitaris &

Zerbinati, 2014; Souitaris et al., 2012). Dokko and Gaba (2012) highlight how institutional isomorphism and managerial career experience can lead to variation in CVC practices, while Biniari adopts an institutional logics lens to explain the formation of a corporate venture logic (Biniari et al., 2015).

Social network theories are addressed from various perspectives. For example, Gaba and Meyer analyze the adoption of CVC practices based on social network effects (Gaba & Meyer, 2008), while Keil explores how CVCs can reach a central position in investment syndicates (Keil et al., 2010). Others have investigated knowledge transfer within a CVC triad from a social network perspective (Weber & Weber, 2011). Maula and colleagues (2013) studies the relative benefits of both homophilous and heterophilous ties for CVC units.

Lastly, three papers explicitly examine psychological effects within CV. Wójcik and colleagues (2020) investigate the emotional impacts experienced on entrepreneurs throughout a corporate acceleration process, while Ford and colleagues (2009) explore the effect of changing selection environments in a CV unit. Gaba and Battacharya (2012) analyze the adoption and termination decision of CVC units for R&D externalization as function of performance feedback from an organization's innovation performance.

Outcomes. We identified six main outcome types that have been investigated to-date, namely organization effects, performance, patterns, strategy effects, behavioral effects and network effects. Table 6 provides an overview including the frequencies per intermediary.

Table 6. Number of Articles per Intermediary Studying the Various Outcome Types

Intermediaries	Organizational Effects	Performance	Patterns	Strategy Effects	Behavioral Effects	Network Effects	Summaries & Proposals for Fut. Research
CA	8	0	0	1	3	0	2
CVC	8	17	15	5	0	4	1
CI	5	0	0	0	0	0	1
Internal	5	4	0	1	1	0	0
Overarching	7	5	5	2	1	0	3
Total	33	26	20	9	5	4	7

In terms of impacts on organizations, suggested organizational strategies are the most common outcome examined. The majority of these studies provide strategic guidance on how CV forms can be setup (Battistini et al., 2017; Burgers et al., 2009; Connolly et al., 2018; Kim et al., 2012; Maine, 2008; Napp & Minshall, 2011; Neumann et al., 2019; Prexl et al., 2019; Shankar & Shepherd, 2019). Transformation effects, operating models and collaborative arrangements of CV intermediaries provide an additional perspective (Fulghieri & Sevilir, 2009; Selig et al., 2018; van Burg et al., 2012). The second most frequent organizational outcome, closely related to organizational strategy, are specific configuration models and design propositions for CV intermediaries. Here, we identified three sub-categories. Some papers propose specific configuration models and features for different CV intermediaries (Makarevich, 2017; Scholl & Hirte, 2018; Schuh, Lau, Zimmermann, & Vogt, 2017; Schuh, Vogt, Lau, & Bickendorf, 2017). Most CA-related papers suggest design principles for CAs (Kohler, 2016; Kurpjuweit & Wagner, 2020; Mahmoud-Jouini et al., 2018; Richter et al., 2018). Other researchers propose archetype structures for CV depending on different framework conditions and objectives (Enkel & Sagmeister, 2020; Moschner et al., 2019; Selig & Baltes, 2019; Souitaris et al., 2012). Five papers in this cluster propose configurations for knowledge integration between startups and corporations (Basu et al., 2016; Enkel & Sagmeister, 2020; Schuh, Vogt, et al., 2017; Smith & Shah, 2013;

Wadhwa et al., 2016). Additionally, two studies investigate the likelihood of adoption of CVC programs (Gaba & Bhattacharya, 2012; Gaba & Meyer, 2008).

The second biggest outcome sub-cluster focuses on performance effects. It is mainly measured around CVC, but also internal CV and overarching CV activities. Note that we have not identified performance outcomes for CA and CI focused papers, which suggests that outcomes for these intermediaries are likely fuzzier and harder to measure. In general, performance is captured at three different levels, namely at the CV unit, startup, and corporate levels.

First, for CV units, performance is typically measured based on financial success, but also on factors such as technological success, entrepreneurial performance or the selection capability of CVCs. The most utilized performance indicator, however, is the survival likelihood of CV units (Gaba & Bhattacharya, 2012; Hill & Birkinshaw, 2008, 2014; Hill et al., 2009). Financial performance of CV units has been measured both quantitatively through financial returns for CVC units (Benson & Ziedonis, 2009, 2010) and qualitatively through subjective ratings of CV managers about their perception of financial performance (Hill & Birkinshaw, 2008; Hill et al., 2009). The CV unit's technological performance and entrepreneurial performance have been measured qualitatively through the managers' perception (Hill & Birkinshaw, 2008; Hill et al., 2009). Two further studies address the selection capability of CV units (Ford et al., 2009; Yang et al., 2009).

Second, startup performance has also been measured on several dimensions. For internal CV, one commonly used metric is subjective leadership assessment based on the ICV (Internal Corporate Venture) performance scale (Covin et al., 2013; Garrett & Covin, 2015; Garrett & Neubaum, 2013). Most studies however typically use financial success indicators, i.e. valuations of share prices post IPO (Ivanov & Xie, 2010; Masulis & Nahata, 2009), but also a binary measure of whether or not a new venture went public (Park & Steensma, 2012). A new venture's innovation

performance has been proxied by the number of publications and patents (Alvarez-Garrido & Dushnitsky, 2016; Chemmanur et al., 2014). Maula and colleagues (2009) take a slightly different perspective in the context of this research, by measuring the benefits and risks for startups between openness and self-protection in a CVC relationship.

Third, we identified three papers focusing on corporate performance that relied on financial data such as Tobin's Q, which is a function of a firm's equity value, book value of long term debt, net current liabilities and total assets (Dushnitsky & Lenox, 2006; Lin & Lee, 2011; Yang et al., 2014). The low number of studies on corporate performance emphasizes the difficulty to accurately measure the impact of a comparably small CV unit on its corporate parent. Therefore, researchers have primarily tried to interpret patterns in corporates linked to CV activities, such as investment patterns, knowledge creation patterns or corporate innovation patterns. Investment intensity is the most commonly used indicator of investment patterns (de Bettignies & Chemla, 2008; Dushnitsky & Lavie, 2010; Dushnitsky & Lenox, 2005b; Dushnitsky & Shaver, 2009; Fulghieri & Sevilir, 2009; Sahaym et al., 2010; Wadhwa & Basu, 2013). In addition, a few studies describe the corporates' investment modes, in terms of target ventures (Dokko & Gaba, 2012; Dushnitsky & Shapira, 2010), or utilized investment vehicles (Titus et al., 2017; Tong & Li, 2011).

Lastly, as CV activities are often the results of strategic discussions within corporates, strategy effects are a relevant outcome in this sample as well. Principally, papers provide strategic guidance for CV practice, with a focus on CV processes (Basu et al., 2016; Biniari et al., 2015; Hausberg & Korreck, 2020; Kuratko et al., 2009; Souitaris & Zerbinati, 2014; Weiblen & Chesbrough, 2015). Other outcomes that have been investigated include strategic renewal of corporates (Basu & Wadhwa, 2013; Maula et al., 2013) or technological diversification of corporates through CV activities (Lee & Kang, 2015). Behavioral outcomes in this sample are mainly focused on the motivations for corporates to engage in CV activities (de Bettignies &

Chemla, 2008; Kuratko et al., 2009; Urbaniec & Żur, 2020; Wójcik et al., 2020). Finally, network effects are amongst the least studied outcomes in this sample. For example, strategic alliance building (Fulghieri & Sevilir, 2009; Van de Vrande & Vanhaverbeke, 2013), the number of relationships (Basu et al., 2011), and network centrality based metrics have only been utilized to-date by CVC studies (Keil et al., 2010).

2.5 Looking Ahead: Proposals for Future Research Questions

Our analyses in sections 2.3 and 2.4 identified the intellectual communities that are central to CV research as well as potential research gaps. We conclude our study in section 2.5 with a research roadmap that can increase both the theoretical rigor and relevance of future CA scholarships. Table 7 visually summarizes our proposed research agenda, structured along the lines of the discussion below, while also providing a set of possible exemplar research questions.

Table 7. An Agenda for Future Research with Potential Research Questions

Guidepost	Potential Research Questions	Relevant Theoretical Lenses
Leveraging underutilized theoretical perspectives	How do corporate incentive schemes shape CA manager decision-making?	• Psychological theory
	How does the knowledge sharing approach in a CA program influence innovation patterns of the established firm (corporate parent)?	• Knowledge based view • Organizational search
	How do CA units compete against each other for entrepreneurial talent?	• Resource based view
	How do CAs work and coordinate with other intermediaries within corporate firm boundaries, such as CVC units?	• Inter-organizational learning
	How does the depth and breadth of the value proposition in CAs vary, depending on the quantity and variety of involved partner companies in CA programs?	• Resource based view • Social network theories
	To what extent are key strategic decisions (e.g., CA formation) driven by institutional drivers (e.g., concerns for legitimacy and mimetic isomorphism)	• Institutional theory
Connecting Intellectual Communities	How do the design choices of CA programs shape their absorptive capacity?	• Absorptive capacity • Organizational design
	How does the composition of a CA cohort influence the subsequent collaboration between incumbents and participating startups?	• Knowledge based view • Organizational search • Institutional theories • Absorptive capacity
	How do intellectual property considerations (e.g., the nature of projects being developed within the CA) shape their governance choices?	• Agency theory • Transaction cost economics
Improving practical relevance	Do startups that participate in CA programs outperform those that participate in more "traditional" accelerator programs?	• Resource based view • Knowledge based view • Strategic role of CAs
	What factors shape the performance (e.g., survival, termination) of CA units?	• Institutional theory • Knowledge based view
	How does the creation of a CA unit shape the innovativeness of the corporate parent?	• Organizational learning • Absorptive capacity
	How does the revenue share of CA-born innovation projects compare to those from classical in-house R&D projects?	• Knowledge based view • Capability based theories

2.5.1 Increasing Theoretical Rigor in CA Research

As previously discussed, we suggest that a lack of theoretical rigor might be problematic for the future growth and legitimization of CA research. Building on our bibliometric and qualitative analyses, we therefore propose two ways to increase rigor, namely 1) utilize understudied

theoretical perspectives and 2) build stronger bridges between intellectual communities, core to CV scholarship.

Leveraging Underutilized Theoretical Perspectives. A key finding from both our quantitative and qualitative analyses is that there are several theoretical perspectives that are underutilized in the current nascent stream of CA studies (also see Tables 4 to 6). For example, in section 2.3 we demonstrated that two of the key intellectual communities in CV research focus on internal organizational processes and inter-organizational relationships (red and green clusters in Figure 3 respectively). Yet, the process by which CAs are embedded within their corporate parents as well as their inter-organizational interactions has been largely unexplored. For example, we know little about how CAs work and/or coordinate with associated CVC units, or compete against other CAs (i.e. outside the organization) for entrepreneurial talent. Network based theories which have been previously used in CVC scholarship (Basu et al., 2011; Keil et al., 2010; Van de Vrande & Vanhaverbeke, 2013) may be particularly relevant to study such questions.

Perhaps even more strikingly, theories around organizational innovation processes are not at the core of the CA literature. For example, as we illustrated in both sections 2.3 and 2.4, theoretical perspectives focusing on organizational learning have been central to the CV landscape (Figure 3), and also informed several CVC studies (Cohen & Levinthal, 1990; March, 1991; Schildt et al., 2005). Yet, current CA research says little about how engaging in such activities can shape learning processes at both the corporate and CA level, while also largely implicitly assuming that learning is unidirectional (i.e., the CA acts as a mentor to startups). In a similar vein, capability based theories such as the resource or knowledge-based view of the firm need to be utilized more in CA research, given that the main purpose of these organizations is to act as "knowledge scouts" (Kurpjuweit & Wagner, 2020; Moschner et al., 2019; Weiblen & Chesbrough, 2015). There is also substantial opportunity to draw more squarely open behavioral theories of the firm, relevant

whenever humans are involved in decision making processes (Argote & Greve, 2007; Cyert, March, & Clarkson, 1963; Gavetti, Greve, Levinthal, & Ocasio, 2012). These have been only sporadically used even in adjacent literature streams (e.g., CVC) and would be novel in the CA context. And lastly, there is substantial opportunity for more sociological theories such as institutional theory to be applied in this context. We found only four studies, focusing primarily on CVC, that used this lens in our core set of papers (see Figure 6 and Table 5). Yet, given that a number of CA programs were adopted by corporations competing in uncertain environments, it is likely that these decisions were driven at least in part by the need to conform and be seen as socially legitimate (Durand & Thornton, 2018; Greenwood, Raynard, Kodeih, Micelotta, & Lounsbury, 2011; Vedula, York, Conger, & Embry, 2022)

In sum, we propose that there are several theoretical perspectives that are underutilized and can enrich future CA research. Leveraging these lenses to explain different aspects of CA will make the field more theoretically pluralistic. Over time, it will also help move CA as an emerging subfield closer to extant management theory as opposed to the peripheral position that it currently occupies (as seen in Figure 4 for example).

Connecting Intellectual Communities. In addition to increasing the breadth of theoretical perspectives, a second way to improve the rigor of future CA scholarship would be to build stronger bridges across intellectual communities that are core to CV scholarship. For example, as we discussed in section 2.3, theories of internal organizational processes, organizational learning, and inter-organizational relationships are central to this landscape. Yet, there is scope to improve the connections between these communities. In particular, studies that look at the relationships between internal organizational processes and inter-organizational relationships remain limited (see Figure 3 for example). This gap could be bridged in the CA context by better understanding how external dynamics, such as the interaction of CAs with other ecosystem actors, shape their internal processes

and operational dynamics. Another possibility that integrates research on internal organizational processes with that on learning is to look at how the core design (e.g., the cohort model) choices of CA programs influences the ability to assimilate knowledge from startups. Similarly, given the strong influence of the finance literature on extant CA research (e.g., Figure 4), a logical step would be to develop novel perspectives that integrate theories from both finance and management. For example, future studies could draw on perspectives such as agency theory (Eisenhardt, 1989b; Jensen & Meckling, 2019) to explain firm boundary choices (e.g., the extent to which CA programs are governed in-house or instead setup as partnerships) in this context.

2.5.2 Improving the Practical Relevance of CA Research

In addition to improving the theoretical rigor of future studies as discussed in section 2.5.1, we also suggest that there is ample opportunity for scholarship that can be relevant to practice. Broadly speaking, such research would focus on explaining the value created by CA programs in a holistic fashion. This is particularly important given the fact that academic publications in the field are not currently keeping up with the fast evolving phenomenon.

From the startup perspective, several interesting and important questions remain relatively understudied within the CA literature. For example, we currently know little about how participation in CA programs affects startup success. Given that selection processes play an important role in CA, it will be important to tease these selection effects apart from program effects when measuring performance (Cohen, 2013; Cohen, Bingham, & Hallen, 2019; Cohen, Fehder, et al., 2019; Hallen & Eisenhardt, 2012). In a related vein, one could also potentially compare the impacts of CAs with more traditional forms of accelerators (e.g., Y-combinator), or exploit the heterogeneity within CA programs (e.g., based on their governance mode or cohort model) to explain startup performance. Answering questions of these kinds would require the creation of datasets such as the Global Accelerator Learning Initiative (GALI) which capture the performance

of startups both before and after participating in accelerator programs (Gaganis, Papadimitri, Pasiouras, & Tasiou, 2020; Neumann et al., 2019).

Similarly, from the corporate perspective, several open questions remain that are worth studying. For example, it is well documented that many CA programs are altered or terminated a short time after inception (Moschner et al., 2019). However, we currently know little about why this is the case. Thus studies that look at factors that influence the "survival rate" of CAs (Gimeno, Folta, Cooper, & Woo, 1997; Hill & Birkinshaw, 2014; Vedula et al., 2022), or other such metrics of CA unit performance would be of immense value to the managers of such programs. The success and performance of CA programs could additionally be complemented with survey data from participating startups and corporate employees. Answering these questions would be of immense benefit as we know very little in general about how CAs compete against each other for entrepreneurial talent.

It is also currently unclear how CAs shape corporate level performance. On the one hand this is not surprising given the nascency of many CA programs, and the fact that CAs are a comparably small entity within a larger corporate structure. As such, there are many additional factors that can influence overall corporate financial performance, and relating them directly to CA activities is challenging. One possible solution to address this problem would be to focus on studying how CAs shape corporate level patterns. Patterns describe practices and habits without being directly linked to overall financial performance (e.g., investment modes, knowledge creation, or innovation modes) (Tong & Li, 2011; Van de Vrande & Vanhaverbeke, 2013; Wadhwa & Kotha, 2006). For example knowledge creation and innovation impact could be measured based on observed patent filings or patent citations (Keil, Maula, et al., 2008; Wadhwa et al., 2016), and studies could look at how the innovativeness of corporates changes before/after creating a CA program. Similarly, if one is able to obtain more granular data, an interesting outcome would be to

compare the revenue share of CA-born innovation projects to more classical in-house R&D projects. Such an approach would dig deeper and provide much insight on the true value add of such endeavors.

2.6 Conclusion

Research on CV activities has grown substantially over the past four decades. It has evolved and shifted its focus, initially from internal CV activities, to research on CV, and most recently towards intermediaries focusing on more exploratory activities such as CAs. Through detailed bibliometric and qualitative analyses, this paper traces the journey of the research field leading up to the nascent but growing body of CA research. We identify some critical weaknesses in this emerging stream, primarily in relation to its descriptive nature, and lack of theoretical integration with the core management CV literature that has preceded it. We propose a path forward for CA research that is both theoretically rigorous while simultaneously relevant to practice. We hope that by taking stock and reflecting on the emergence, growth, and future of this exciting new phenomenon, our study is a small but important first step for others to build upon.

3 COLLISIONS FOR BENEFIT: HOW CORPORATE ACCELERATORS ENACT INSTITUTIONAL ARBITRAGE BETWEEN NEW VENTURES AND INCUMBENTS[13] [14]

ABSTRACT

Institutional arbitrage has been recently introduced as novel approach to creating benefits in hybrid organizational settings, by purposefully inducing institutional complexity. While this is still a relatively nascent theoretical construct, we seek to empirically investigate how organizations might be able to actively enact institutional arbitrage mechanisms and influence valuable outcomes. In an inductive case study on five corporate accelerators (CA), this essay sheds light into how organizations may leverage and navigate institutional complexity to create benefits for new ventures and incumbents. Integrating perspectives from entrepreneurship theory on uncertainty, this study suggests that organizational differences in the willingness to bear uncertainty are reflected in their choices about goal specificity and governance control in this context. This in turn shapes how CAs engage in institutional arbitrage. Our model shows variations on primary institutional arbitrage mechanisms, differing dominating institutional logics, and directions of inter-organizational exchange. The study contributes to theory on institutional complexity and institutional arbitrage, and provides a practical guideline for corporate and CA managers, venture founders, and policy makers.

Keywords: Corporate Accelerators, Value Creation, Institutional Arbitrage, Multiple Case Study

[13] Earlier versions of this essay have been accepted for presentation at the (1) 38th European Group for Organizational Studies (EGOS) Colloquium, Sub-theme: Digital Technology, Societal Change and Shifts in Institutional Logics, 2022 (Vienna, Austria); (2) Strategic Management Society (SMS) 42nd Annual Conference, 2022 (London, UK); (3) 39th EGOS Colloquium, Sub-theme: Entrepreneurship in and around Organizations, 2023 (Cagliari, Italy); (4) 83rd Annual Meeting of the Academy of Management (AOM), 2023 (Boston, USA)

[14] Earlier findings of this study have been presented to practitioners at the 3rd International Symposium on Corporate Acceleration, 2022 at Imperial College Business School (London, UK)

3.1 Introduction

Institutional complexity arises, when organizations, face conflicting prescriptions regarding foundational norms, structures and practices, i.e. *institutional logics* (Friedland & Alford, 1991; Greenwood et al., 2011; Pahnke et al., 2015; Thornton & Ocasio, 2008). *Institutional complexity* has been traditionally understood as a challenge to overcome (Greenwood et al., 2011; Jones & Thornton, 2005; Ocasio & Radoynovska, 2016). More recently, scholars have started to acknowledge that organizations may also benefit from institutional complexity (Vedula et al., 2022), by purposefully bringing together incompatible institutional logics and leveraging their different logics through *institutional arbitrage*[15] activities (Perkmann et al., 2022). This novel perspective is particularly interesting, as it may provide a guiding framework for actors on how to manage and engage in complex institutional environments, not only by mitigating its effects (Greenwood et al., 2011; Perkmann et al., 2019; Schildt & Perkmann, 2017), but by turning these circumstances into value (Perkmann et al., 2022). Besides, it paves the way for multiple additional opportunities of combining different logics for valuable outcome, which might extend the option space for organizational improvement (Perkmann et al., 2022).

Even though institutional arbitrage provides a more nuanced comprehension of how organizations bring together competing institutional logics, our understanding is still limited for several reasons (Perkmann et al., 2022): First, it is unclear how organizations might actively enact institutional arbitrage mechanisms. Second, our current understanding assumes a symmetric collision of two logics and favors one actor as arbitrage beneficiary, while it remains understudied if, and to which extent value might be bi-directionally created. Third, and most importantly, the concept of institutional arbitrage is primarily theoretical and lacks empirical evidence. By

[15] Identified arbitrage mechanisms comprise, in particular, the exploitation of differences in resource valuation, purpose, organizational practices and legitimacy judgements

addressing these unresolved issues, researchers and managers will be able to better understand the implications of institutional arbitrage, which might help organizations to actively manage these mechanisms and use institutional arbitrage to their advantage.

The objective of this study is to address these limitations and extend theory on institutional complexity by empirically investigating how institutional arbitrage mechanism can be managed (Eisenhardt, 1989a, 2021; Eisenhardt & Graebner, 2007; Miles et al., 2014). We therefore conduct an inductive case study of five corporate accelerators (CAs). "CAs are company-supported programs of limited duration that support cohorts of startups during the new venture process via mentoring, education and company-specific resources" (Kohler, 2016, p.348; Shankar & Shepherd, 2019, p.2). We argue that CA programs create a space for institutional arbitrage, by purposefully bringing together established firms and new ventures, which adhere to different taken-for granted norms, structures and practices, and thus, follow distinct institutional logics (Pahnke et al., 2015). More specifically, in this context, we seek answers to the following research question: *How do corporate accelerators enact institutional arbitrage mechanisms for mutual value creation of new ventures and incumbents?*

To develop our inductive model, we draw upon ideas from entrepreneurship theory, and more specifically the fact that organizations differ in their willingness to bear uncertainty (WTBU) (McMullen & Shepherd, 2006; Milliken, 1987). We show that in the CA context, such differences in the WTBU are reflected in organizational choices on goal specificity and governance control (Ouchi, 1977; Ouchi & Maguire, 1975), in terms of how CA programs are structured. We develop a model to show how these key control options of CA programs in turn shape how a) CAs lay the foundation for the acceleration process as well as manage associated contingencies, b) engage in institutional arbitrage, leading to variations on primary institutional arbitrage mechanisms c) conceptualize of value creation and co-creation. These in return might result in variations on

institutional arbitrage with regards to the depth of individual institutional arbitrage mechanisms, the balance of the colliding logics, as well as the scope, i.e. direction of arbitrage. Thereby, our study empirically sheds light into how CAs can be managed effectively by means of institutional arbitrage. In doing so, it suggests that institutional arbitrage might benefit both actors, with possibly one dominating logic, as well as variations in the direction of interaction, in terms of organizational and technological practice exchange.

Our work makes three important and novel contributions. First, it contributes to theory on institutional complexity and institutional arbitrage, by integrating concepts from entrepreneurship theory, specifically around organizational heterogeneity in the willingness to bear uncertainty. Second, it adds to the literature on CAs, which is, to date, mainly descriptive, by presenting CAs as an interesting context to test and extend existing management theory (Leubner & Vedula, 2022). Third, this study provides a practitioner-oriented guideline for corporate and CA managers, venture founders, policy makers, as it explains how different characteristics of CA programs might impact value creation for the involved parties.

3.2 Theoretical and Conceptual Background

3.2.1 From Institutional Complexity to Institutional Arbitrage

Most organizational structures are a result of rationalized institutional rules, influenced by their environment that provide legitimacy or determine actions and stability (Meyer & Rowan, 1977). Against this backdrop, multiple similar organizations converge into organizational fields in isomorphic processes and manifest in distinct *institutional logics* (DiMaggio & Powell, 1983; Friedland & Alford, 1991). Institutional logics are “socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social

reality" (Thornton & Ocasio, 1999, p.8). In other words, institutional logics provide organizations from specific societal sectors with foundational principles for shared identities, beliefs, structures, and practices, by standardizing the internal and boundary spanning contingencies (Friedland & Alford, 1991; Perkmann et al., 2019; Thornton & Ocasio, 2008; Vedula et al., 2022). Normally, organizations operate and interact with actors from multiple societal sectors and, thus, are confronted with varying identities, beliefs, structures and practices, resulting in institutional pluralism (Kraatz & Block, 2008). Often, institutional pluralism is marked by conflicting institutional logics, that cannot or can only hardly be harmonized (Friedland & Alford, 1991; Pache & Santos, 2010), which is why organizations face *institutional complexity* (Greenwood et al., 2011). In many cases institutional complexity is seen as an unwanted effect of external and internal circumstances with resulting mechanisms ranging from decoupling, compromise and combination to different degrees of conflict (Besharov & Smith, 2014; Pache & Santos, 2013a, 2013b; Saz-Carranza & Longo, 2012). Usually, organizations seek to mitigate institutional complexity as for example through the concept of *organizational settlement,* "the specific configuration of structural and cognitive elements that an organization develops to accommodate or productively leverage multiple institutional logics and to accomplish relative stability in the face of institutional complexity" (Schildt & Perkmann, 2017, p.140).

Despite its undoubted challenges, more recent studies started to acknowledge the potential benefits of engaging in institutional complexity (Vedula et al., 2022). In particular, extant literature suggests three overarching ways of combining institutional logics (Perkmann et al., 2022): First, *hybrid organizations* find common grounds of competing logics for uncommon outcomes (Perkmann et al., 2019; Santos, Pache, & Birkholz, 2015), by either combining different logics throughout in blended hybrids, or by maintaining individual units that adhere to different logics in structural hybrids (Battilana & Dorado, 2010; Greenwood et al., 2011; Jay, 2013; Pache & Santos,

2013b). Second, the *co-existence of different logics* allows individuals in organizations to shift between logics, which might enable outcomes that would not be possible in simpler organizations (Gümüsay, Smets, & Morris, 2020; Smets, Jarzabkowski, Burke, & Spee, 2015). Third, by establishing *boundary spanning units*, organizations find dedicated space to introduce practices from differing logics, as for example university-industry centers that enable a knowledge and technology transfer between university and industrial research units (Perkmann et al., 2019).

Building on and extending the three established possibilities of combining institutional logics, recent research has introduced the notion of *institutional arbitrage* (Perkmann et al., 2022). Institutional arbitrage leverages and exploits institutional differences and is defined as *"purposeful deployment of multiple institutional logics by an actor to achieve valued organizational outcomes"* (Perkmann et al., 2022, p.14). Perkmann et al. (2022) propose two potential strategies for institutional arbitrage, i.e. to establish exchange relationships for actors stemming from different institutional logics, or to adopt and incorporate elements from the conflicting institutional logic. These strategies can be broken down to four different tactics to operationalize institutional arbitrage (Perkmann et al., 2022):

The first mechanism, "Differences in resource valuation" is driven by the unequal distribution of resources and capabilities, which might be one reason for different bases of attention across logics (Jones & Thornton, 2005; Pahnke et al., 2015; Perkmann et al., 2022). In particular, valuation arbitrage could happen when resources are valued differently across logics. One example are industry-academia collaborations, where for-profit firms gain access to commercialize niche research results, which for the scientists have no monetary but an academic value, and to which firms would not have access otherwise (Perkmann et al., 2019).

The second mechanism, "Differences in purpose" is driven by differences of values and rules across logics (Pache & Santos, 2013a; Perkmann et al., 2022), which might be rooted in

different bases of norms of organizations (Jones & Thornton, 2005; Pahnke et al., 2015; Thornton, Ocasio, William, & Lounsbury, Michael, 2015). Essentially, purpose arbitrage might occur in contexts with actors that have inherently different expected behaviors (Perkmann et al., 2022): For example, industry publications that are co-authored by academics, might benefit from institutional arbitrage, which is transferred by scientific neutrality to otherwise potentially biased, industry-friendly results from the industry authors (Lundh, Lexchin, Mintzes, Schroll, & Bero, 2017).

The third mechanism, "Differences in organizational practices" is driven by different patterns in routine behavior, such as established processes and tools (Jones & Thornton, 2005; Perkmann et al., 2022; Thornton et al., 2015). Thus, this institutional arbitrage mechanism might come to the fore, when actors gain access to practices that are not common or accessible in their own field (Perkmann et al., 2022), as for example in commercial microfinance (Battilana & Dorado, 2010): Here, the not-for-profit NGO adopts commercial practices to raise more funds, which in return benefit the NGO.

The fourth mechanism, "Differences in legitimacy judgements" is driven by cultural conformity, which lays the foundation for audience approval (Kraatz & Block, 2008). In particular, it forms the perception of individual audiences, that actions from organizations adhering to the same logics might be appropriate and legitimate (Perkmann et al., 2022; Suchman, 1995). Conversely, organizations from different logics might question the legitimacy of the respective other's actions (York, Vedula, & Lenox, 2018): for instance, market-oriented actors might legitimize the extraction of hydrocarbons of energy companies, while environmentally-oriented audiences might contest these activities. Thus, by engaging with a conflicting logic, organizations might be able to extend the audience and gain legitimacy in an alternate field (Perkmann et al., 2022).

The novel framework of institutional arbitrage is particularly interesting and contributes to organizational theory and management practice. By building upon extant theory and concepts on how to leverage institutional complexity (Battilana & Dorado, 2010; Gümüsay et al., 2020; Santos et al., 2015), it provides a conceptual framework for a more nuanced understanding of how institutional complexity may be turned into value. For practitioners, this framework might support actors to manage and engage in complex institutional environments, and create awareness to not only mitigate its effects (Greenwood et al., 2011; Perkmann et al., 2019; Schildt & Perkmann, 2017), but to turn conflicting logics into value (Perkmann et al., 2022). Besides, it presents a motivation to combine different logics for valuable outcome, which might provide multiple avenues for future organizational improvement (Perkmann et al., 2022).

Nonetheless, the new concept of institutional arbitrage is not without limitations. First, even though some enabling conditions for institutional arbitrage have been introduced, such as field maturity, distance of engaging logics, and organizational identity (Perkmann et al., 2022), the study does not reveal how organizations might actively enact institutional arbitrage mechanisms. Second, although the current notion of institutional arbitrage suggests the possibility of combining multiple mechanisms, it is limited to only one beneficiary in an arbitrage context (Perkmann et al., 2022): for example, in the aforementioned industry-academia collaboration industry benefits from the exchange with academia, while a positive outcome for academia is not addressed. Third, to find more practical relevance, the theoretical concept might benefit from empirical evidence (Nicolai & Seidl, 2010). Therefore, we believe that there is a need to empirically investigate how organizations might engage in institutional arbitrage mechanisms to create mutual benefit.

3.2.2 The Role of Uncertainty for Managing Institutional Arbitrage

The purposeful combination of conflicting logics might have important and long lasting effects on an organization’s evaluation of resources and capabilities, its purpose, practices or public

awareness (Perkmann et al., 2022). By being a novel and potentially strategically important concept, the question for organizations how to effectively engage in institutional arbitrage mechanisms might be accompanied by a high level of uncertainty for organizations. Historically, the role of uncertainty on strategic decisions has been broadly discussed in literature (Vedula & Matusik, 2017). In literature, perceived uncertainty is often classified into three distinct types, i.e., state, effect, response uncertainty (Milliken, 1987): *State uncertainty* is defined as the situation, when the organizational environment is perceived to be unpredictable, while *effect uncertainty* relates to the predictability of the impact of environmental changes on the organization. The third type, *response uncertainty*, refers to an organization's missing knowledge regarding potential options to respond, respectively the unpredictability of the response consequences (Milliken, 1987).

While for the concept of institutional arbitrage *state uncertainty* appears to be comparably low, as the organizational environment is purposefully created by combining two distinct logics (Perkmann et al., 2022), the *effect* of a combination of logics might be uncertain, as the outcome of institutional arbitrage is not always clear. The effect uncertainty is an initial motivator to empirically investigate *whether and how mutual value might be created* through institutional arbitrage. Due to lack of empirical evidence, it is unclear how organizations might respond to the combination of two different institutional logics. This may complete the question by means of *how organizations might engage in* institutional arbitrage to create mutual value. Extant literature suggests that organizations might have different willingness to bear uncertainty (Matusik & Fitza, 2012; Mcgee & Sawyerr, 2003; McMullen & Shepherd, 2006; Zichella, 2020). Therefore, depending on their willingness to bear uncertainty, organizations might differ in how they engage in institutional arbitrage. In many organizations, willingness to bear uncertainty is manifested by the degree of organizational and managerial control (Ditillo, 2004; Ouchi, 1977), which can be

originally classified into behavior control and output control (Ouchi & Maguire, 1975). It therefore becomes particularly interesting, how the perceived uncertainty might relate to institutional arbitrage mechanisms.

3.2.3 Institutional Complexity within Corporate Accelerators

CAs are one of the most recent and growing forms of corporate venturing (CV) that have been installed in established firms across industries to adopt novel entrepreneurial open innovation practices (Kanbach & Stubner, 2016; Moschner et al., 2019; Shankar & Shepherd, 2019; Weiblen & Chesbrough, 2015). In doing so, CAs attempt to add value for new ventures and incumbents by bridging the organizational and technological gap between both organizations, and leveraging their complementary capabilities (Kohler, 2016), despite facing dyadic tensions (Garcia Herrera & Autio, 2020).

The new venture-incumbent interface of CAs provides a hybrid organizational space, where organizations with different structures, self-perception and institutional logics come together, causing institutional complexity (Friedland & Alford, 1991; Greenwood et al., 2011; Jay, 2013; Mair, Mayer, & Lutz, 2015; Pache & Santos, 2013b). Established firms and new ventures follow distinct institutional logics as they adhere to different taken-for granted norms, structures and practices (Chesbrough & Tucci, 2020; Pahnke et al., 2015). One CA executive publicly delineated between new ventures and incumbents, stating that “Corporates have the know-how, broad market access and customer base, while startups are agile, flexible and quick” (Bacic, 2022). Established, large firms and their employees, by nature, follow an institutional corporate logic (Jones & Thornton, 2005; Pahnke et al., 2015; Saz-Carranza & Longo, 2012). Entrepreneurs are professionals that lead the creation of a new venture, and having a comparably small team, their individual influence might be disproportionately decisive in young firms (Mueller, Volery, & von Siemens, 2012; Ries, 2021). Therefore, their practices and norms are more rooted in a personal

system, which is why new ventures might strongly relate to a professions logic (Jones & Thornton, 2005). We next highlight key characteristics – that are relevant for our current notion of institutional arbitrage – in which incumbent employees and members of entrepreneurial ventures follow distinct institutional logics, i.e., basis of strategy, basis of norms, basis of attention, basis of legitimacy, and basis of organizational practices. These are summarized in Table 8. Appendix A of this chapter (7.1. Appendix Chapter 3, Appendix A) provides a more expansive explanation.

Table 8. Differences in Institutional Logics between Incumbents and New Ventures

Characteristics	Incumbent employees Corporate Logic	Entrepreneurs Professions Logic
Basis of Strategy	• Positioning against competitors	• Market access and growth
Basis of Norms	• Experience and acquired know-how • Personal career advancement in firm • Safe employment in firm	• Entrepreneurial passion • Experimentation and problem solving • Entrepreneurial ecosystem
Basis of Attention	• Resource availability • High quality requirements	• Resource scarcity and survival • Prototyping and validating MVPs
Basis of Legitimacy	• Industry reputation and legacy • Long-lasting customer relationships	• Innovation, at times disruptive tech • Customer creation and fundraising
Organizational Practices	• Established organization • Standardized processes • Bureaucratic, hierarchical structures	• New, growing organization • Informal processes • Agile, iterative working mode

CAs, as for most venture support organizations, are characterized by a high level of uncertainty, especially with regards to the emergence of entrepreneurial opportunities (Nair, Gaim, & Dimov, 2020). By operating at the intersection of new ventures and incumbents, CAs might be particularly exposed to a dichotomy in their willingness to bear uncertainty, as entrepreneurial actors are more willing to bear and manage uncertainty than non-entrepreneurial actors (Mcgee & Sawyerr, 2003; McMullen & Shepherd, 2006; Zichella, 2020). As for other organizations, in CAs, willingness to bear uncertainty is typically manifested by the degree of organizational control that incumbents might want to retain (Ouchi, 1977; Ouchi & Maguire, 1975), in particular in terms of: (1) goal specificity, i.e., running pilot projects versus focusing on exploratory exchange; (2) governance control, i.e., self-managed vs. externally managed CAs (Kohler, 2016; Moschner et al.,

2019; Shankar & Shepherd, 2019). Especially for goal specificity, we archetypically differentiate between programs that conduct pilot projects with new ventures and incumbents, and more exploratory programs with less pre-defined objectives (Shankar & Shepherd, 2019). For governance control, we typically differentiate between programs that are managed in-house and externally managed programs, i.e., supported by professional organizations like Techstars, LMarks or Pulg and Play (Kohler, 2016; Moschner et al., 2019). As of now, we know little about how these organizational contingencies might modulate institutional arbitrage, which is why we investigate these relationships in this study.

3.3 Research Methods

3.3.1 Research Setting

We address our research question through an inductive multiple case study research method to build robust, generalizable and testable theory (Easterby-Smith et al., 2008; Eisenhardt, 1989a, 2021; Miles et al., 2014). In particular, we analyzed five tech-focused CAs and investigated how their structural control options effectively enable institutional arbitrage, creating and capturing value for entrepreneurial ventures and incumbents.

To answer our research question, we studied CA programs, as they are an ideal setting to examine institutional arbitrage mechanisms by purposefully bringing together new ventures and incumbents, which adhere to different logics, for value creation (Pahnke et al., 2015). Consistent with prior work on (corporate) accelerator programs (Cohen, 2013; Cohen, Fehder, et al., 2019; Moschner et al., 2019; Nesner, Tobias et al., 2020), the CAs in scope can be broadly structured into three main phases, separated by two key milestones: (1) the selection day, when the program transitions from pre-acceleration (scouting/selection) to acceleration, and (2) the final demo day or

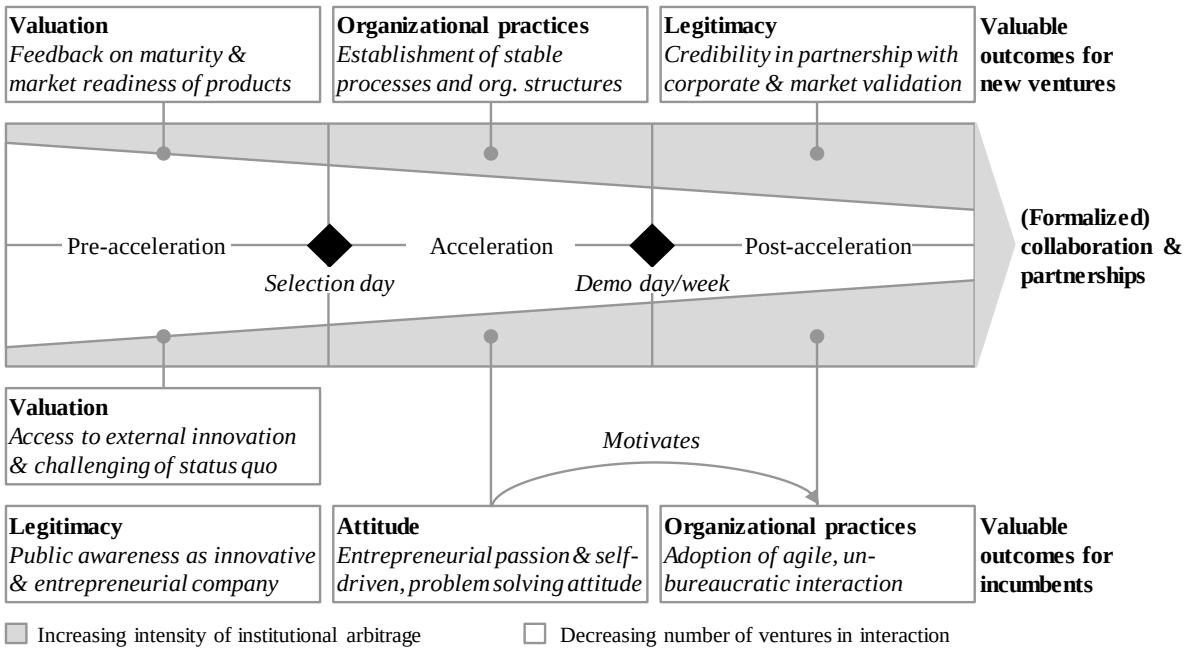
week, when new ventures present their final results and the programs transition to post-acceleration, proof-of-Concept (POC), contract roll-out, or even joint ventures.

As for most CAs, in our sample, the new venture-incumbent interaction is very broad but superficial at the beginning and becomes more focused and intensive along the entire process of the three phases (Nesner, Tobias et al., 2020): At the pre-acceleration phase, before the actual program starts, many new ventures are in contact with the CA or incumbent throughout the scouting and application phase. During this period, both parties benefit superficially, e.g. through initial feedback or public outreach. After the selection day, the number of new ventures is reduced, generally to about 10, for a more intensive interaction. Thereafter, the inter-organizational exchange is intensified for mutual benefit. After the demo day(s), incumbents and new ventures decide, whether and how they intend to collaborate, resulting either in going separate ways or intensifying the partnership. The mutual creation of benefits becomes more specific for both new ventures and incumbents, as soon as both parties reach their final and overarching goal of formalizing a collaboration or partnership (Kohler, 2016; Moschner et al., 2019; Shankar & Shepherd, 2019).

Besides the overarching collaboration goal, each phase provides distinct primary benefits for new ventures and incumbents, while both organizational forms benefit from the respective other's complementary capabilities (Kohler, 2016; Mahmoud-Jouini et al., 2018). Leveraging *institutional complexity* (Greenwood et al., 2011; Perkmann et al., 2019, 2022), we posit that the CAs in scope provide space for *institutional arbitrage* along the entire acceleration process. Along the CA process, both parties may extract benefits from institutional arbitrage mechanisms through re-evaluation of available skills and resources, legitimacy gains by entering each other's environments, and mutual adoption of organizational practices through close interaction (Kanbach & Stubner, 2016). CAs also provide an opportunity for incumbents to experience entrepreneurial

attitude, such as enthusiasm, problem solving and growth orientation from new ventures (Kohler, 2016; Shankar & Shepherd, 2019). Figure 7 visualizes in a generic framework, how the CAs in our scope might create mutual benefits vis-à-vis the institutional arbitrage, along the entire acceleration. Consistent with prior work on entrepreneurial action, the individual CAs in our scope – being at the intersection of entrepreneurs and incumbents – differ in their willingness to bear uncertainty (McMullen & Shepherd, 2006; Milliken, 1987). These differences are reflected in their degree of organizational control within CAs with regards to goal orientation (pilot projects vs. exploratory programs) and governance control (in-house vs. externally managed) (Ouchi, 1977; Ouchi & Maguire, 1975), which we use as context for further investigation.

Figure 7. Institutional Arbitrage between New Ventures & Incumbents Along the CA Process



3.3.2 Sampling

We purposefully set specific theoretical criteria for our sampling strategy in terms of location, industrial domain and level of control (Eisenhardt, 1989a; Fletcher & Plakoyiannaki, 2011). First, to eliminate potential regional differences within the sample, and as in-person contact is beneficial

for primary data collection, we focused on the first author's location, which is one of the leading entrepreneurial ecosystems in Europe (European Commission. Joint Research Centre, 2022). Second, to ensure cross-case comparability, we only considered CAs in research-intensive tech domains, considering respective market leaders. Third, as we aimed to identify, how differing willingness to bear uncertainty affects a CA's creation of benefits for incumbents and entrepreneurial ventures, we decided for a maximum variation in terms of goal orientation and governance control. For goal orientation, we differentiate between exploratory programs, which focus on mutual exchange and coaching, and pilot project-based CAs, where new ventures and incumbents jointly work on a specific challenge (Shankar & Shepherd, 2019); regarding their governance, programs can be managed in-house or externally via service providers or in consortiums (Kurpjuweit & Wagner, 2020; Moschner et al., 2019). Based on an initial collection of secondary data for CAs in the first author's local ecosystem, we were able to identify five suitable cases for investigation (see Table 9).

To be able to isolate CA specific properties which are not control-related, and to therefore investigate the effects of the control modes, by distilling commonalities and differences across CAs, we included the five cases. Collaborator (II) for example differs from typical CAs (and thus from Distributor (III) by operating an ongoing model without specific cohorts and no dedicated selection or demo days (Cohen, Bingham, et al., 2019). Still, the incumbent-new venture collaboration along the acceleration process is marked by (1) an initial mutual agreement for collaboration, after a loose interaction during the pre-acceleration phase and after an un-defined acceleration phase of close collaboration, there is (2) the decision for commercializing or partnering based on the scope of the pilot project. This CA ensures an exchange across new ventures through ecosystem ventures that use the CA's premises but are not necessarily actively involved in the acceleration through a pilot project. Co-creator (IV) also has some exploratory elements by

additionally inviting new, mostly early stage ventures, which are not accelerated in the program to their events. Besides, Co-creator (IV) is established as a joint CA between the incumbent and an external provider, which is why it has both governance attributes from in-house and from external CAs. An overview of the specific cases including their data sources is illustrated in Table 9.

Table 9. Overview of Cases Including Their Control Modes and Data Sources[16]

	Explorer (I)	**Collaborator (II)**	**Distributor (III)**	**Co-creator (IV)**	**Consortium (V)**
Goal orientation	Exploratory	Pilot project	Pilot project	Pilot project	Pilot project
Governance	In-house	In-house	In-house	Mixed	External
Informants	A1, A2, A3, A4 C1 F1, F2	A1, A2 C1 F1, F2	A1, A2, A3 C1 F1, F2, F3	A1, A2, A3, A4, A5 C1, C2, C3 F1	A1 – A6 C1, C2 F1, F2
Informants' Roles (besides founders)	CA MD CA CTO, Program Mgr., Portfolio Mgr., Head of M&A	CA MD, Program Mgr., Digital. Mgr.	Head of CA, Program Mgr. Innovation Mgr.	CA Director Venture Associate CA Partner Mgr. Program Mgr. Head of Strategy Portfolio Mgr. Project Consultant	Managing Partner Program Mgr. Community Mgr. Startup Scout Partnership Mgr. Head of Innov. Corp. Dev. Mgr.
No. of interviews	9	6	7	10	10
Site visits	2 office visits; Selection day jury member; Guest at expo day	1 office visit	Reg. office visits	2 office visits; Guest at kick-off and expo event	Reg. office visits; Co-organized 2 demo-days; Guest at kickoff day
Archival data	Website (1) Social Media (1), Press article (4)	Website (1) Social Media, (1) Press article (9) Corp. Comm. (9)	Website (1) Social Media (1), Press article (9) Corp. Comm. (4)	Website (2) Social Media (1), Press article (10) Corp. Comm. (3)	Website (1) Social Media (1), Press article (4) Corp. Comm. (1)

3.3.3 Data Sources

To ensure more accurate information and measures, we used multiple data sources for triangulation (Ott & Eisenhardt, 2020). Over the course of seven months, we collected primary and archival data. For a deep understanding of the context, we focused on primary data, mainly interviews. The interviews were complemented by in-depth site visits, participations at CA events such as kick-off,

[16] Abbreviations: Comm.=Communication; Corp.=Corporate; Dev.=Development; Digital. =Digitalization; Innov. =Innovation; Mgr.=Manager; Number of archival sources in ()

mid-term, or demo days. The primary data collection was triangulated with secondary data. The data collection and analyses were conducted through an iterative process: after collecting a set of data, we analyzed it through inductive coding before getting back to the field with an adjusted interview guideline (Miles et al., 2014). An overview of the collected data is displayed in Table 9.

Interviews. We conducted semi-structured interviews for our primary data source from December 2021 to August 2022. To gain a comprehensive understanding of how the CAs create benefits for both established firms and new ventures, we interviewed different stakeholders involved in the CA programs, ranging from program participants and startup founders over CA staff to corporate employees. For consistency reasons, we conducted all interviews in English, the sole common language of all three authors. The interviews were conducted mainly via Zoom but the main author visited each CA in scope prior to our first interview to exchange with key stakeholders. In total, we conducted 42 interviews, talking to 38 different informants, of which 20 were CA staff/managers (A), 9 were new venture participants/founders (F) and 8 were employees from the established firm (C). After increasingly receiving redundant responses, we assumed reaching theoretical saturation and ceased the interviewing process.

We structured the interviews into three sections, including an informal exchange, an introduction with background information on the interviewee and his/her experience with the CA, followed by questions in particular regarding value proposition and capturing along the three principal CA phases (pre-acceleration or selection, acceleration/nurturing, post-acceleration), to gain granular information on how the CAs create valuable outcomes (Nesner, Tobias et al., 2020; Osterwalder, Pigneur, & Tucci, 2005; Taran et al., 2015; Zott & Amit, 2007). The interviews lasted between 30 to 90 minutes whereof the core sections on the creation of benefits have been recorded and transcribed. The questionnaire was iteratively adapted along the project, as we were gaining a better understanding of the cases and incorporating feedback. We collected a total of 1107 minutes

of audio out of nearly 1949 interview minutes. This data added up to 292 pages of single-spaced text.

Site Visits. Given the first author's active involvement in the local startup ecosystem, he was able to visit all CA locations in scope and experienced the provided infrastructure first-hand. Besides, the first author was actively involved in six of the CA key events at three different programs within the sample. He co-organized two demo days in December 2021 and 2022 for one CA, was a jury-member at a selection day in March 2022 and participated in-person at kick-off and expo events of two of the batches in April, June and July 2022, along with the second author who also visited 2 CAs of the sample.

This in-depth involvement provided the possibility to further exchange with relevant stakeholders of the respective programs in an informal way, make important observations by personally experiencing CAs, improving the general understanding of CAs and our overall capacity to analyze the interviews, including second-round interviews to clarify our emergent theoretical constructs and mechanisms. Our main observations were captured in key points and photos, and documented in 17 pages.

Archival Data. To complement our primary data, we collected significant archival data within 65 individual sources. This included excerpts from the CA or corporate websites, corporate annual reports, press releases, social media postings and marketing material. This was completed by follow-up emails. The archival data delivered additional insights to validate the statements provided by the informants and to ask them for clarification.

3.4 Data Analysis

We analyzed the collected data in an iterative process, including triangulations between collected data, theory on institutional complexity as well as prior research on corporate venturing and

accelerators (Eisenhardt, 1989a; Eisenhardt & Graebner, 2007; Langley, 1999; Suddaby, 2006): This included sorting our collected data and mapping it across cases with the emerging theory (Langley, 1999; Mittermaier, Patzelt, & Shepherd, 2021; Mittermaier, Shepherd, & Patzelt, 2021). Thanks to the active involvement of the first author within the local startup ecosystem, and the deep experience of the second author in international CA projects, we were able to depict and interpret nuances within and across case studies. We coded openly, without an initial hypothesis in mind, created first and second cycle codes, which resulted in three aggregate dimensions (see Figure 8), and were guided by our research question (Miles et al., 2014; Strauss & Corbin, 1998).

3.4.1 Mapping in First- and Second-Cycle Codes

We coded our interview transcripts openly, building our analysis around benefits, success and value creation of CAs (Miles et al., 2014; Strauss & Corbin, 1998). We used the software MAXQDA Analytics Pro, which helped us to gain transparency over the data and iteratively segment it into initial first order-codes. After analyzing all interviews and reaching our limit of finding new codes, we stopped the process, classifying all statements related to benefits, success, and value creation of CAs into at least one existing first-order code. After reviewing and discussing all codes, eliminating, replacing and merging some, we identified in total 47 first-order codes related to our focus topic of value creation in CAs.

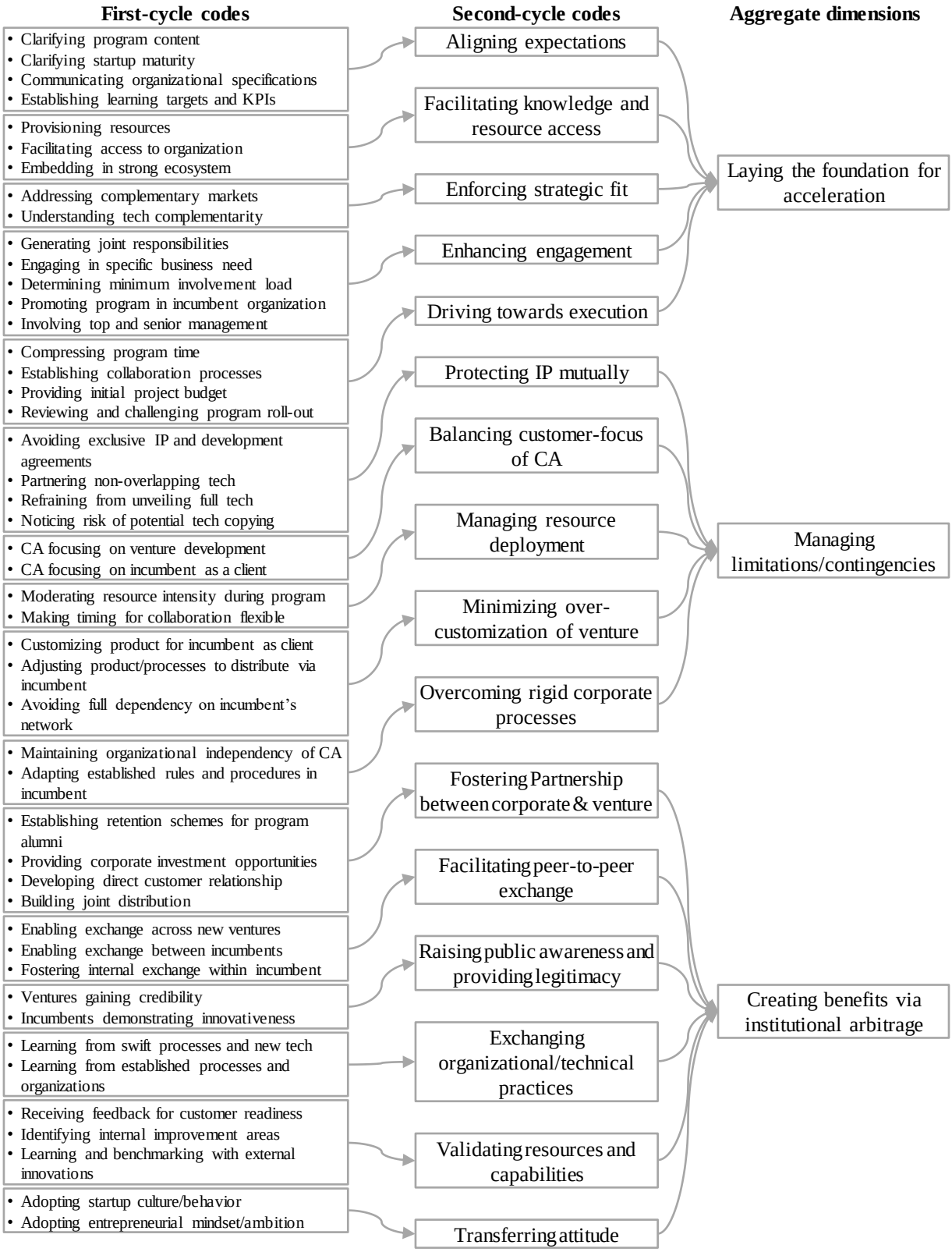
We iteratively analyzed our set of first-cycle codes, compared them, and grouped these into 16 second-cycle codes summarizing them as more general statements for creation of benefits in CAs (Strauss & Corbin, 1998). In particular, while we took venture or incumbent-specific perspectives during the first-cycle coding, we consolidated these into organization spanning codes in the second round. Here, four of the most discussed second-cycle codes revealed as institutional arbitrage mechanisms (Perkmann et al., 2022): a) “Raising public awareness and providing legitimacy” relates to “Differences ins legitimacy judgements”; b) “Exchanging

organizational/technical practices" relates to "Differences in organizational practices"; c) "Validating resources and capabilities" relates to "Differences in resource valuation" and d) "Transferring attitude" relates to "Differences in purpose". For example, we aggregated the first-cycle codes "Learning from swift processes and new tech" and "Learning from established processes and organizations" into the second-cycle code "Exchanging organizational/technical practices". As an additional example, we bundled "Ventures gaining credibility" and "Incumbents demonstrating innovativeness" in "Raising public awareness and providing legitimacy".

3.4.2 Making Sense of the Data and Sequencing of Aggregate Dimensions

As a next step, we interpreted second cycle codes, regarding the creation of benefits from a process perspective and clustered them into three aggregate dimensions (Langley, 1999; Miles et al., 2014): "Laying the foundation for acceleration", "Managing limitations/contingencies", and "Creating benefits via institutional arbitrage". This allowed us to sequence the data and generate an overarching process framework for value creation and institutional arbitrage: 1) CAs lay the foundation for acceleration, which 2) implies some limitations, that need to managed to 3) realize a valuable outcome for new ventures and incumbents via institutional arbitrage. During the analysis, and reflecting on the interviews, we realized that the three aggregate dimensions of this framework were a sequence, which is why we structured them along the x-axis of variation model (in Figure 9). These dimensions provided an overarching structure and helped understand the core elements for how CAs create and manage benefits for both new ventures and incumbents in institutionally complex settings (Perkmann et al., 2019). Along the analysis, we identified variations in the valuable outcome, which are represented by institutional arbitrage mechanisms, which is why we adapted the label from Figure 8 "Creating benefits via institutional arbitrage" to "Variations on Institutional Arbitrage" in Figure 9.

Figure 8. Four Aggregate Dimensions for Benefit Creation in CAs after First and Second-cycle Code



3.4.3 Cross-case Analysis

As a next step, we sought to clarify to which extent different CAs, or CA control options, might impact their value creation for ventures and incumbents (Eisenhardt & Graebner, 2007). We therefore mapped our codes to distinct CA control options, finding similarities and differences across CAs (Eisenhardt, 1989a; Ott & Eisenhardt, 2020). In doing so, we verified looming patterns from our codes, comparing them with secondary data and extant literature, developing a valid theoretical model (Eisenhardt & Graebner, 2007; Langley & Abdallah, 2011; Mittermaier, Patzelt, et al., 2021). During this process, we realized that certain aspects of the value creation process were particularly valid for specific organizational control options. Thus, we laid out the for CAs archetypical control options regarding goal orientation ("Goal specificity via pilot projects" versus "Individually adaptable goals in exploratory programs") and governance control ("Governance control by internally managed CA" versus "Governance outsourcing by externally managed CA") along the y-axis of our framework and allocated particular codes to the lines of these very control options.

3.5 Navigating Institutional Complexity and Enacting Institutional Arbitrage

3.5.1 Corporate Accelerators Inducing Institutional Complexity

The encounter of different logics from new ventures and established firms, through their differences and complementarities in their basis of *strategy*, *norms*, *attention*, *legitimacy* and *organizational practices*, showed various opportunities for institutional arbitrage during our interviews. During our interviews, we found evidence for opportunities for new ventures and incumbents through differing institutional logics across the five bases introduced in this study.

For example, one corporate manager refers to the corporation's strategic focus on market positioning against competitors and how he aims to have access to innovation from new ventures

by engaging in the CA program, as he admits “we are somewhat a hardware company […] and now in this overall changing [market], we cannot do everything ourselves” (IV-C2). Conversely, one founder emphasized that the CA program “helps you to grow and learn and to get the right strategy on your venture” (I-F1), which illustrates the strategic benefit that new ventures might expect from participating in CA programs.

In line with prevailing theory (c.f. Table 8), our interviews revealed the differences in the basis of norms between new ventures and incumbents. In particular, established firms were characterized as “being professional and slow, but sticking to the rules” (II-C1), while new ventures were presented as potentially complementing incumbents by being “agile and fast we would solve certain aspects of these problems” (III-F3).

The discrepancy in basis of attention between established firms and new ventures was emphasized by one of the CA managers. In particular, he highlights the differing resource availabilities, as “corporates often have a lot of money and budget, that needs to be allocated a year in advance […] and on the other side, in startups you need to move fast, you have a burn rate and limited funding […] and decision ways are super short” (IV-A5).

With regards to legitimacy effects, our interviews supported some already prevailing opinions, as for example one CA manager appraised the incumbent to be “definitely a household name, it’s top four [in its industry sector] in the world and being associated to [the corporation] is not a bad thing, especially if you’re from that kind of industry and you want to sell to [the corporation] or one of their customers” (I-A3). In return, new ventures are valued for their innovativeness and for “really focusing on the most innovative and important topics” (V-A3).

Lastly and most importantly, our interviews highlighted how different organizational practices collide in CA programs, resulting in frictions and often valued outcomes along the program. In particular, operational processes were emphasized by our interviewees, as for example

one CA manager describes the fixed structures that also affected the operations of the CA itself: "What is always the pain point in working with a big corporation are the processes you have. Even [being the CA unit], even with our fast tracks, and with us being a subsidiary business unit […]. You have the processes […] where you need to take into consideration e.g. 'Is the start-up working with AWS? Is the data protection there?'" (II-A1). On the other hand, when entering a CA program, new ventures often lack established processes, while having an unconventional way of working. It is for the synthesis of these differing practices that a CA provides a field for institutional arbitrage, as new ventures might enter the program as "very small startup [which became] more precise and professional [throughout the program, but could also show] how fast we can change things and how well we work and develop things together" (V-F2).

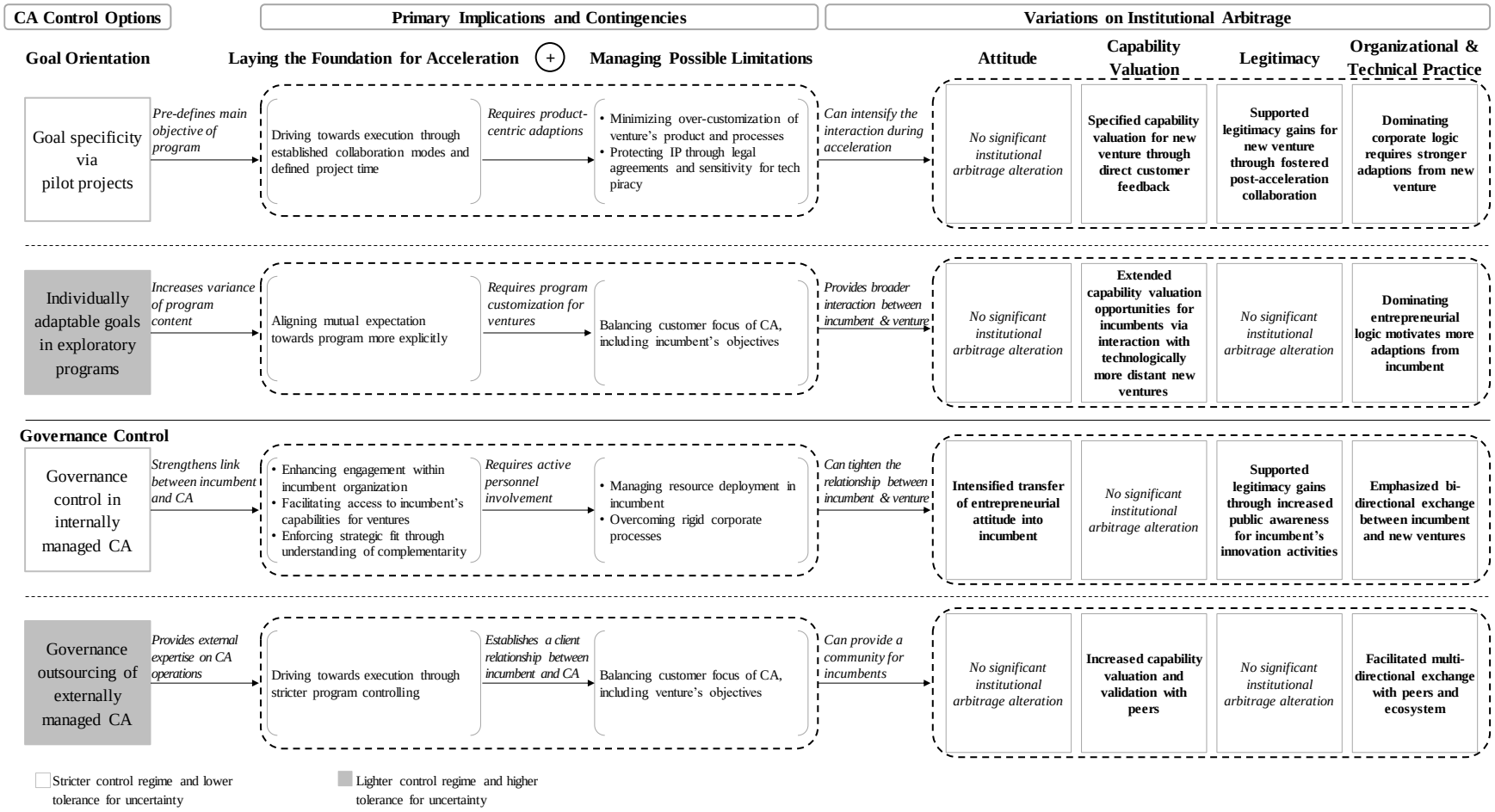
As illustrated in the quotes of this paragraph, we found some evidence for institutional complexity and opportunity for institutional arbitrage in our interviews for all investigated CAs. However, our analysis indicated some differences in how certain setups of goal specificity and governance control enact institutional arbitrage mechanisms. This might result in variances of valuable outcomes, which we examine in the next sections.

3.5.2 Enacting Institutional Arbitrage

The analysis suggests that the institutional arbitrage mechanism of "Exchanging organizational/technical practices" between incumbents and new ventures might be predominant across all control modes. However, it contains variations in the balance of corporate and entrepreneurial logics and the scope of institutional arbitrage. Especially, organizational and technical practice exchange differs regarding varying dominating logics (balance) or varying emphasis on the directions of organizational exchange (scope). Arbitrage mechanisms such as capability validation, legitimacy, and attitude, appeared to be of varying importance and intensity across control modes. With regards to goal orientation, the variation model suggests, that in pilot

project driven CAs, the corporate logic is dominating, which requires more organizational and technical adaptions from the new venture's side. On the other hand, organizational exchange in exploratory CAs adhere more to an entrepreneurial logic, which stronger motivates organizational and technical adaptions from the incumbents. In terms of governance, we see a tighter bi-directional exchange between new ventures and incumbents at in-house CAs, whereas externally managed CAs stronger involve the broader ecosystem, leading to multiple directions of exchange. In the following sections we further elaborate on how the four distinct control options (i.e., pilot projects vs. exploratory and in-house vs. externally managed) might affect creation of benefits via institutional arbitrage in CAs. Figure 9 illustrates the resulting variation model.

Figure 9. Variation Model for Institutional Arbitrage Alteration in CAs



Note: Alterations theorized based on generic model/average CA described in research context

3.5.3 Goal Orientation Variations Modify Dominating Logics for Organizational Exchange

Across the five cases, we could differ between four pilot project driven CAs and one exploratory CA with individually adaptable goals. Our analysis suggests that CAs that follow specific collaboration goals via pilot projects might provide selective, but intense interaction opportunities between incumbents and new ventures, following a dominant corporate logic. Conversely, exploratory CAs seem to provide more expansive opportunities for organizational and technical practice exchange, while conceding dominance to an entrepreneurial logic. We synthesize that for CAs the willingness to bear uncertainty reflected in their goal orientation might result in varying dominant logics along the institutional arbitrage process and variations of intensity in individual institutional arbitrage mechanisms.

Goal Specificity via Pilot Projects for Dominating Corporate Logic. The pilot project driven CAs in our study have in common, that the main objective of the program – that is initiating a pilot project between incumbent and venture – seems predefined, and should ideally continue in a formalized collaboration post-acceleration. We observed that these CAs seek to pre-establish collaboration modes to ensure a successful pilot project implementation, as one CA manager highlights “Here is really a guarantee, that they can work together with that corporate and that all the frameworks are given. So they don't have to fight over contracts for months and months before they start collaborating” (V-A2). This creates a drive to execution and an accountability within the CA programs, which one corporate manager emphasized “that's why we really love the fixed dates of the start and the end of the program that really helps to straighten our internal process” (IV-C2). These pre-established frameworks are also appreciated by new ventures that primarily seek to engage in a post-acceleration collaboration, as one founder pointed out that “they also facilitated setting up the project, so things like data processing agreement. They have a simplified purchasing path where they help get through the purchasing, formalities, etc.” (II-F2).

Even though the involved parties might benefit from established collaboration modes and fixed deadlines, these foundations do not come without limitations for the program, and need to be managed. The joint collaboration on a project requires, mostly on the venture side, adaptions of products and processes, as we learned from one CA manager that they "end up with startups that are developing integrations into all of the different types of [corporate] solutions that are out there" (III-A2). That is why this option might require sensitivity to minimize over-customization of products and processes, whereof both new ventures and incumbents are aware. For example, one corporate manager reported "if they only have a solution which fits exactly to us and we are not performing well enough, the startup will lose its business. Because they need more than one customer like us" (V-C1). In this context, one of the interviewed founders reported regrets as "we did some technical development that we wouldn't have done otherwise. Frankly, in retrospect, it was a direction we ended up not pursuing. I think the learning there would be doing less customization for what specific clients want." (III-F2)

The joint work on specific products during pilot projects also involves the disclosure of intellectual property (IP) of incumbents and new ventures, which is why the involved parties might need to be more sensitive to tech piracy. Our interviewees revealed the increased need for IP protection through legal agreements. For example, one of the CA managers suggested caution during the pilot phase for both involved parties "you're not going to disclose all the results of your pilot project things, you just disclose what you feel that are interesting trends. The rest, we can conduct in a more confidential way, of course" (IV-A3). The risk of knowledge misappropriation during the collaboration became evident in one of the interviews, when a corporate manager admitted that they used the learnings of the collaboration for their own purpose and then "decided not to work together with the startup anymore, because we need our own specific adapted solution. So we learned how to do it. So we partly developed our own solution" (V-C1). In return, one of

the founders argues, that CAs with pilot projects "will only work if they see it as a collaboration with a startup and not something to kind of steal IP from" (V-F1). The quotes illustrated above highlight the hazard and importance of mitigating IP misappropriation and tech piracy in pilot project-driven CAs.

Based on the collected data, we interpret, that the discussed circumstances in pilot project driven CAs can intensify the interaction between incumbents and new ventures during the acceleration process. As a result, the stricter output orientation might foster formalized partnerships and collaboration post-accelerations. One CA manager, for example, sees "the reason why they should join [our CA] is only to win [the corporation] as a client – that can be the only reason" (II-A2). This primary ambition was confirmed by one corporate managers who engaged in a pilot-project driven CA program:

> Usually we hope to work together for a longer time with the start-up. […] Maybe the startup can be a supplier for us or a technology deliverer. […] So we really hope to implement a new technology, idea, or product in our company that came out of a good POC (V-C2)

One founder added to this interpretation by stating, that "you would either build a joint offering for any customers or you would get a customer. That's all that matters for startups" (V-F1). By finding one or several new clients through pilot project driven CAs, new ventures might be able to build an increased credibility and *legitimize* themselves in front of other additional customers.

The stricter output orientation of pilot projects might also provide the ventures with more specific and targeted feedback, which can increase the opportunity for a succinct *capability valuation* by receiving direct customer-feedback (see Figure 7 and 9). One of the CA managers highlighted the outcome orientation as benefit for specific feedback:

> They get really early feedback. So usually, when they have a problem, they have the actual prototype in place, but they can get really fast feedback from potential or your future customers, sometimes the first ones, and validate their product or service (V-A2)

From the incumbent's perspective, we learned that – given their outcome orientation – they encourage the new ventures to be specific on their value proposition, as "for them it is really important to make clear what is the problem that they are facing and really state what is the value for a potential customer" (III-C1). New ventures share this perspective, as one founder pointed out that they "learned how to talk to corporate guys and how to sell a solution to them. This is very important in a startup where the product might not be finished when you talk to them" (II-F1).

We suggest that the intensified interaction in pilot projects might also be reflected in an enforced organizational and technical practice exchange between incumbents and new ventures during the acceleration. Certainly in both exploratory and pilot project driven CAs, new ventures receive coaching and best-practices regarding stable professional processes and the large firms start learning e.g., about agile working modes. However, in this setting we see a corporate dominance for organizational and technical practice exchange, as the venture is required to adapt and integrate into the incumbent's processes. In particular, the aforementioned drive to execution requires a stronger adaptability from the new venture, as unveiled with the potential issues of over-customization and IP misappropriation. Combined with the dedicated feedback from the corporates, this might lead to a *dominant corporate logic*. A dominating corporate logic in pilot project driven CAs, in particular regarding *organizational and technical practices*, was explained by statements from both incumbent and new venture representatives. For example, one corporate manager described the integration process during a project roll-out:

> When we come to the rollout, everything has to fit like into our IT, for example. You need everything automatically, you need to adapt your API's, you need to adapt to the sprints, to the releases and everything. […] In a POC everything can look as shabby as possible, as long as it is working, but when you go to the rollout, the color, titles, fonts etc. have to be perfect." (II-C1)

The need to adapt to the established firm, in particular with regards to planning elements, has been acknowledged by participating ventures. One founder stated:

> Therefore, we grew on the negotiation and whole project planning parts, together with corporates. We thought 'Okay, we can't just make it and hope it works; we need to be structured: during the first month, we need to do this; these are the tasks for the second one, etc. (V-F2)

All in all, by analyzing and summarizing the statements from interviewees that were related to pilot project-driven CA programs, we interpreted that goal specificity through pilot projects might result in a dominating corporate logic for organizational and technical practices, as well as in an intensification of capability valuation opportunities and increased legitimacy gains for new ventures.

Exploratory Programs for Dominating Entrepreneurial Logic. As opposed to the four pilot project-driven CAs, one of the programs in our sample followed an exploratory approach. Given there is no pre-defined outcome, goals can be individually established, which might increase the variance of exploratory programs, as one CA manager states "the best feedback we could get is if a startup goes out saying that we had 10 different programs. Each startup got a different program according to their needs" (I-A2). As opposed to pilot project-driven programs, where the mutual assumption of running a pilot project can result in miscommunication between new venture and incumbent, exploratory programs might tend to more explicitly align on their common objectives. Statements that we recurrently heard from some pilot project-driven CAs like "it was a pity that there was no direct budget and you couldn't start working on a real problem or project right away" (III-F2), were not identified for the exploratory program. We interpret that the absence of the implicit goal – that is running a pilot project – seems to result in an explicit expectation alignment between incumbent and new venture at the program start, as reported in our sample. For example, one corporate manager highlights the individual adaptions in the program:

> We want to really tailor the experience to the specific needs of the individual startup so, as you know, we have 10 startups per batch so a relatively small number. And one of the reasons is so we can actually make that a very unique experience for the individual company." (I-C1)

The aforementioned impression was confirmed by one founder who reported that "you will be asked to set your agenda: What are the goals? What do you want from the program? And then at the end you will of course review what has been achieved. So that was just awesome" (I-F1).

Individual alignments for the exploratory CA in our sample require the customizations of the program to fulfill the individual agreements, mostly according to the new venture's needs. Consequently, the CA might have a strong customer focus towards the participating ventures. One CA manager described their venture-oriented objectives:

> What we do inherently in our role is help the startups advance. Our number one focus are startups. We are working for [the corporation] but in our role we are working for the startups, so they are number one customer and [the corporation] number two customer. (I-A3)

In this case, the incumbent hopes to benefit in the long term from advancements in the ecosystem through their open innovation approach, as one CA manager pointed out "our goal is to make the startup successful that's our goal. Independently of if it has a direct impact to [the corporation] because we believe in this flywheel, in this ecosystem and this open innovation approach" (I-A4). It, thus, might remain important to take the incumbent's objectives into consideration and keep the balance between new venture's and incumbent's goals.

Based on the individually defined and varying points of interaction between new ventures and incumbents in exploratory CAs, multiple different employees across functions and hierarchies are able to be involved in the CA. Also, as an immediate outcome is not necessarily expected, as opposed to with pilot projects, exploratory programs are able to take ventures with more distant technologies from the incumbent's core business. One CA manager reports that otherwise "we would lose teams that do not fit in" (I-A2). These aspects might broaden the *capability valuation* opportunities for the incumbent, which is supported by another CA manager, who stated that "it's clear we get a broad view and a very clear understanding of the momentum in detailed parts of huge topics like in quantum" (I-A4). One corporate manager emphasized the previous statements

by expressing “the point is really broadening the view of what's happening in the ecosystem” (I-C1).

The broadened interaction opportunities in exploratory programs might not only happen between ventures and incumbents, but might also facilitate dialogue across departments within the established firm, fostering peer-exchange. For example, one CA manager estimates that “it's also an opportunity for those colleagues to look beyond their scope. Not just see the startup but also see what's going on within [the corporation] within other locations or neighbor departments” (I-A1). This was also observed by one of the participating founders, who claimed that “we also accelerate the cross-connection. […]. And all the people at [the corporation], they don’t know each other, for example, and due to the [CA] program they have a touch point where they get to know each other” (I-F2).

The previously discussed quotes indicate that due to the larger variety within the program in terms of technologies, as well as involved functions and hierarchies, new ventures and incumbents might be able to learn more flexibly and wide-ranging from each other’s organizations. This might provide space for entrepreneurial practices to unfold along the CA program and within the incumbent’s organization. Several informants support this observation. For instance, one CA manager describes the various functions that might be involved “either from business units, either from technology groups, either independent contributors to a certain technology. And they're really like well-connected within [the corporation] so they can pull in other people” (I-A3). One corporate manager states that “if I need an expert, for example on supply chain, there's thousands of people that I can pick, I just need to find the right person” (I-C1). This abundance does not remain unnoticed from participating ventures, as one founder mentioned “there are unlimited opportunities and there is lot of feedback from all kinds of technical people but also managing people, startup founders, whatsoever” (I-F2). Based on the interview insights, in particular due to the new venture

centricity and flexibility in program design, we interpret that exploratory CA programs provide sufficient space for an *entrepreneurial logic* to unfold and dominate the institutional arbitrage mechanisms. This might particularly reflect on the adoption of *organizational and technical practices*: by strongly focusing on the new ventures in exploratory programs, incumbents might be more flexible to adopt organizational practices from the participating ventures, instead of imposing their own habits, as commonly observed in pilot project driven programs. Additionally, the interaction with technologically more distant new ventures might extend capability valuation opportunities for new ventures.

3.5.4 Governance Control Variations Modify Direction of Organizational Exchange

In this sample, there are three internally run CA programs. The fourth CA is jointly run by an established firm and a service provider, and the fifth is a consortium CA run by a service provider. Based on the collected data, we suggest that internally managed CA programs might provide a stronger connection between incumbents and ventures, which emphasizes a bi-directional exchange, and can lead to lasting organizational exchange and institutional arbitrage. In contrast, externally run CAs might provide external expertise and an innovation community for incumbents beyond the CA program. It might therefore facilitate multi-directional exchanges and institutional arbitrage, involving the broader ecosystem. We therefore synthesize that in the CA context, willingness to bear uncertainty reflected in governance control might affect the direction of exchange within the institutional arbitrage process.

Governance Control in Internally Managed CAs for Bi-Directional Exchange. Across in-house CAs, interviewees reported a strong connection between the incumbent and the CA, which in turn might have enhanced the engagement within the incumbent organization towards the program. This is supported, e.g., by directly involving the top or senior management, promoting the program within the organization or defining a minimum involvement load for certain actors.

Additionally, the incumbent's engagement might facilitate the venture's access to their capabilities and resources, such as personal expertise, organizational procedures or data, as perceived by one of the founders:

> There's definitely a big advantage within the organization because the team is perceived as internal and they can operate as internal people. This gives them a lot of leeway in terms of who they can interact with, how they can bring us into meetings, and the types of meetings we get. It's much less an arm's length relationship; we get into warm conversations if you like. That's in contrast to other programs, e.g. third-party programs where the corporate is buying a service of a participating startup in some accelerator. (II-F2)

One CA manager also highlighted the reduced barriers within an in-house managed program, as "the good thing about our acceleration program is that, as soon as the startups start, they can register in our global procurement system. They are then immediately registered as a supplier" (II-A2). The internal nature of in-house managed programs does not only reduce barriers for new ventures into the organization, but also facilitates the disclosure of, at times sensitive data from the established firm towards participating ventures. For example, one corporate manager reveals that "we transfer data, so 500 semi-real world data, which they wouldn't have access to" (IV-C3).

The strengthened link between incumbent and CAs, the strong engagement within the established firm, as well as the access to its internal capabilities might help with a strategic fit between new venture and incumbent (Shankar & Shepherd, 2019). Previous research shows that complementarity between ventures and incumbents is beneficial for incumbent-venture collaboration (Dushnitsky & Lenox, 2005b, 2005a). Both claims find support in this study, e.g., from event observations at Co-creator (IV), where at a demo day, one of the corporate managers emphasized the importance of a strategic match and technological complementarity between the ventures and incumbents. The high relevance of identifying strategically matching ventures in internal CA programs is also supported by one CA manager:

> We also need to understand the problems of their daily business, daily doing, and strategy. And going from this point of view, finding what the need of the business is and finding the

> right start-ups. […] For the internal process, we are closer with both of them, because we know the company. (II-A1)

Another CA manager further underlines the importance of complementarity between the involved parties by mentioning that "it really should be complementary. That's always the biggest issue for us to find out if there is really no overlap and if the startup is complimentary" (III-A1).

Nevertheless, the foundations that are laid for acceleration through internally managed CAs are not without efforts. The engagement within the incumbents and access to internal capabilities require active personnel involvement of the established firm, as the employees need to "make sure that there is time to do that" (I-C1). Besides, this interaction exposes the ventures to the incumbent's – at times rigid – processes. Sometimes "corporates are just too slow" (V-F1), which needs to be handled, particularly within internal CAs. One of our interviewees revealed the accompanying issues:

> The pain point in working with a big corporation are the processes you have. Even with our fast tracks, and with us being a subsidiary business unit, we are paid from [the corporation]. So this is the plus, but you have the processes. Maybe as a non-corporate accelerator, you don't have all those" (II-A1)

Another CA manager goes even further by stating that "if we were to run this program independent of a corporate – and I think that's same for every corporate – you could do it the way you wanted process wise and therefore achieve a result that's probably greater or/and higher quality" (I-A3). Not only CA managers and founders showed awareness for these challenges. One corporate manager admitted that "a lot of times there are a lot of legal things, data access issues, because we are different companies. That really caused a lot of bureaucracies in the whole process" (IV-C3). Both the larger personnel involvement as well as the rigidity of company internal processes might be limitations that need to be managed more in in-house run CA programs compared to external CAs. If addressed appropriately, we posit that the limitations can be turned into advantages for both involved parties.

The incumbent's dedication to the CA program can also tighten the relationship between the established firm and the new ventures. This openness might be an enabler to transfer entrepreneurial attitude and culture into the incumbent's organization. One CA manager reported that it is "great to see how excited the core teams get to be able to work with such a culture where things are fast, decisions are taken fast" (IV-A5). The perception of a corporate manager describes how the *entrepreneurial attitude* might spill over into the incumbent's organization:

> They are more work-around based; they don't face problems the way we do. Because if we are facing a problem, we are maybe bounded, are thinking in years […] This is not the way a start-up is thinking. When they see a problem, they try to solve the problem as soon as possible and they are not bound to these rules. (II-C1)

The participating new ventures showed themselves aware of their role for the incumbents, based on the statement of one founder who mentioned that it is "beneficial for them how agile and fast we would solve certain aspects to these problem" (III-F3). Both quotes illustrate the opportunity for transferring *entrepreneurial attitude* from participating ventures into the incumbent.

The closer connection between the incumbent and the CA might not only affect the interaction with new ventures but also be reflected on the public awareness for the established firm. Through the direct identification of the firm with the CA, established firms might be able to publicly demonstrate innovativeness and gain stronger *legitimacy* as a modern company. One of the CA managers sees the motivation for incumbents to engage in CA programs "to show that [the corporation] is innovative, right? That we have innovative solutions, that we can offer the clients broad and the newest solutions" (III-A1). The statement of another CA manager underlines the focus on the external effect of in-house run programs:

> The visibility, the change in image that it might have on the corporate because they get to be perceived as an innovative company that works with startups, which is great for many things from recruiting to retention to also, your own products and clients. (IV-A5)

The high importance of *legitimacy* as an innovative company and branding of the incumbent at the in-house run program also caught the attention of one of the founders, who "understood it's about the perception of the public mind of [the corporation]" (I-F1).

Based on the collected information, we theorize that the stronger link between incumbent and CA, that might come along with a tightened relationship with the new ventures, may deepen and sustain the *bi-directional organizational and technical exchange* between the involved parties, i.e. the incumbent and participating ventures. One corporate manager emphasizes the benefit of the stronger engagement within the corporation and comparably deep relationship between incumbent and new ventures: "For our company it is great…for the team it is great to understand how startup actually works, and also to get new ideas about how things can work" (IV-C1). One CA manager even goes further and sees the deepened relationship and engagement as opportunity "to drive a huge transformation, with a huge opportunity ahead so it's critical to take the employees with us in this journey and [the CA] can help with that dream" (I-A4). From a new venture perspective, the in-house setup provides a facilitated access to the organization and exchange opportunities:

> Insights into the products, into the go to market strategy, how we approach certain customers, for example, but then they provide also guidance in terms of product development, especially from a technical perspective, which integration strategy we should choose to integrate into the [the corporation] products. (III-F3)

The increased incumbent control by running an in-house CA, might increase the engagement within the corporation and knowledge sharing attitude. It therefore facilitates the access to the incumbent's organization for new ventures, which can strengthen the bond between the involved parties. This might foster a *bi-directional organizational and technical practice exchange* sustain a longer lasting *institutional arbitrage* effect between incumbent and ventures. Besides, this might intensify the transfer of *entrepreneurial attitude* into the incumbent's organization and support its legitimacy gains through an increased public awareness for the incumbent's innovation activities.

Governance Outsourcing of Externally Managed CAs for Multi-Directional Exchange. In contrast to in-house CAs, externally managed programs allow for less corporate control and might not create as tight links between incumbents and ventures. Still, the consensus among our informants on external CA service providers was that they, in turn, help with external expertise and provide additional contacts from established firms or the entrepreneurial ecosystem. This might add an extra perspective for the involved parties, and facilitate an *organizational exchange* with the broader ecosystem. Through the external expertise on CA operations, service providers seek to ensure stable processes and track the progress. Our interviews provided multiple evidence for external proficiency, like for example one CA manager explained: "That's also an element where it's beneficial to have an external party present and we bring everyone into accountability right because we have this framework of the program with the different milestones that we set" (IV-A5). Additionally, an external service provider might be an intermediary between the incumbent and new venture by "supporting the collaboration aspect here that also involves teaching the corporates on how to deal with the startups. And also teaching the startups on how to work with corporates. For the workshops, we see it's more beneficial to have neutral people" (V-A1). One corporate manager pointed out the support that the organization received from the external CA management: "I wanted to benefit from the processes of [the CA] and the processes that they put out there helped our internal alignment very much, meaning no endless discussion on legal contracts" (IV-C2).

Externally managed CAs might also follow a stricter CA controlling as they are kept accountable for the program success by their primary customers, the established firms. The client relationship between incumbent and CA might also result in an unbalanced, incumbent-centric support focus, as one CA manager admits that "for [the CA], the idea is really helping the customer, which is our corporate. Because he's the paying side. […] With these corporates being our partners, there is a dependency, of course, on the corporates which is sometimes challenging" (V-A1). This

opinion was also supported by a CA manager of another external program, who stated that “we're working with the corporate partners because they are, of course, the paying partners in the platform, so we really want to deliver the individualized services to our corporate partners” (IV-A4). This imbalance does not remain unnoticed from the new venture side, as for example one founder criticized:

> The problem is that, for [the CA], it's just easy to get money from [the corporation] on toy and pet projects and find [..] startups to do it. […] They make it very tough for startups to get in there and then make it very easy for corporates. Because a corporate just needs to pay money. And that's the biggest flaw. (V-F1)

The aforementioned statements suggest an imbalance in terms of customer focus for externally managed CAs, which might need some effort for calibration. The CA managers acknowledged the client relationship and the accompanying challenges, which need to be addressed in external CA programs.

To mitigate the aforementioned potential disparity, we suggest to also include the new ventures’ objectives, and to create a balanced mutually beneficial setup. In return, the external expertise and network brought into the program can be the basis for the incumbent to enter an innovation community consisting not only of new ventures, but also other established firms. This approach appears to be valued by the participating incumbents, as observed during the demo day of Consortium (V). We also found evidence for this in multiple interview statements. For example, one CA managers describes the broader involvement of the ecosystem: “We also do corporate round tables where one corporate meets another corporate from either the same industry or another industry. They have an exchange on startup collaboration or innovation KPIs or industry specific topics” (V-A1). This statement found additional support from a manager of another externally run CA, who explained their role in the ecosystem: “[Other corporations] want to join our platform to be part of the ecosystem in terms of events, they want to be in conversations with the startups that we invest, they want to be in conversations with all the corporate partners” (IV-A3). The role of

CAs as ecosystem builder and networking platform was recognized by corporates, as for example one manager stated: “In the [CA] network, there's [other companies] as partners for now confirmed again. That’s an open ecosystem, which we have constant exchanges with” (IV-C1). The establishment of externally managed CA programs, involving the broader ecosystem provides an opportunity for incumbents and new ventures to *validate and valuate their capabilities* not only between ventures and incumbents, but also with respective peers from the involved ecosystem.

The additional contribution for incumbents in external CA programs through the exchange with peers, might extend their focus on *learning organizational and technical practices* from new ventures towards exchanging with other established firms from similar or different industries. We theorize that the involvement of the broader ecosystem might also provide opportunities for exchange for participating ventures, and facilitate *multi-directional institutional arbitrage opportunities*.

3.6 Discussion

The objective of this essay was to identify whether and how institutional complexity can be managed by actively enacting institutional arbitrage in the context of CAs. In doing so, we addressed multiple limitations in the current understanding of institutional arbitrage, that are important to advance the theoretical field and to create opportunities for organizations that face institutional complexity: we provide a variation model of how value creation for new ventures and incumbents might be influenced with regards to institutional arbitrage mechanisms. We do this by considering differences in CAs’ willingness to bear uncertainty, which are reflected by organizational control options. Theoretical and managerial implications, as well as this study’s limitations and avenues for future research are laid out in the next sections.

3.6.1 Theoretical Implications

This essay's main contribution lies in investigating how organizations provide a space for new ventures and incumbents to engage in multiple arbitrage mechanisms, generating bi-directional benefits. In doing so, we contribute to theory on institutional complexity and institutional arbitrage (Friedland & Alford, 1991; Greenwood et al., 2011; Jay, 2013; Mair et al., 2015; Perkmann et al., 2022; Thornton & Ocasio, 1999). This empirical research extends our knowledge by integrating concepts from entrepreneurship theory, discussing how an incumbent's willingness to bear uncertainty (McMullen & Shepherd, 2006; Milliken, 1987) – which is reflected in the level of control for goal orientation and governance (Ouchi, 1977; Ouchi & Maguire, 1975) – might help managing institutional complexity and arbitrage (Perkmann et al., 2022). We investigate these issues in the context of CAs, building on existing work regarding accelerators (Cohen, Bingham, et al., 2019; Cohen, Fehder, et al., 2019; Hallen, Cohen, & Bingham, 2020; Moschner et al., 2019). We thereby empirically provide answers to several unanswered questions around institutional complexity and institutional arbitrage:

Prior research discusses specific tactics for institutional arbitrage, but does not address whether and how organizations might enact institutional arbitrage mechanisms. In particular, the four tactics encompass the purposeful combination of incompatible institutional logics, which then might create unilateral benefit through institutional arbitrage (Perkmann et al., 2022). However, we did not know how, in each individual context, actors might be able to actively enact the arbitrage process or alternate the beneficial outcome. Moreover, we know that organizations might vary in their willingness to bear uncertainty, and thus in their need for organizational control (McMullen & Shepherd, 2006; Milliken, 1987; Ouchi, 1977; Ouchi & Maguire, 1975). By integrating ideas from entrepreneurship theory into institutional theory, we reveal how different organizational control options might alternate institutional arbitrage mechanisms and valuable outcomes, which

is visualized in Figure 9. Our model suggests that the willingness to bear uncertainty might result in variations on institutional arbitrage with regards to a) the depth of individual institutional arbitrage mechanisms, b) the balance of the colliding logics, as well as c) the scope, i.e. direction of arbitrage. More specifically we highlight organizational and technical practice exchange as possibly most important arbitrage mechanism in our model, as it is sensitive to each variation in CA control. Legitimacy arbitrage might intensify in stricter control regimes, while capability valuation is particularly sensitive to the CA's goal orientation. We find a stronger support for attitude arbitrage from ventures to incumbents in in-house CAs.

In particular, our model suggests that in an institutional arbitrage process, a high level of goal specificity in pilot-project driven CAs supports a corporate dominant logic in terms of organizational and technical practice exchange, which might require more adaptions from the new venture side. In return, it enhances capability valuation and legitimacy arbitrage for the new venture, as it receives more directed customer feedback and can use the potential post-acceleration collaboration with the incumbent to attract additional customers and partners. On the other hand, a lower level of control in exploratory programs supports an entrepreneurial logic, which might be a motivator for the incumbent's organization to adopt entrepreneurial practices. Moreover, this control configuration broadens the capability valuation opportunities for incumbents, due to the possibility of interacting with technologically more distant ventures, and as the incumbent's organization can be more broadly involved.

With regards to governance control, we find evidence that in-house CAs enhance a bi-directional exchange and arbitrage between new venture and incumbent. Moreover, a tightened relationship between incumbent and new venture might enhance the transfer of an entrepreneurial attitude into the incumbent organization. The direct connection of the incumbent to the CA might increase the public awareness for the incumbent's engagement, which may, in turn, support the

incumbent's legitimacy as an innovative company. In return, externally run CAs involve the broader ecosystem, providing opportunities for multi-directional organizational and technical practice exchange. Additionally, this might also provide increased opportunities for capability valuation and validation with peers from the involved network.

While extant literature revealed distinct contexts for different institutional arbitrage mechanisms, which favor mainly one organizational side (Greenwood et al., 2011; Perkmann et al., 2019, 2022; Smets et al., 2015), we inductively identified that CAs may unify all four mechanisms in one context, where valuable outcomes can be bi-directionally created between new ventures and incumbents. Even though the first, and to-date only publication on institutional arbitrage touches upon the possibility of combining multiple arbitrage mechanisms, it explicitly introduces four specific cases which contain one arbitrage mechanism respectively (Perkmann et al., 2022). Additionally, the individual arbitrage mechanism is unidirectional, providing benefits for only one of the involved parties. For example, the case of firms that establish not-for-profit subsidiaries provides legitimacy gains only for the incumbent and does not address any institutional arbitrage for the subsidiary's benefit (Pache & Santos, 2013b; Perkmann et al., 2022). Our model, illustrated in Figure 9, provides a novel perspective on how dyadic tensions in hybrid organizations might be turned into mutual benefit through institutional arbitrage between new ventures and incumbents (Battilana & Dorado, 2010; Greenwood et al., 2011; Smets et al., 2015). It includes both involved parties as beneficiaries of institutional arbitrage and reveals that there might be organizational contexts that contain multiple different opportunities for institutional arbitrage.

Additionally, by presenting CAs as an interesting and relevant context to test and extend existing management theory, this essay adds to CA literature, which has been mainly descriptive and needs more theoretical contribution (Leubner & Vedula, 2022). So far, publications on CAs have been mainly introductory and phenomenon-based, describing and classifying different

functions and structures of these programs (Kanbach & Stubner, 2016; Kohler, 2016; Moschner et al., 2019; Weiblen & Chesbrough, 2015). With this study, we build on, and extend initial inductive and theory building research on the operation and design of CA programs (Shankar & Shepherd, 2019). We build theory on organizational control and creation of benefits in CA programs. In doing so, we also include Cohen's call for investigating and nuancing accelerator benefit, by including the incumbent's perspective (Cohen, Fehder, et al., 2019; Hallen et al., 2020; Kohler, 2016; Moschner et al., 2019). This can be a point of departure for understanding the success of different accelerator programs (Cohen, Fehder, et al., 2019; Hallen et al., 2020). Still, our findings might not be limited to the CA context but provide transferable insights for other types of hybrid organizations with unbalanced power distributions, such as e.g., public-private partnerships or innovation and research alliances.

3.6.2 Managerial Implications and Strategic Propositions for New Ventures and Incumbents

This study provides a practitioner-oriented guideline for corporate and CA managers, venture founders, and policy makers, as it explains how their willingness to bear uncertainty, i.e. control options of CA programs might affect the creation of valuable outcomes for the involved parties. Therefore, this study provides guidance for those actors that are considering, sustaining, starting or entering a CA. First, it helps CA managers understand the process of how to create and shape mutual benefits, including laying the foundation for the acceleration process, managing possible limitations, and interpreting alterations. This can serve as reference, when adjustments are needed throughout the program. Second, for corporate managers who are planning to establish a CA program, this essay can provide suggestions for an appropriate control mode of the program, according to the company's objectives and strategy. Third, founders of new ventures who are contemplating about entering a CA can refer to this variation model, when reflecting on which program might be the most suitable for their current development.

Overall, our research advances novel knowledge beyond the CA descriptions and typologies, and depicts how benefits can arise from collaborations in institutionally complex environments (Greenwood et al., 2011; Perkmann et al., 2022; Schildt & Perkmann, 2017). It may also be of help for other practitioners working at the intersection of institutionally different organizations, such as private-public, universities, or social-corporate interfaces, to leverage the differences and eventually protect certain institutional logics for the mutual benefit of the involved parties (Perkmann et al., 2019; Saz-Carranza & Longo, 2012).

3.6.3 Limitations and Avenues for Future Research

This study is not without limitations and suggests several avenues for future research. First, although we illustrated CAs create mutual benefits, including its potential alterations for incumbents and new ventures, specific tools for measuring these benefits remain understudied and unclear. We were able to identify some initial reflections, e.g. short term performance measurements, such as follow-up funding for startups or number of successful pilot projects in goal oriented CAs versus more strategic considerations, like reach of CA within the organization in exploratory programs. However, these remain largely unspecific. The interviews in this case study revealed that CA managers still seek for success measurement factors to appropriately evaluate the benefit of CAs for incumbents and new ventures. We suggest further studies to focus on revealing and specifying how to appropriately measure CA success.

Second, even though the data provides a comprehensive view on CAs, including different angles of investigation with multiple interviews, site visits, observations, and secondary data, it is restricted to the five CAs in scope and to a specific geography. Different environments might have different impacts on CA programs and the creation of benefits for the participating organizations. Therefore, a broader comparative study across several regions would help to shed further light into this important issue. For this purpose, researchers might build on future studies regarding success

measurement factors – and quantify the performance of CAs, both for new ventures and incumbents.

Third, this work is qualitative and limited to the management of institutional complexity through institutional arbitrage in the specific context of CAs. We therefore encourage researchers to investigate how organizations in other hybrid contexts might engage in institutional arbitrage, to be able to validate or challenge the findings of this study for general management and various contexts. We suggest management researchers to investigate additional measures for managing institutional arbitrage and turning complexity into mutual value.

3.7 Conclusion

The purpose of this study was to create an understanding of how organizations might be able to actively enact institutional arbitrage mechanisms for mutual benefit. We examined this construct in the context of CA programs and theorized how different organizational control options might affect institutional arbitrage mechanisms, creating benefits for incumbents and new ventures. Our essay builds on and extends extant literature in three main ways.

First, this essay extends the theory on institutional complexity, while shedding further light into organization theory and integrating ideas from entrepreneurship theory. It builds on and extends recent work on institutional arbitrage, by adding variation into specific arbitrage mechanisms. We see variations particularly in the balance of institutional logics, the depth of individual institutional arbitrage mechanisms, and the scope of institutional arbitrage, i.e., direction if of organizational exchange. Furthermore, this study provides a tangible application for the purposeful deployment of institutional complexity to achieve valuable outcomes.

Second, our study serves as a practitioner-oriented guide for corporate R&D or innovation managers, venture founders, and CA staff, to set up, run and sustain CAs, according to their

respective objectives, including a sensitivity to leverage the prevailing institutional complexity. Moreover, this study can also serve as reference for other practitioners working at the intersection of institutionally conflicting organizations.

Third, this study is one of the first theory-building works in the field of corporate accelerators, which might help to establish this practice-relevant phenomenon in the academic literature. In doing so, this work provides several avenues for future research, in particular by suggesting more performance oriented studies to advance the dynamic, proliferating field of corporate acceleration.

4 FAILING FAST: AN EXPLORATORY ANALYSIS OF CORPORATE ACCELERATOR PROGRAM SURVIVAL[17]

ABSTRACT

This essay explores program-related, corporate and contextual factors that could theoretically influence Corporate Accelerator (CA) program termination decisions. Despite the growing interest in CA programs for being a recent form of corporate venturing (CV), their efficacy is subject to debate, with some estimates suggesting that 60% of CAs are discontinued within two years. To understand what factors shape their longevity, the study analyses a unique hand-collected panel dataset of 181 CA programs between 2011 and 2022. We match the panel data set to corporate level data and investigate some potential key factors for CA discontinuation with a survival analysis. The study extends the current literature on CA and CV programs, adds a performance-oriented perspective, and provides initial support for practitioners to make conscious decisions on how to establish and maintain CA programs.

Keywords: Corporate Accelerators, Success Factors, Survival Analysis, Corporate Venturing

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4.1 Introduction

Corporate Accelerator (CA) programs are one of the most recent but growing forms of corporate venturing (CV) that have been adopted by incumbent firms for experimentation and access to early external innovation (Chesbrough & Tucci, 2020; Kanbach & Stubner, 2016; Kohler, 2016; Moschner et al., 2019; Weiblen & Chesbrough, 2015). As well as independent, venture capital-backed accelerators like Y Combinator (Hallen et al., 2020), CAs are usually time limited programs, where established firms support cohorts of new ventures with mentoring, education, networks, as well as company-specific resources (Cohen, Bingham, et al., 2019; Cohen, Fehder, et al., 2019; Kohler, 2016; Shankar & Shepherd, 2019). In return, incumbents expect to gain access to new markets and technologies, and adopt some of the new venture's entrepreneurial mindset (Cohen, Fehder, et al., 2019; Kohler, 2016; Weiblen & Chesbrough, 2015).

In literature, the general benefits of accelerators found some approval for new ventures, i.e., through faster and higher probability of goal achievement (Hallen et al., 2020), as well as for the ecosystems they operate in, i.e., through the fertilization of entrepreneurial activities (Hochberg, 2016; Hochberg & Fehder, 2015). In contrast, previous publications on CAs have only qualitatively and primarily descriptively discussed benefits for the sponsoring corporations (Kohler, 2016; Moschner et al., 2019; Shankar & Shepherd, 2019), without substantiating the effectiveness. The missing understanding for the corporate outcome of CAs might be one of the reasons why, despite the emergence and continuously growing interest in CA programs, their effectiveness is subject to debate in academia and practice (Saunders, 2022; Winston Smith, 2020). For example, some estimates suggest that 60% of CAs are discontinued within two years (CB Insights, 2019). However, the reasons for termination of CA programs have not been explored to-date in literature. To be able to investigate and make an informed statement on the benefits of CA programs, it might be necessary, first, to fully establish and stabilize CA programs as such. Therefore, corporations

and managers need to better understand what factors shape the longevity of CAs or what makes them fail. Previous studies draw upon three dimensions that might affect the success of CV units. First, organizational structures and practices of the CV unit itself (Hill & Birkinshaw, 2008; Moschner et al., 2019; Souitaris & Zerbinati, 2014); second, corporate level factors, such as for example available resources (Biniari et al., 2015; Garrett & Neubaum, 2013) or absorptive capacities (Cohen & Levinthal, 1990; Dushnitsky & Lenox, 2005a); third, as for other types of organizations, contextual factors might play an important role for the survival of CA programs (Amezcua et al., 2020; Esho & Verhoef, 2021; Stuart & Abetti, 1987). Nonetheless, the results from studies on other CV units might not be transferable to CA units, as they are substantially different in their organizational and operational setup, and their core objectives (Kanbach & Stubner, 2016; Shankar & Shepherd, 2019). Rather, CA programs might act as complement or substitute to other existing CV activities, such as corporate venture capital (CVC) investing, or internal corporate venturing and R&D activities (Covin et al., 2013; Hampel et al., 2020; Winston Smith, 2020). Thus, to date, it remains unclear to which extent specific factors on the three levels affect the survival of CA programs. We therefore seek to answer the following research question: *To what extent do program related, corporate and contextual factors affect the success or failure of corporate accelerators?*

In this study, we assemble a unique hand-collected panel dataset of 181 CA programs from 2011 to 2022, subsequently matched to corporate-level data. We then conduct an exploratory analysis of *program*, *corporate*, and *contextual* factors that could theoretically be expected to have an influence on CA program termination decisions. We build on prior work that has addressed the efficacy of CAs from the new venture perspective (Seitz et al., 2019) but extend the set of possible causal factors as the impacts on new ventures might not be the primary motivator for corporations to maintain or discontinue a CA. For example, such program termination decisions might be

influenced by a myriad of factors such as how CAs are structured and perceived by the parent company, by corporate-specific conditions, or even broader macro-economic circumstances.

This study makes three main contributions. First, it extends the current literature on CA and CV programs, by adding a performance oriented/survival perspective. Second, it paves the way for future research on theoretical mechanisms that explain success or failure of CV, i.e., CA units. Third, this comprehensive dataset and exploratory analysis provides initial support for practitioners to make conscious decisions on how to establish and maintain CA programs.

4.2 Theoretical and Conceptual Background

4.2.1 Corporate Accelerators and CA Specific Drivers for Survival

CAs are open innovation startup engagement vehicles, providing access for incumbent firms to explore external innovation and to develop an entrepreneurial mindset (Kohler, 2016; Mahmoud-Jouini et al., 2018; Moschner et al., 2019; Weiblen & Chesbrough, 2015). In these programs, corporations nurture new ventures with company specific resources, technology or industry specific expertise and, at times, financial support (Kurpjuweit & Wagner, 2020; Moschner et al., 2019; Shankar & Shepherd, 2019): CAs are usually referred to as fixed-term cohort-based programs, that are facilitated or funded by incumbent firms, and offer education and mentorship for startup founders and finish with a demo day, where new ventures can present their ideas and progress to the corporate partners and potential investors (Cohen, Fehder, et al., 2019; Hochberg & Fehder, 2015; Kanbach & Stubner, 2016; Kohler, 2016). Typically, CAs vary across four dimensions, namely technological strategy, operative strategy, managerial setup, and financial support structure. We discuss each of these in turn below.

First, CAs might vary in their technology strategy, i.e., the technological overlap and operational proximity between new ventures and corporations (Kanbach & Stubner, 2016). While

some CA programs are technology agnostic, most CAs have a dedicated technology or industry focus (Kohler, 2016). For example, some corporations may aim to further their competitive advantage by scouting ventures within their core domain, while others might seek to use CA programs as a way to complement or extend the firm's technologies (Kohler, 2016; Mahmoud-Jouini et al., 2018; Moschner et al., 2019; Ream & Schatsky, 2016). In terms of technological focus, one can therefore differentiate between CAs with a venture intake that technologically overlaps (or does not) with the core competency of the corporation. Prior research on CVC suggests that under certain circumstances, learning for incumbents may be limited, when investing firms and ventures have a high degree of technological overlap (Dushnitsky & Lenox, 2005a, 2005b). As opposed to CVC, with CA programs, equity investment in new ventures is not always the primary objective, but rather the learnings from the involvement in the acceleration process (Shankar & Shepherd, 2019). In particular, technological proximity could smoothen the interaction during the acceleration process so as to use the common technological grounds to focus on benefitting from organizational and cultural complements (Cohen & Levinthal, 1990; Kanbach & Stubner, 2016; Shankar & Shepherd, 2019; Weiblen & Chesbrough, 2015). To further contribute to the understanding of these effects, we explore how technological focus relates to CA survival.

Second, CAs same as other corporate venturing units, differ in their operative strategy and follow either an explorative or exploitative approach (Hill & Birkinshaw, 2008; Kanbach & Stubner, 2016; Shankar & Shepherd, 2019). While explorative programs might focus on long term effects and connections with the broader entrepreneurial ecosystem in a region, exploitative programs may aim for short-term returns, which might be supported by pilot projects to tighten the collaboration or even create supplier relationships between new ventures and incumbent firms (Kurpjuweit & Wagner, 2020; Mahmoud-Jouini et al., 2018; Moschner et al., 2019; Shankar & Shepherd, 2019). We therefore differentiate between explorative and pilot-project driven

(exploitative) CA programs. The right balance between exploration and exploitation in organizations has been identified as primary factor for an organization's survival and success (March, 1991), which makes the decision between exploratory and pilot-project driven programs particularly interesting in the context of CA survival. Although CV literature often tends to highlight exploratory motivations for the interaction of incumbent firms with new ventures, a singular focus on exploration might not lead to a successful CV unit (Hill & Birkinshaw, 2014; Titus et al., 2017). Extant CV research proposes contradictory perspectives on the relation between exploration, exploitation and commitment: While some researchers argue that a low level of commitment is indicative of exploration (Schildt et al., 2005), others suggest that high levels of exploration are linked to stronger resource commitment (Wadhwa & Basu, 2013). For CVC, the circumstances might vary under which explorative or exploitative approaches are beneficial (Phene, Tallman, & Almeida, 2012). Similarly, for CAs, the effect of different levels of exploration has not been studied, yet, which is why we seek to understand to which extent it might affect CA survival.

Third, CAs might differ in their management structure, i.e., incumbent firms can either run the CA program in-house or outsource the administration to "professional partners" such as Techstarts, LMarks, Plug and Play (Kohler, 2016; Moschner et al., 2019; Ream & Schatsky, 2016). In-house programs might be linked to a stronger personal involvement within the corporation's business units, whereas externally managed CAs might benefit from the external proficiency in how to best set up operations and venture support (Moschner et al., 2019). Certainly, management requirements largely differ between new ventures and incumbent firms and cannot be blindly transferred across, but must be adapted at the interface of both organizational types (Sykes & Block, 1989). Therefore, in CV units, incumbent firms seek the right balance between autonomy and control to foster the success and survival of these innovative units (Simon, Houghton, & Gurney,

1999). Extant research suggests that managers of internal corporate ventures (ICV), i.e., new ventures emerging within the incumbent firm, should be granted maximum autonomy for a successful development of the new businesses (Covin, Garrett, Kuratko, & Bolinger, 2021). Certainly, CA programs, being entrepreneurial units of incumbent firms, might have some commonalities with ICVs. However, as opposed to ICVs, CAs are intermediary organizations, that build bridges between the parent company and external new ventures (Kohler, 2016). We therefore assume that for CAs, their state of equilibrium between autonomy and control might be differently positioned than in ICVs, which makes this an interesting factor to explore.

Fourth, whereas most CAs can lead to equity investments at the end of the program in case of mutual agreement, some CAs might provide equity or equity-free funding to the ventures when entering the CA to financially support their operations along the program period (Moschner et al., 2019; Ream & Schatsky, 2016; Shankar & Shepherd, 2019). We therefore differentiate between programs providing financial resources during the program and programs that do not per default provide any funding. Extant research has emphasized the importance of financial resources for the survival and performance of new ventures (Åstebro & Bernhardt, 2003; Cassar, 2004; Kanze, Huang, Conley, & Higgins, 2018; Shane & Stuart, 2002). While this might be the reason why CAs provide financial support within their programs to attract new ventures (Kanbach & Stubner, 2016; Kohler, 2016; Ream & Schatsky, 2016), it remains unclear if it is a success factor or particularly important for the continuation of the CA program itself. Incumbent firms need to thoughtfully allocate innovation budgets and often tend to allocate most funding on near-term innovation projects, possibly resulting in a shortfall on financial resources for more longer-term projects such as CAs (Chesbrough & Tucci, 2020). These resource allocation preferences could pose a risk for the survival of CA programs that offer additional financial support to ventures. We therefore explore to which extent financial support during CA programs might affect their program survival.

In summary, the aforementioned four dimensions provide a large variety of configuration options and it remains particularly interesting and understudied, how they might impact the CA program success and longevity.

4.2.2 Corporate Drivers for Corporate Accelerator Survival

Now, we turn our attention to corporate firm-level drivers that might affect the discontinuation of CA programs. Besides CA specific configurations, we also expect that certain corporate-level attributes might shape the survival likelihood of CA programs. In particular, we seek to understand how CA programs relate to existing CV activities such as CVC (Winston Smith, 2020), to which extent corporate resource availability might influence the survival of CA programs (Biniari et al., 2015), how the company's absorptive capacity relates to CA continuation (Cohen & Levinthal, 1990), and whether CEO changes might be a hazard for CA activities (Weng & Lin, 2014).

Both CVCs and CAs follow similar objectives of gaining access to external innovation and experimentation, with CVCs being the established approach and CAs the relatively new, emerging phenomenon (Dushnitsky & Lenox, 2005b; Kohler, 2016; Moschner et al., 2019; Shankar & Shepherd, 2019; Wadhwa et al., 2016). To date, there is no clear answer for how CAs relate to CVCs and whether both organizational forms are mutually supportive complements or substitutes (Winston Smith, 2020): the argument for being a complement includes the possibility of expanding the deal flow for CVCs – on the other hand CAs might replace immature CVC units. In this study, we seek to find initial indications to this question, by investigating how CA survival relates to active CVC investment.

Resource availability is an essential factor for an organization's survival and success (Barney, 2001). CV units, therefore, highly rely on the resource munificence of the parent company, the main or unique sponsor of the respective programs (Biniari et al., 2015; Garrett & Neubaum, 2013; Hill & Birkinshaw, 2014; Wadhwa & Basu, 2013). To-date, both scholarly and

practitioner perspectives are unclear about how or to which extent incumbent firms should support CV activities, particularly at times of resource scarcity (Burgers et al., 2009; Titus & Anderson, 2018; Wadhwa & Basu, 2013; Yang et al., 2009). However, several theoretical perspectives indicate that at low levels of resource munificence, managers face a conflict, as they need to thoughtfully allocate their resources, while still seeking for new growth opportunities (Titus & Anderson, 2018). Prior research suggests, that CVC investments are positively correlated with a firm's available financial resources (Dushnitsky & Lenox, 2005b). As CA programs do not primarily focus on investing in new ventures, but instead, on learning along the acceleration process (Shankar & Shepherd, 2019), they might be less cost-intensive. Therefore, one could also argue that CAs might persist irrespective of the firm's financial situation at a given moment in time. In the context of CA programs, it is therefore particularly interesting, whether CAs might fall victim to financial shortages or how their survival might be influenced by resource availability.

The success and survival of a CA might also depend on the corporation's absorptive capacity – its ability to learn from the interaction with new ventures (Cohen & Levinthal, 1990). Extant research suggests, that for CVC units, the investment likelihood increases with a corporation's absorptive capacity, represented by its innovativeness (Dushnitsky & Lenox, 2005b). This is explained by the assumption for innovative companies of having the technical capabilities to transfer knowledge through the interaction with the invested ventures (Cohen & Levinthal, 1990; Dushnitsky & Lenox, 2005b). CAs and CVCs have large commonalities in terms of external innovation search (Basu et al., 2016; Kohler, 2016; Kurpjuweit & Wagner, 2020; Moschner et al., 2019; Wadhwa & Basu, 2013; Weiblen & Chesbrough, 2015), which might suggest a similar relationship between their activity status and absorptive capacities and innovation. Nevertheless, in their operationalization of knowledge absorption, both organizational forms are clearly different (Drover et al., 2017; Shankar & Shepherd, 2019). While with CVCs, the knowledge transfer

happens mainly during the scouting and acquisition of new ventures, CAs are more focused on the interaction during the acceleration process (Benson & Ziedonis, 2009; Shankar & Shepherd, 2019). Given the large commonalities and differences between CAs and CVCs, we want to explore how CA survival relates to a company's innovativeness and absorptive capacity.

In incumbent firms, newly appointed CEOs might more likely lead to strategic changes compared to long-tenured CEOs (Hambrick & Fukutomi, 1991; Miller & Shamsie, 2001; Weng & Lin, 2014). Thus, depending on a new CEO's previous experience and agenda, a CEO change might be a hazardous event for CA programs, that have been installed under a different administration (Weng & Lin, 2014). For example, if the new CEO considers CV activities as an "innovation theater" (CB Insights, 2019; Granados et al., 2021), the continuation of the CA program might be at risk. In contrast, other studies indicate that newly appointed CEOs are more inclined to experimentation, increasing the likelihood of innovative outputs, which decreases over time (Hambrick & Fukutomi, 1991; March, 1991; Miller & Shamsie, 2001; Weng & Lin, 2014). In the context of CAs, this could mean an increased CA survival probability after a CEO change. To provide a better understanding of this phenomenon, we explore how CEO changes might relate to the survival of CA programs.

4.2.3 Contextual Drivers for Corporate Accelerator Survival

Lastly, we seek to understand to which extent more general, external drivers, such as the CA's direct context might affect the survival of CA programs. Even though internal factors might be most relevant for organizational performance, as for other types of organizations, industry-related and regional effects can still have an important influence on CA program success (Esho & Verhoef, 2021; Stuart & Abetti, 1987). We therefore explore CA survival across different industries, regions, as well as time-varying effects due to variations in macro-economic conditions.

Prior research has highlighted that different industries have a significant impact on business success, particularly on variations in business-specific profitability (McGahan & Porter, 1997; Porter, 1981; Schmalensee, 1985). For CV activities, the influence of different industrial sectors has been addressed mainly in the CVC context. For example, extant research emphasized the importance of industry specific characteristics for CVC investments, suggesting an increased investment activity in industries with weak intellectual property protection and high technological opportunities (Dushnitsky & Lenox, 2005a, 2005b). Sahaym and colleagues suggest, that the use of CVC is stronger linked to R&D investments in growing and technologically changing industries (Sahaym et al., 2010). Motivated by these findings, in this exploratory study, we intend to investigate whether there are differences in terms of CA survival across industries, in which the incumbent firms operate.

Regional factors, such as public policy, culture, knowledge networks or munificence play an important role in the success and survival of organizations (Amezcua et al., 2020; Vedula et al., 2022; York et al., 2018). In particular, social networks or knowledge spillovers in geographic clusters can shape the survival of firms (Dahl & Sorenson, 2012; Gilbert, McDougall, & Audretsch, 2008). For example, firms in geographic clusters, i.e., where firms from several different industries are collocated, are supposed to have a competitive advantage due to better knowledge access through their cross-industry interaction (Tallman, Jenkins, Henry, & Pinch, 2004). For entrepreneurship and innovation, regional factors can be substantial, as for example supporting policies, social norms, and resources have a positive effect on entrepreneurial firm formation (Sunny & Shu, 2019). That is why governments around the world have implemented programs to support new ventures and foster the growth of technology-based companies (Munari & Toschi, 2015). These sparse efforts across the globe result in a geographically uneven distribution of capabilities and resources to support entrepreneurial ecosystems (Sunley, Klagge, Berndt, &

Martin, 2005). In the context of CA, we therefore want to explore whether and how regional differences across continents reflect in the failure or survival of CA programs.

Besides industry-specific and regional factors, we also aim to explore if there has been a significant variation of CA failures between 2011 and 2022. Macroeconomic factors, such as economic growth, financial and capital market conditions, as well as business population characteristics and price level changes have shown to be a strong influencing factor for business failure and have been extensively discussed in literature (Altman, 1983; Zhang, Bessler, & Leatham, 2013). Same as for incumbent firms, resource availability and macroeconomic trends, such as financial or political crises might affect entrepreneurial ecosystems (Biniari et al., 2015; Block & Sandner, 2009). In the context of CV, the macroeconomic influence remains largely understudied, which makes it an interesting topic of exploration. As a detailed investigation of individual macroeconomic factors would go beyond the scope of this exploratory work, we confine this study to observing and describing how CA establishment and closure evolved over the past ten years.

4.3 Research Design

4.3.1 Data Sample

In our analysis we explore several drivers that might influence the discontinuation of CA programs on three levels: 1) CA level, 2) corporate level and 3) contextual level, i.e. investigating industry and regional factors. We therefore constructed a database of 181 CA programs and their parent companies between 2011, the inception year of the first CA programs, and 2022. The information on parent companies go back to 2009 for the purpose of investigating time-lagged dynamics. To the best of our knowledge this dataset is novel and unique, as it provides detailed information on CA opening and closure years, their configuration, corporate financial and managerial information,

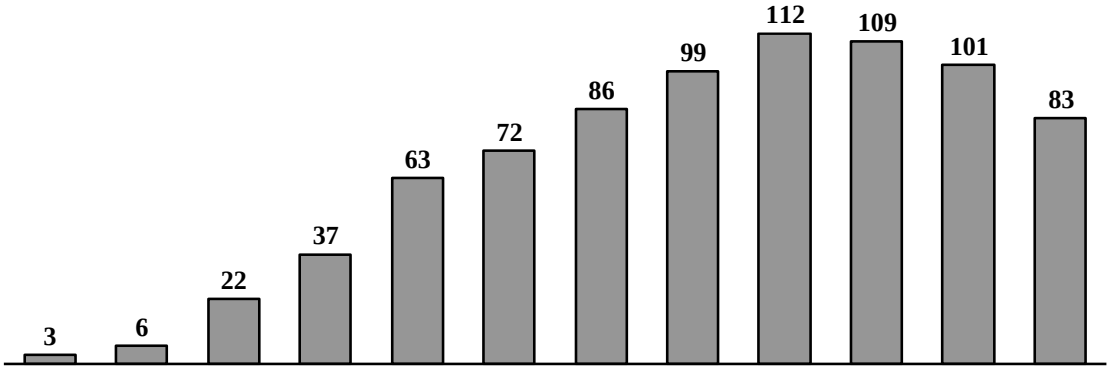
associated CVC investment and patenting activities. To explore the relation between the above-mentioned factors, we use a cox regression.

We used multiple sources to generate our dataset. The 181 CAs were identified from Crunchbase (85 entries extracted from a set of initially 2693 entries), the corporate accelerator database (Heinemann, 2016), and manually collected through web research.[18]

The information on CAs, such as start and end-year, *technological strategy* (i.e., tech-overlap with the corporation), *operative strategy* (i.e. pilot-driven or exploratory), *management structure* (externally or internally), *financial resource* provisioning (funding during CA program or not), primary location of CA, were derived from Crunchbase, online research, including archival data collected via the wayback-machine from archive.org. All information extracted from Crunchbase were verified on respective websites. In particular, for information from the past, e.g., specific inception years or for discontinued CAs, we used the wayback machine on archive.org to retrieve information. If not explicitly specified, we considered the first and last available call for applications, or retrospective report on the CA as period of activity. Figure 10 visualizes the total number of active CAs per year, as well as number of openings and discontinuations[21]. We find that out of 181 CAs opened between 2011 and 2021, 99 were discontinued by 2022.

[18] In Crunchbase, we applied three search queries: first, Investor type – includes any - "Accelerator" & description - contains any - "corporate"; second, Investor type – includes any – "Corporate Venture Capital" & description – contains any – "accelerator"; third, Companies – description – contain any – "accelerator". The initial dataset of 2693 entries was screened and non-suiting entries were eliminated, such as generic accelerator programs, new ventures that participated in accelerators, or CAs, which were run by multiple companies and therefore not directly relatable to a specific corporation. This resulted in 85 CAs. These were complemented by entries from the CA database and manual web research, completing the 181 CAs of our dataset.

Figure 10. Total Number of Active CAs per Year, Including Opening and Closings



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Opened	3	3	17	16	32	21	23	21	25	11	9	0
Closed	0	0	1	1	7	11	9	8	12	14	17	19

Total active CAs

The corporate financial data, as well CEO change information, numbers of employees, were retrieved from the Orbis database and complemented by online research, including corporate annual reports and press releases. The CVC activity was extracted from corporate and CVC investment information retrieved complementarily from Thompson VentureXpert and Crunchbase[19] for the years between 2005-2022. To estimate a company's innovativeness (Forman & Goldfarb, 2020; Toole, Jones, & Madhavan, 2021), we searched for and matched data on granted patents between 2009-2020 from the US Patents and Trademark Office (www.patentsview.org).

4.3.2 Measures

Dependent Variable. Our dependent variable is the survival time of CA programs. To operationalize this in our analyses, we therefore created a dichotomized variable for the activity of CAs (1=CA active and 0=CA inactive in a given year). Through this coding scheme, we identified the inception years and years of discontinuation, as well as their survival time. As mentioned above,

[19] Both Thomson VentureXpert and Crunchbase are well established sources in academia to retrieve information on VC investments (Cohen, Fehder, Hochberg, & Murray, 2019; Dushnitsky & Lenox, 2005b; Hallen, Cohen, & Bingham, 2020; Hu, Gu, & Xia, 2021; Kotha, Shin, & Fisher, 2022)

if not specifically indicated, we used the first and last identifiable years with calls for application as the activity period of CA programs.

Independent variables at the CA program level. On CA level, we examined four independent variables. First, we investigated the *technology strategy of CAs*. We thereby differentiated between CAs with "overlapping" technology focus and "non-overlapping" technology focus. We thereby declared CA with "overlapping" technology, if the core technology and operations of the venture intakes highly corresponded to the core technology of the parent corporation, i.e., when the ventures in the CA could be potential direct competitor of the parent company. We coded CAs with "non-overlapping", if the core technology and operations of the venture intakes were complementary to the parent company, i.e. if parent company and ventures could potentially enter a customer-supplier relationship; we alternatively declared a CA "non-overlapping" technology, if the ventures focused on clearly distinct technologies and industries from the corporate parent. We assessed this based on the information in the CA's calls for application, and information on their alumni ventures.

Second, we explored the *operative CA strategy* by differentiating between "pilot project driven" CA and "explorative" CAs. We coded for "pilot" when CAs explicitly included a pilot project or a specific project to jointly work on with the ventures during the acceleration period (either in the CA description or call for application). Otherwise, we assumed them to be "exploratory".

The third CA-specific independent variable was the *management structure*. Here, we differentiated between in-house and externally managed CAs, which we coded binary (1=externally managed and 0=In-house): "externally managed" CAs are those that were run in cooperation with or supported by an external service provider such as Techstars, L Marks or Plug

and Play. All CAs which are run without any identifiable active external service provider were considered “In-house” CAs.

The fourth independent CA-specific was the *CA funding*. Here, we differentiated between programs that financially support the ventures already during the acceleration process and those who do not specifically fund the acceleration period (Yes/No). We do not consider what happens after the acceleration period ends, but differentiate solely, based on the financial resource provisioning at the start of the acceleration period.

Independent variables at the corporate level. On corporate level, we used five independent variables to explore the four corporate drivers*: CVC activity, resource availability, absorptive capacity, CEO changes.* For continuous variables, we used relative numbers (revenue growth and EBIT margin, innovativeness) to control for company sizes. For each of these variables we created one actual time series and one series lagged by one year to account for potential time delays in corporate management decisions. For *CVC activity*, we coded binary whether a corporation or related investment vehicle actively invested in a year (1=invested; 0=not invested). Based on this information, we could explore whether CVC activities and CA activities complement or substitute each other.

For *resource availability*, we used two financial KPIs, i.e., annual (revenue) growth and EBIT margin. Hereby, annual growth was calculated by comparing the revenue difference between a year and the previous year, and using the previous year’s revenue as baseline. For EBIT margin is the relation of EBIT to revenue. Our primary data source for both KPIs was the Orbis database, which we verified and complemented or adjusted based on web research and annual reports.

For *absorptive capacity*, we used patent data to create a proxy for a company’s *innovativeness* (Dushnitsky & Lenox, 2005b; Stuart, 2000). We thereby created an innovativeness

factor for each company. This factor was represented by the ratio of patent grants per 1000 employees ($Innovativeness_t=[Patents_t/Employees_t]x1000$).

The *CEO changes* were coded binary, based on the events of CEO changes of the incumbent firms (0=No change; 1=CEO change). We pulled CEO change information from Orbis database and completed the data set on CEO changes based on corporate press releases and annual reports published online.

Independent variables on a contextual level. On a contextual level, we explored the parent company's *industry* and the primary *region* of activity of the CAs. To cluster the parent companies into their specific *industries*, we followed a two-step approach. First, we allocated each company to a two-digit NAICS (North American Industry Classification System) code (Dushnitsky & Shaver, 2009; Vedula et al., 2022; York et al., 2018). Based on this, we manually further aggregated the clusters, constructing 10 industry clusters to classify the incumbent firms in scope.

For the *regional effects* in which the CAs operate, we defined the CA's headquarter or initial location as primary region of activity. We operationalized this variable at the continent level, as CAs usually source new ventures beyond their country borders.

4.3.3 Model and Analysis

We used a cox proportional-hazard regression model (*stcox* command in Stata) to model the likelihood of CA discontinuation, as it is a semi-parametric model, that predicts the hazard ratio by investigating the association between covariates and the survival time of CAs (Allison, 2010; Baek et al., 2021). As a semi-parametric model it makes no initial assumptions about the form of the hazard function and is therefore appropriate for our analysis (Vedula et al., 2022). The data set includes annual observations on CAs from 2011-2022. Left-side truncation is not an issue, as our collected data covers the first year of CAs, 2011. We modeled the delayed-entry of CA programs

into our sample. As our data was collected until 2022, the year of this study, with some active CAs, it is right-censored.

As a secondary set of analyses we also use alternate modeling approaches to test that our findings were robust. These included a) a parametric specification of a survival time model (i.e., *streg)* in STATA and b) a discrete-time model, where we model the likelihood of the CA discontinuation event using a logistic regression approach.

4.4 Results

Out of the initially collected 181 CAs (99 failures), 21 CAs were dropped for our analysis, as they contained individual variables with incomplete information (i.e., missing corporate level data for individual years). Our remaining data set consists of 159 CAs (87 failures) and 790 observations within the time frame between 2011 and 2022. Table 10 summarizes the descriptive statistics and pairwise correlations of the defined variables on CA and corporate level. The correlation factors between independent variables were not considered high enough to raise a concern of multicollinearity.

Figure 11 provides an overview of the industry and regional distribution in our sample. We can see that the most represented industry sectors in the dataset are from the Media, Telco, Online sector, followed by Finance, Insurance, Professional Services. Europe is the most represented region in our sample, followed by North America. Neither the industry variable nor region variable had significant correlations with the other variables (maximal correlation 0.06).

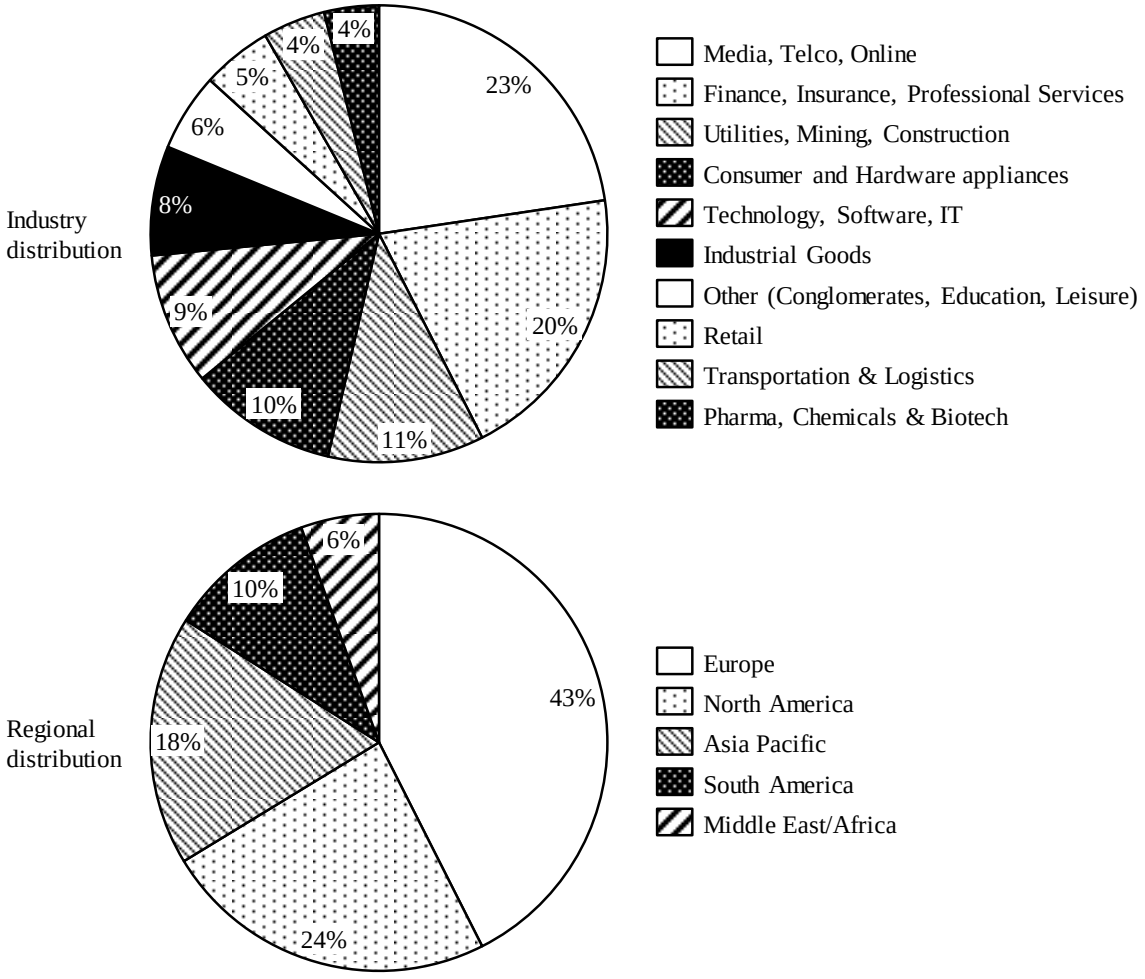
Table 10. Descriptive Statistics

Variable	Description	Mean	Std.	Min	Max
CA level					
1. Tech strategy	Tech overlap between corporation and venture intake in CA (1=No; 2=Yes)	1.304	0.46	1	2
2. Ops Strategy	Operative strategy of CA program (1=Exploratory; 2=Pilot Project)	1.398	0.49	1	2
3. Mgmt. Structure	Management structure of CA (0=In-house; 1=Externally managed)	0.407	0.491	0	1
4. Financial Resources	Financial resources provided during CA program (1=No; 2=Yes)	1.508	0.5	1	2
Corporate level					
5. CVC active	Binary statement of CVC investment activity in one year (0=No; 1=Yes)	0.563	0.496	0	1
6. Innovativeness	Ratio of number of granted patents per 1000 Employees in a year	2.548	8.122	0	99.508
7. Growth	Change in revenue over revenue of the previous year (%)	0.075	0.644	-0.9	13.482
8. Margin	EBIT Margin as ratio of EBIT to revenue (%)	14.972	15.209	-94.09	66.84
9. CEO change	CEO change in one year (0=No; 1=Yes)	0.127	0.333	0	1

Pairwise correlation	1	2	3	4	5	6	7	8	9
1. Tech Strategy	1.00								
2. Ops Strategy	0.02	1.00							
3. Mgmt. Structure	0.15***	0.14***	1.00						
4. Financial Resources	0.11***	-0.19***	-0.02	1.00					
5. CVC active	-0.02	0.02	-0.06*	0.11***	1.00				
6. Innovativeness	-0.13***	0.03	0.00	-0.03	0.18***	1.00			
7. Growth	0.09**	-0.03	0.03	-0.01	0.00	-0.02	1.00		
8. Margin	-0.01	-0.08**	-0.11***	0.02	0.15***	0.12***	0.02	1.00	
9. CEO change	0.03	0.00	0.02	-0.02	-0.02	-0.02	0.02	-0.08**	1.00

n = 790
*** p<0.01, ** p<0.05, * p<0.1

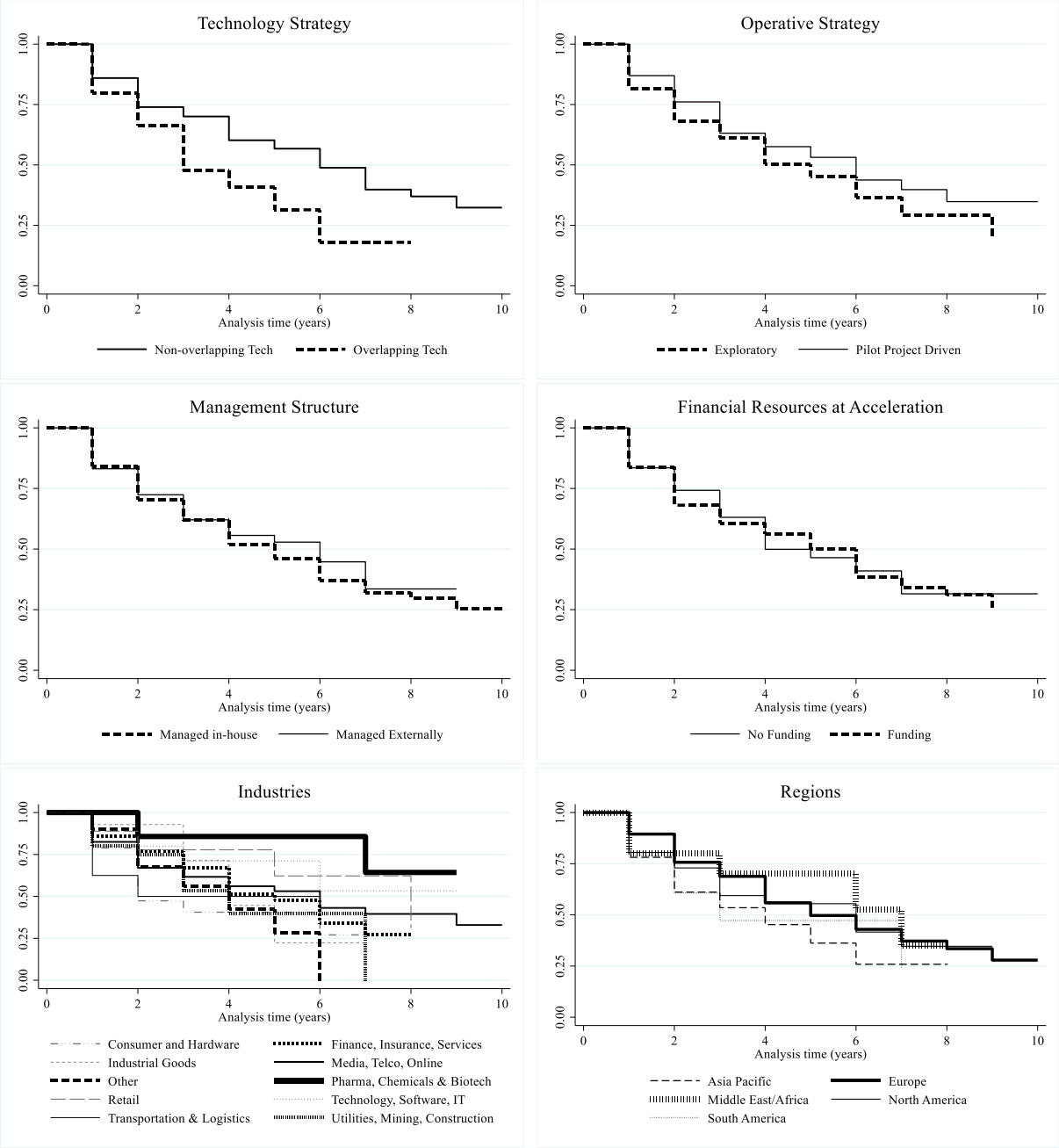
Figure 11. Distribution of CAs in Sample Across Industries and Regions



Before executing a multivariate survival analysis, we conducted a univariate analysis for the time invariant factors and visualized this in Kaplan Meier curves, illustrated in Figure 12. Our univariate analysis suggests the following effects:

- CAs with non-overlapping technology might last longer than with overlapping tech
- Pilot-project driven CAs might last longer than exploratory programs
- Externally Managed CAs might last longer than internally managed programs
- Funding for ventures during the program might not be a critical factor for CA survival
- CAs in the “Pharma, Chemicals, Biotech” sector might be the longest-lasting
- CAs in South America and Asia/Pacific might fail faster than in the other regions

Figure 12. Kaplan Meier Curves for Time-Independent Variables



4.4.1 Cox Hazard Analysis

To verify our initial observations, we included all relevant factors into one model to account for interrelations between the variables and understand the significance of the findings. We therefore next carried out a multivariate analysis on the alleged influencing factors for CA closure, i.e. on CA level, corporate level and contextual level, which is summarized in Table 11. In our model, a

negative β means a lower likelihood of CA closure (i.e., higher survival probability), as in our model the Cox hazard model provides the hazard rate of CAs being discontinued. The hazard ratio (calculated exp(β)) presents an estimation on the expected hazard factor of discontinuation, compared to the baseline. Therefore, a value above 1 means a lower survival probability, and a value below 1 estimates a higher survival probability. We ran two models to account for and explore potential time delays in management decisions: Model 1 uses all time varying variables (all on corporate level) with their actual values. Model 2 lags the time varying variables by one year to simulate time delays between management decisions or reports and operative execution (i.e., CA closing). We include all considered variables in the models, as well as year dummies. We observe significant effects on CA-level, on corporate level and on a contextual level. In the following, we discuss our findings primarily based on the results from Model 1. As Model 2 shows very similar findings, we refer to Table 11 and address the only difference between the two specifications, i.e., a significance- variation on the CEO change variable. This result, on the one hand, might add robustness to our findings in Model 1 and on the other hand, might spark a debate around the effect of CEO changes on survival of CA programs.

On CA-level, we find significant effects for technology strategy and management structure. Regarding technology strategy, we find that CAs which focus on ventures with non-overlapping technologies are more likely to survive, compared to those that have a focus on overlapping technologies (β=-0.696, p=0.003). The according hazard ratio for non-overlapping technologies is of 49.86% compared to overlapping technologies. For management structure, we find that externally managed CAs are less likely to be discontinued, compared in-house CAs (β=-0.522, p=0.05), with a hazard ratio of 59.33%. Interestingly, our data suggests indifference (non-significant effects) along the other two CA-specific factors, i.e. the decisions a) whether to run a

pilot project driven CA or an exploratory program and b) whether to provide financial support to fund the acceleration phase or not.

At the corporate level, we find that CAs are more likely to survive when the parent company actively carries out CVC investments (β=-0.359 p=0.098). The failure hazard ratio with CVC investing is 69.83% compared to non-investing. Additionally, for Model 1, we find that a change in the CEO significantly increases the probability for CA survival (β=-0.931 p=0.043). In contrast, for Model 2 there is no significant effect for a CEO change (β=-0.087 p=0.745). This discrepancy on CEO changes between Model 1 and 2 might be based on the rarity of CEO changes across the companies and deserves further investigation. Interestingly, our further corporate performance and innovation indicators show no significant effect. This might suggest, that CA programs might interact with and be impacted by a company's CV unit. In contrast, CA programs might be organizationally and managerially rather decoupled from the parent company's year-to-year (or quarterly) performance.

On a contextual level, we used the, according to Kaplan-Meier curves, most long-living industry sector "Pharma, Chemicals, Biotech" and the most frequent region as base cases. We find significant observations for the industries, from which the CA programs issue and for their main region of operation. Our analysis suggests, that that CAs coming from the research intensive "Pharma, Chemicals, Biotech" sector are more likely to survive than in other industrial sectors. For example, our data shows that they have a significantly higher probability of survival (β=1.358, p=0.069) than e.g., companies from the "Media, Telco, Online" field, the predominant industry in our sample. This means that CAs from "Pharma, Chemical, Biotech" are about four times less likely to be discontinued compared to CAs from "Media, Telco, Online". Also compared to "Finance, Insurance, Services" (β=1.366, p=0.085), "Industrial Goods" (β=1.587, p=0.043) and "Transport & Logistics" (β=1.587, p=0.064), the survival probability for "Pharma, Chemicals,

Biotech" shows to be significantly higher. In terms of regional factors, we found no significant effects but a tendency of CAs in Middle East/Africa (mainly represented by Israel) and North America to be less likely to close compared to Europe, while CAs in Asia Pacific and South America might be more likely to close.

Table 11. Cox Hazard Models

	Model 1			**Model 2 (time lagged)**		
Variables	Coefficient	Std. err	p-value	Coefficient	Std. err	p-value
CA-specific factors						
Non-overlapping Tech	-0.696	0.233	**0.003*** **	-0.641	0.236	**0.007*** **
Pilot-project driven	0.19	0.215	0.929	-0.017	0.216	0.939
Externally Managed	-0.522	0.266	**0.05** **	-0.515	0.27	**0.057***
Financial resources	0.111	0.239	0.643	0.113	0.241	0.64
Corporate specific factors						
Active CVC invest	-0.359	.216	**0.098***	-0.376	0.207	**0.069***
Innovativeness	0.008	0.027	0.758	0.006	0.027	0.834
Revenue Growth	-0.13	0.266	0.624	-0.131	0.222	0.555
EBIT Margin	-0.001	0.008	0.937	0.003	0.008	0.692
CEO change	-0.931	0.459	**0.043** **	-0.087	0.278	0.754
Contextual factors						
Industry (base: Pharma, Chem., Biotech)						
Consumer & Hardware	1.281	0.806	0.112	1.363	0.801	**0.089***
Finance, Insur., Services	1.366	0.793	**0.085***	1.343	0.781	**0.086***
Industrial Goods	1.587	0.786	**0.043** **	1.656	0.776	**0.033** **
Media, Telco, Online	1.358	0.746	**0.069***	1.383	0.746	**0.064***
Retail	0.999	0.863	0.247	1.104	0.858	0.199
Tech, Software, IT	0.828	0.89	0.352	0.909	0.885	0.305
Transport & Logistics	1.587	0.858	**0.064***	1.714	0.865	**0.047** **
Utilities, Mining, Constr.	1.343	0.818	0.101	1.409	0.808	**0.081***
Other	1.284	0.818	0.116	1.335	0.816	0.102
Region (base: Europe)						
Asia Pacific	0.314	0.278	0.259	0.29	0.287	0.312
Middle East/Africa	-0.009	0.511	0.987	-0.051	0.513	0.921
North America	-0.219	0.333	0.511	-0.212	0.341	0.533
South America	0.314	0.416	0.45	0.315	0.432	0.466

Year dummies	Yes	SD dependent var	2.252
Mean dependent var	2.581	Number of obs	790
Pseudo r-squared	<0.045	Prob> chi2	0.000

*** p<0.01, ** p<0.05, * p<0.1*

4.4.2 Sensitivity analyses

To test the robustness of our findings, we next carried out an additional set of analyses with alternative modeling approaches. We used a parametric specification of a survival time model (*streg* in STATA) and a discrete time model, applying a logistics regression. The results were, both for Model 1 and Model 2, in line with our cox hazard regression findings, with slight variations in their significances. All findings are annexed in the Appendix of this manuscript (Appendix A and B of Appendices Chapter 7.2).

The parametric survival model supports our findings for Model 1 and 2, with slightly increased absolute values for the β-coefficients and minimal variances in p-values. The logistics regression also supports the results from the cox-hazard regression. In the logistics regression, we found one divergence in the time-lagged Model 2 for CVC activity: even though the odds-ratio of the logistics regression is in the same order of magnitude of the β-coefficient in the cox regression, the logistics regression loses on its significance (p=0.305), compared to the cox regression (p=0.069).

4.5 Discussion

In this study we explore several factors on CA level, corporate level and a contextual level that might influence the survival or discontinuation of CA programs. On all three levels, we identified significant findings, but also interesting non-findings. Our findings suggest that a clear technology strategy is the most important factor for a CAs success, followed by the decision on its management. In particular, our findings indicate that corporations that pursue an exploratory strategy, by focusing on technologies that are not at core of the parent company – i.e., address technologies, operations, markets that do not directly overlap with the incumbent's core business – are more likely to have longer-lasting CA programs. Besides, it seems more promising to pass

the management and operations of a CA to experienced (external) service providers. Additionally, this study positions CAs as complement to existing CV vehicles, i.e., CVC. Under certain circumstances, a CEO change might be beneficial for the survival of a CA program. From an industry perspective, our findings suggest that CAs from long-cycled, research intensive companies, i.e., "Pharma, Chemicals, Biotech" sector, might be more promising, compared to research intensive sectors, e.g., "Media, Telco, Online" or "Industrial Goods". This could potentially be explained by a tendency of research intensive companies with long development cycles to be more inclined to long-term investments (Chesbrough & Tucci, 2020). Furthermore, in the time frame between 2011-2021 of our sample of 181 CAs, we observe a continuous growth in the CA landscape from 2011 with a peak in 2019 and a decline of CAs in 2020 and 2021. This drop could potentially be a consequence to the global challenges and uncertainties in the aftermath of the Covid-19 pandemic, despite the importance of innovation for an effective response to global crises (Ramalingam & Prabhu, 2020). We suggest to further observe the development of CA activities in the following years to find an answer to this observation.

Taken together, our initial exploratory findings contribute to research and practice on CV, in particular CA programs, and to the interrelation and influencing factors on organizational survival. We next provide several directions for future studies to build upon and extend our initial line of inquiry.

4.5.1 Implications for Future Academic Research

Our exploratory study is rather broad in scope and addresses multiple potential aspects influencing the longevity of CA programs. In doing so, it touches upon a variety of theoretical lenses, such as, e.g., management-, organization-, or innovation based theories. While our individual findings contribute sporadically to the different theories, they can serve as spring boards to deepen these theoretical contributions in future research. We suggest additional theoretically driven studies to

measure and operationalize the corporate level and contextual level variables in a more granular manner. For example, in this study CVC activity has been coded binary (Yes/No). For future research it could be interesting to investigate investment intensity, as well as the role of CVCs as knowledge brokers (Benson & Ziedonis, 2010; Dimov, de Holan, & Milanov, 2012; Rossi, Festa, Papa, Kolte, & Piccolo, 2020) and to which extent this role, along with innovation access, relates to CA programs survival. As we find no significant effects for the incumbent's resource availability (i.e., EBIT margin and revenue growth) on CA survival, we suggest to investigate this resource based perspective more granularly, by including additional and more detailed variables, as e.g., additional financial factors like R&D expenditure, managerial ability, human resources, or business processes (Ray, Barney, & Muhanna, 2004). With regards to the corporation's CEO, we coded the variable binary on a potential CEO change. Further studies could investigate additional factors, such as CEO gender, experience, professional background, nationality depending on the specific theoretical lens and predicates.

On a contextual level, we found that survival likelihood of CAs might vary across industries. Our findings suggest that CAs from corporations operating in long-cycled, research-intensive industries, i.e. "Pharma, Chemicals, Biotech" might be more likely to maintain CAs compared to less research focused companies. This is surprising, given prior research that highlights the effectiveness and increased CV activity of incumbent firms in weak IP regimes (Dushnitsky & Lenox, 2005a, 2005b). Conversely, it supports extant research that innovation strategies are favored in research-intensive industries, where stock-holders are dominant compared to managers (Hill & Snell, 1988). Given the corporations clustered under "Pharma, Chemicals, Biotech" are all large public corporations (Bayer, BASF, Braskem, Roche, Novartis, etc.), the support of CA programs in this industry could be partially explained by Hill & Snell's research (1988). On the other hand, our corporate-level variable on company's innovativeness, which could

be related to research intensive industries, showed no significant effect. However, this to a certain extent counterintuitive finding calls for further research in the field and could be substantiated and linked with e.g., patent data. In this study, we could identify some tendencies but no significant differences across regions. For future research, we therefore propose to explore and substantiate this aspect with a stronger theoretical contribution, as for example by investigating the potential effects of knowledge spillovers or social capital on CAs (Dahl & Sorenson, 2012; Gilbert et al., 2008; Tallman et al., 2004; Vedula et al., 2022).

In summary, we suggest to use the findings of this study as point of departure to develop dedicated individual theory-driven studies for each of the investigated theoretical mechanisms. In particular, this study provides a broad, data-driven external view on CA programs. To better explore internal mechanisms and develop new theory in the field, we call for more qualitative work, in particular on CA level. For example, case studies could investigate how the different CA structures are operationalized, which mechanisms manifest between corporate parents and new ventures, and how this might affect the program outcome. Thus, further qualitative studies could potentially also provide additional variables for future quantitative research.

4.5.2 Implications for Practice

Although this project is explorative and needs to be rigidified with future additional studies, we can still draw some initial practical conclusions and propose indications and interpretations for managers and policy makers.

Effective CA Setup: Focus on a Clear Tech Strategy and a Professional Management. Our findings imply that on a CA level, (among our investigated factors) the most impactful decision that managers can make, might be on the technological proximity between the corporate parent and the accelerated ventures. Consistent with prior research, our study suggests, that a technological overlap between the corporate parent and the venture portfolio might be detrimental (Dushnitsky

& Lenox, 2005a, 2005b). Reasons for this might be manifold. First, by operating in distinct technological areas, the both parties might be able to exchange more complementary capabilities, as opposed to when they focus on the same core technology (Kanbach & Stubner, 2016; Kohler, 2016; Mahmoud-Jouini et al., 2018; Moschner et al., 2019). Second, as corporate-venture relationships can expose new ventures to dangers, such as misappropriation of intellectual property (Hallen, Katila, & Rosenberger, 2014), participating firms might be more protective and hesitant disclosing their technologies (Dushnitsky & Lenox, 2005b). This might hamper the interaction during the acceleration process. Third, CAs might be more useful as exploration vehicles for incumbent firms seeking long-term strategic effects, instead of providing short-term returns (Shankar & Shepherd, 2019).

In their explorative orientation of CAs, the operative strategy, i.e., whether to facilitate a pilot-project driven program or not, seems to play a comparably subordinate role. In contrast, our data shows that externally managed CAs might last longer than in-house CAs. This supports the case for professionalization and external expertise in setting up a CA program (Moschner et al., 2019). Furthermore, this supports the argument for increased autonomy and entrepreneurial background in operating and managing the CA program through the involvement of an external service provider (Covin et al., 2021).

Surprisingly, despite the importance of financial resources for new ventures (Åstebro & Bernhardt, 2003; Cassar, 2004; Kanze et al., 2018; Shane & Stuart, 2002), the provisioning of financial resources to the new ventures during acceleration did not show any effect. This might potentially be due to the insignificant financial commitment, often around $50.000 (Ream & Schatsky, 2016). It might therefore be interesting to experiment with more substantial venture investments during the acceleration phase.

Corporate Embedding: CAs Complementary to CVC and Decoupled from Incumbent. On a corporate level, our findings suggest a higher survival probability for CAs, if the parent companies are actively making CVC investments. This indicates an interrelationship between CAs and adjacent CV units. The interrelation between CA survival and CVC investments positions CAs as complements to CVCs and contributes to the question of complementarity and substitution among CAs and CVCs (Winston Smith, 2020). Complementarity of CAs to CVCs might be grounded in their differing main objectives. While CVCs seek to gain a window on new technology by actively investing into new ventures, CAs focus on mutual learning during the acceleration process (Shankar & Shepherd, 2019; Wadhwa et al., 2016). CAs could be therefore used upstream of subsequent CVC investments. CAs provide a fruitful opportunity for incumbent firms and ventures to familiarize with each other and to conduct due diligence on potential future partnerships (Weiblen & Chesbrough, 2015), which might be then formalized in a CVC investment.

The effect of newly appointed CEOs is not fully clarified in this study. Consistent with prior research, Model 1 (no time lag) supports the assumption for increased innovativeness with new CEOs (Hambrick & Fukutomi, 1991; March, 1991; Miller & Shamsie, 2001; Weng & Lin, 2014) and suggests an increased likelihood of survival for CAs. Model 2 (time lag of 1 year), however does not confirm this, as it suggests indifference (no significance). This could on the one hand be related to the rarity of CEO changes, resulting in a larger variance in the results. On the other hand, this could also be linked to the decreasing inclination to innovation of CEOs over time, meaning that a newly appointed CEO has an immediate effect on CAs as innovation vehicle, which levels off over time (Hambrick & Fukutomi, 1991; Miller & Shamsie, 2001; Weng & Lin, 2014). The ambiguity in these results call for further research on this topic to clarify whether, and under which circumstances, a new CEO might influence the existence of CA programs in incumbent firms.

With regards to the non-findings of further corporate factors on CA survival, we interpret that, as an emerging phenomenon, CAs might be still decoupled from their parent organizations. While CAs are supposedly well embedded in the broader CV activities of an incumbent firm, they appear to still hold a peripheral position and seem to find comparably little attention in the overall parent organization.

Contextual Drivers: Research-Intensive Sectors More Supportive to CA Programs. Our findings on a contextual level could help managers to interpret the boundary conditions under which they operate. According to our findings, managers from research intensive sectors, in particular "Pharma, Chemicals, Biotech" could feel more encouraged to initiate external CV activities and use CA programs to experiment with new ventures, as they might be more used to investments with long time horizons (Chesbrough & Tucci, 2020). On the other hand, managers from the "Media, Telco, Online" sector or "Industrial goods" companies, might be more considerate, when assessing the establishment of such programs.

Our data indicates, that CAs might have a lower survival likelihood in emerging markets, i.e., Asia Pacific and South America. However, the fact that the results were at a relatively low significance might suggest that CAs are less impacted by regional or political factors, than by their specific setup, corporate drivers and the industry the parent company operates in. This could motivate corporate managers, especially from seemingly economically less favorable regions, to focus on the corporate factors and CA specific ambitions to support their decision on how and when to potentially establish CA programs.

4.5.3 Limitations

This research is exploratory and, as with many other empirical exploratory studies, it is not without limitations. First of all, due to the earliness of the phenomenon, we were only able to identify 181 company specific CA programs for our dataset, of which we could use 159 for the subsequent

analysis. We allay this concern to some extent with the panel structure of our dataset, but although this might be the most comprehensive data collection of CA programs to date, it is still limited in its size.

Second, we equate CA survival with its success. Certainly future studies could explore and measure further success factors. As this study aims to explore a new phenomenon, we investigated a broad set of variables, which could, individually, be examined in more detail.

Third, we still could not include all possible influencing elements in our model, such as non-quantifiable or non-observable factors. This model therefore, as many other empirical models, might suffer from endogeneity (Bascle, 2008; Hill, Johnson, Greco, O'Boyle, & Walter, 2021; Semadeni, Withers, & Trevis Certo, 2014), particularly due to omitted variable bias. Accounting for such endogeneity is challenging in traditional survival analyses with a single-event per unit of observation (i.e. CA program) (Allison, 2010). Since we cannot eliminate such concerns in our specification, our results must be necessarily seen as suggestive and exploratory.

4.6 Conclusion

With more than half of the CAs in our dataset being discontinued, this study supports and extends previous analyses that suggest a relatively fast failure of CA programs. We go beyond initial descriptive analyses and explore specific influencing factors and theoretical explanations for CA discontinuation. In doing so, we contribute to the discourse in academia and practice on the efficacy of such programs in three main ways. First, we extend the current literature on CA and CV programs, by exploring to which extent program specific, corporate or context related factors might influence the success of CAs: a) We find significant effects for decisions on the CA's technological strategy and managerial setup; b) we assume that there is complementarity between CAs and CVCs, and c) on a contextual level, we indicate that long-cycled, research intensive industry

sectors, such as “Pharma Chemicals, Biotech”, might be more supportive environments for CA programs. Second, this study paves the way for future research on theoretical mechanisms that explain success or failure of CV, i.e., CA units, as we touch upon several theoretical lenses to shed more light into our observations. Third, this comprehensive dataset and exploratory analysis provides initial guidance for managers and policy makers on how to establish favorable boundary conditions to set up and maintain CA programs.

5 SUMMARY OF FINDINGS AND CONCLUSION

The purpose of this dissertation was to gain a deeper understanding of the emerging phenomenon of CA programs, in particular the scholarly communities they enter, their underlying mechanisms to create mutual benefit, as well as specific factors for CA survival. In doing so, I sought to contribute to the legitimization of the field in academia and practice, and to provide some directions for future research, as well as for the establishment and management of such open innovation programs. In particular, I suggested that existing research on CA programs lacks theoretical rigor which might be a reason for its rather peripheral positioning in academic literature (Crișan et al., 2021; Kohler, 2016; Vedula et al., 2021). Moreover, I identified a scarce understanding of "how" CA programs might actively enact mechanisms to help incumbents and new ventures (Cohen, Fehder, et al., 2019; Moschner et al., 2019), as well as "what" might be influencing factors for their, to-date, instable persistence (CB Insights, 2019; Saunders, 2022; Winston Smith, 2020).

The essays in this dissertation attempt to address aforementioned fields of inquiry. Essay 1 (Chapter 2) focuses on understanding extant academic CV literature to develop fields for future CA research that are more connected to extant scholarship, richer in theory and relevant to practice. Therefore, I conducted a literature-based study. Essay 2 (Chapter 3) investigates, how CA programs enact institutional arbitrage mechanisms between new ventures and incumbents to create mutual value. For this purpose, I conducted an interview-based multiple case study. Essay 3 (Chapter 4) quantitatively explores some key factors for CA failure. Taken together, by adopting three distinct methodological and theoretical angles to investigate CAs, this dissertation aims to provide a more holistic perspective on the phenomenon and its surrounding theories.

5.1 Contributions to Theory

The first essay (Chapter 2) lays the foundation for future theoretically rigorous research in the CA field. It comprehensively maps the main theoretical constructs of extant CV literature (Figure 6) and identifies potential blind spots and areas of special interest. In particular, it proposes to adopt understudied theoretical perspectives and to build stronger bridges between intellectual communities central to CV research, which will be further addressed in section *5.3 Potential Avenues for Future Research*.

By originally investigating how CAs create value for new ventures and incumbents, the second essay (Chapter 3) empirically contributes to institutional theory, in particular institutional complexity and its exploitation through *institutional arbitrage* (Friedland & Alford, 1991; Greenwood et al., 2011; Perkmann et al., 2022). It builds on and extends theory on institutional complexity by integrating ideas from entrepreneurship theory, i.e. willingness to bear uncertainty (McMullen & Shepherd, 2006; Milliken, 1987), which can be represented by organizational control. In the CA context organizational control translates into "Goal Specificity" and "Governance Control" of CA programs. Overall, this study highlights that a stronger organizational control intensifies and tightens the interaction between incumbents and new ventures in CA programs. In particular, the findings suggest that a stricter goal specificity, i.e. through pilot project driven CAs, results in a dominating corporate logic in the institutional arbitrage process, in particular the organizational and technical practice exchange. In return, a more explorative approach might provide more space for expansion for new ventures, which might benefit an entrepreneurial logic. This finding could be interpreted as corporate control potentially being a limiting factor for its own original ambitions for the CA program, which is to infuse entrepreneurial spirit and practices into the parent organization (Kohler, 2016; Shankar & Shepherd, 2019; Weiblen & Chesbrough, 2015).

In terms of governance control, CAs seem to foster a bi-directional exchange between the ventures and incumbents for in-house managed programs. Conversely, externally managed CAs appear to foster a broader exchange within the ecosystem, attenuating the bi-directional exchange by involving the entrepreneurial and corporate network. These observations might be explained by an increased commitment of the incumbent's employees at in-house CAs, while externally managed CAs might serve as open innovation platform and provide more networking opportunities for new ventures (Moschner et al., 2019). Moreover, essay 2 (Chapter 3) provided a novel perspective on the notion of institutional arbitrage, by unifying all four initially introduced institutional arbitrage mechanisms – which were initially regarded distinctively (Perkmann et al., 2022) – in one context. In doing so, this study reveals variations in balance, i.e., regarding a dominating logic, depth, i.e., intensity of individual arbitrage mechanisms, as well as scope, i.e., direction of organizational exchange. Furthermore, this study extends existing theory by suggesting that institutional arbitrage might have more than one beneficiary (Perkmann et al., 2022). The findings might not be limited to the context of CA and could be explored in other hybrid or asymmetric organizational settings.

As essay 3 (Chapter 4) is explorative in nature, it is rather broad in its theoretical contribution by using several theoretical lenses, instead of deeply examining or building one theoretical construct. In return, our individual findings might provide a point of departure and motivation for further research in the respective field. Nonetheless, the findings in this study contribute to existing management theories by supporting or countering them. For example, by finding a significant higher survival rate for CAs with venture intakes that do not necessarily overlap with the parent company's core technology, we support and rigidify extant research in the CV space, that posits a stronger CV involvement when technologies are not overlapping (Dushnitsky & Lenox, 2005b, 2005b). This study further elaborates on the notion of

professionalization, as it suggests a higher survival probability for externally managed CAs, which might also be an indicator for the success of professionally managed programs (Moschner et al., 2019). Furthermore, this study provides first evidence for the discussion around complementarity between CAs and CVCs (Winston Smith, 2020), by suggesting a higher survival probability for CAs with CVC investments. On an industry-level this essay challenges extant theory which suggests higher CV activity in weak IP regimes (Dushnitsky & Lenox, 2005b, 2005b), as it indicates higher survival probabilities for CAs that operate in long-cycled, research intensive industries from the "Pharma, Chemicals, Biotech" sector. Conversely the same finding might support extant research that posits innovation friendliness in stock-holder dominant corporations (Hill & Snell, 1988), as the identified "Pharma, Chemicals, Biotech" companies are mainly large public corporations. It remains to be studied to which extent both of these perspectives contribute to CA survival.

5.2 Contributions to Practice

This dissertation offers some insights that might be of practical relevance. The first essay (Chapter 2) motivates a stronger practitioner focus by suggesting specific research questions to be investigated in the future, which have been partially addressed in this work. The remaining opportunities for future practice oriented research will be outlined in section *5.3 Potential Avenues for Future Research*.

The second study (Chapter 3) creates transparency by explaining how different control configurations might influence the outcome of a CA program and its value creation for new ventures and incumbents. This can be useful for corporate managers that consider engaging in a CA program, to identify how to set up the program according to the incumbent's strategic objectives. Equally, this study might help actors that are managing CA programs to understand

how potential adjustments in the program might affect the benefits created for the involved parties. For venture founders considering entering a CA program, this study might serve as guideline for the decision which type of program might be most suitable to the new venture's goals. Overall, this essay might not be limited to the CA context. It can provide insights for actors operating in similar contexts and organizational settings e.g., public-private partnerships or university research alliances with corporations.

The third essay might be the most practitioner oriented study of this dissertation, as it empirically reveals some success factors for CA programs and holds specific propositions for managers and policy makers. First, it suggests a clear focus on the CA's technology strategy and a professional management of the program. In particular, this study recommends incumbents to focus on new ventures which strategically and technologically complement the established firm.

Besides, a professional management with CA experts might be a promising approach to follow. However, while the analysis puts externally managed CAs in front of in-house CAs, I assume that internally run CAs, which hire specific experts to run the program might be comparably successful. This remains to be empirically investigated.

In terms of embedding CA in the broader organizational context of the incumbent, this study suggests to use CA as complement to existing CV activities, i.e., CVC (Winston Smith, 2020). For example, CA programs could be used as deal flow creator for subsequent CVC activities, as CAs provide multiple opportunities for the incumbent and new ventures to engage with each other. This active exchange allows the involved parties to conduct their respective due diligences on future investment decisions. Moreover, this study provides an initial estimation, for which industries CA programs might be most promising. The finding that research intensive sectors with long innovation cycles might be most supportive to CAs, positions CA programs as promising

complementary external unit for innovation, research and development. This might be particularly important when aiming for long-term success instead of targeting short-term returns.

5.3 Potential Avenues for Future Research

By exploring the nascent phenomenon of CAs, this dissertation also lays the foundation for future research. For instance, the first essay (Chapter 2) is aimed at identifying and proposing theoretical and practical fields for future work around CAs, illustrated by exemplary research questions (Table 7). To build a more rigorous theoretical foundation in CA research, essay 1 (Chapter 2) proposes to utilize understudied theoretical perspectives and build stronger bridges between intellectual communities, which are central to CV scholarship.

For example, this study identified that theories on innovation processes, i.e., knowledge based view, organizational learning and organizational search, as well as capability based theories, e.g., resource based view of the firm have been extensively explored in CV research. In contrast, these theories have not been sufficiently addressed in the context of CAs, which may create opportunities for future investigation.

For a more rigorous theoretical foundation, this study also proposes to integrate and build more connections between the original intellectual communities studied in the CV literature; in particular, internal organizational processes, inter-organizational relationships, and organizational learning. For example, by adopting an organizational learning lens, future research could address how the inter-organizational interaction between new ventures, incumbents and the CA program might affect the internal learning processes of each of those organizations.

The first essay also calls for more practical relevance in CA research. Specifically, it proposes a stronger performance oriented perspective, by looking into the effect of such programs on new venture success, as well as incumbent's innovativeness. It also calls for a better

understanding of why CA programs often fail shortly after inception (CB Insights, 2019; Winston Smith, 2020). Partially, the proposed research topics in essay 1 (Chapter 2) have been addressed in the second (Chapter 3) and third essay (Chapter 4) of this dissertation. These, in return raised some new, more specific questions for future investigation.

While the second essay (Chapter 3) builds theory around the CA processes and mechanisms to create benefits, by adopting an institutional arbitrage perspective, the interviews of the study revealed a number of avenues for future research. In line with the first essay's call for more practical relevance by including a performance oriented perspective on CA research, the interviews in this study, revealed that in practice CA programs lack measurement tools and methods, to effectively evaluate the benefit of CAs. Besides, while the second essay offers a very detailed qualitative perspective on internal CA mechanisms, it proposes to take on a more global view by investigating the phenomenon more holistically through, e.g., quantitative studies and KPI measurements. Moreover, the second study lays the foundation to extend the theoretical findings on institutional arbitrage beyond the CA context and explore this phenomenon in different hybrid organizational contexts.

The third essay (Chapter 4), addresses some of the propositions from the preceding essays to adopt a performance oriented perspective, by exploring some potential factors for CA failure in a quantitative manner, and taking on an external perspective. Through the exploratory approach of the study, it touches upon some theoretical lenses (addressed in Chapter 5.1), which might need to be substantiated with more theoretically grounded research in the future. In particular, on a contextual level, it might be especially interesting to investigate what is the most beneficial context for CAs to thrive, i.e., with regards to industry or regional specifications. Taken together, this could be investigated by applying one of the theoretical lenses suggested in this dissertation, e.g., a capability based theory or network theories.

5.4 Concluding Remarks

This dissertation provides new and relevant insights for the – in the broader CV context – emerging and largely discussed phenomenon of CA programs. It comprehensively maps extant literature, leading to the emerging stream around CAs, and proposes theoretical and practical conversations to enter in the future. These findings laid the foundation for the subsequent research conducted in this dissertation. I, thus, conducted empirical theory-building research in the CA context, by extending the understanding of creating benefits in hybrid organizations, in particular by further developing the notion of institutional arbitrage. I concluded the empirical work of this dissertation with a quantitative study that investigated factors for success or failure of CA programs. The three essays aim at providing important initial theoretical and practical insights around CA programs. Accordingly, I hope that this dissertation contributes to the legitimacy and understanding of CA programs in academia and practice. It should, thus, serve as motivator to further contribute to our knowledge of this phenomenon, and to foster innovation in entrepreneurial and incumbent organizations.

6 REFERENCES

Albort-Morant, G., & Ribeiro-Soriano, D. 2016. A bibliometric analysis of international impact of business incubators. ***Journal of Business Research***, 69(5): 1775–1779.

Allison, P. D. 2010. ***Survival analysis using SAS: a practical guide***. Sas Institute.

Altman, E. I. 1983. Why businesses fail. ***Journal of Business Strategy***, 3(4): 15–21.

Alvarez-Garrido, E., & Dushnitsky, G. 2016. Are entrepreneurial venture's innovation rates sensitive to investor complementary assets? Comparing biotech ventures backed by corporate and independent VCs: Comparing Biotech Ventures Backed by Corporate and Independent VCs. ***Strategic Management Journal***, 37(5): 819–834.

Amezcua, A., Ratinho, T., Plummer, L. A., & Jayamohan, P. 2020. Organizational sponsorship and the economics of place: How regional urbanization and localization shape incubator outcomes. ***Journal of Business Venturing***, 35(4): 105967.

Argote, L., & Greve, H. R. 2007. A Behavioral Theory of the Firm—40 Years and Counting: Introduction and Impact. ***Organization Science***, 18(3): 337–349.

Åstebro, T., & Bernhardt, I. 2003. Start-up financing, owner characteristics, and survival. ***Journal of Economics and Business***, 55(4): 303–319.

Bacic, K. 2022, July 12. Cooperation between corporates & startups is definitely worth it. ***Wayra Linkedin Page***. https://www.linkedin.com/posts/wayra-deutschland_startups-wescalestartups-diversitymatters-activity-6952519195058180096-8VUd?utm_source=linkedin_share&utm_medium=member_desktop_web.

Baek, E.-T., Yang, H. J., Kim, S. H., Lee, G. S., Oh, I.-J., et al. 2021. Survival time prediction by integrating cox proportional hazards network and distribution function network. ***BMC Bioinformatics***, 22(1): 192.

Barney, J. B. 2001. Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. ***Journal of Management***, 27(6): 643–650.

Bascle, G. 2008. Controlling for endogeneity with instrumental variables in strategic management research. ***Strategic Organization***, 6(3): 285–327.

Basu, S., Phelps, C. C., & Kotha, S. 2016. Search and Integration in External Venturing: An Inductive Examination of Corporate Venture Capital Units: Search and Integration in External Venturing. ***Strategic Entrepreneurship Journal***, 10(2): 129–152.

Basu, S., Phelps, C., & Kotha, S. 2011. Towards understanding who makes corporate venture capital investments and why. ***Journal of Business Venturing***, 26(2): 153–171.

Basu, S., & Wadhwa, A. 2013. External Venturing and Discontinuous Strategic Renewal: An Options Perspective: External Venturing and Strategic Renewal. ***Journal of Product Innovation Management***, 30(5): 956–975.

Battilana, J., & Dorado, S. 2010. Building Sustainable Hybrid Organizations: The Case of Commercial Microfinance Organizations. ***Academy of Management Journal***, 53(6): 1419–1440.

Battistini, B., Hacklin, F., & Baschera, P. 2017. The Strategic Value of Corporate Venture Capital Investments. ***Academy of Management Proceedings***, 2017(1): 12085.

Benson, D., & Ziedonis, R. H. 2009. Corporate Venture Capital as a Window on New Technologies: Implications for the Performance of Corporate Investors When Acquiring Startups. ***Organization Science***, 20(2): 329–351.

Benson, D., & Ziedonis, R. H. 2010. Corporate venture capital and the returns to acquiring portfolio companies. ***Journal of Financial Economics***, 98(3): 478–499.

Besharov, M. L., & Smith, W. K. 2014. Multiple Institutional Logics in Organizations: Explaining Their Varied Nature and Implications. ***Academy of Management Review***, 39(3): 364–381.

Biniari, M. G., Simmons, S. A., Monsen, E. W., & Pizarro Moreno, M. I. 2015. The configuration of corporate venturing logics: An integrated resource dependence and institutional perspective. ***Small Business Economics***, 45(2): 351–367.

Block, J., & Sandner, P. 2009. What is the effect of the financial crisis on venture capital financing? Empirical evidence from US Internet start-ups. ***Venture Capital***, 11(4): 295–309.

Block, Z., & MacMillan, I. 1993. Corporate venturing: Creating new business within the firm. ***The Columbia Journal of World Business***, 28(4): 97–98.

Block, Z., & Ornati, O. A. 1987. Compensating corporate venture managers. ***Journal of Business Venturing***, 2(1): 41–51.

Boyack, K. W., & Klavans, R. 2010. Co-citation analysis, bibliographic coupling, and direct citation: Which citation approach represents the research front most accurately? ***Journal of the American Society for Information Science and Technology***, 61(12): 2389–2404.

Burgelman, R. A. 1983. A Process Model of Internal Corporate Venturing in the Diversified Major Firm. ***Administrative Science Quarterly***, 28(2): 223.

Burgers, J. H., Jansen, J. J. P., Van den Bosch, F. A. J., & Volberda, H. W. 2009. Structural differentiation and corporate venturing: The moderating role of formal and informal integration mechanisms. ***Journal of Business Venturing***, 24(3): 206–220.

Bylund, P. L., & Packard, M. D. 2022. Back to the Future: Can Counterhistory Accelerate Theoretical Advancement in Management? ***Academy of Management Perspectives***, 36(2): 801–819.

Cabral, J. J., Francis, B. B., & Kumar, M. V. S. 2021. The impact of managerial job security on corporate entrepreneurship: Evidence from corporate venture capital programs. ***Strategic Entrepreneurship Journal***, 15(1): 28–48.

Cassar, G. 2004. The financing of business start-ups. ***Journal of Business Venturing***, 19(2): 261–283.

CB Insights. 2019, May 30. ***Why 60% Of Corporate Accelerators Fail After 2 Years***. CB Insights. https://app.cbinsights.com/research/corporate-accelerator-failure/.

Chemmanur, T. J., Loutskina, E., & Tian, X. 2014. Corporate Venture Capital, Value Creation, and Innovation. ***Review of Financial Studies***, 27(8): 2434–2473.

Chen, K., Zhang, Y., & Fu, X. 2019. International research collaboration: An emerging domain of innovation studies? ***Research Policy***, 48(1): 149–168.

Chen, X.-P., Yao, X., & Kotha, S. 2009. Entrepreneur Passion And Preparedness In Business Plan Presentations: A Persuasion Analysis Of Venture Capitalists' Funding Decisions. ***Academy of Management Journal***, 52(1): 199–214.

Chesbrough, H. 2000. Designing Corporate Ventures in the Shadow of Private Venture Capital. ***California Management Review***, 42(3): 31–49.

Chesbrough, H., & Tucci, C. L. 2020. The Interplay Between Open Innovation and Lean Startup, or, Why Large Companies Are Not Large Versions of Startups. ***Strategic Management Review***, 1(2): 277–303.

Chesbrough, H. W. 2002. Making sense of corporate venture capital. ***Harvard Business Review***, 80(3): 90–9, 133.

Cohen, S. 2013. What Do Accelerators Do? Insights from Incubators and Angels. ***Innovations: Technology, Governance, Globalization***, 8(3–4): 19–25.

Cohen, S., Bingham, C. B., & Hallen, B. L. 2019. The Role of Accelerator Designs in Mitigating Bounded Rationality in New Ventures. ***Administrative Science Quarterly***, 64(4): 810–854.

Cohen, S., Fehder, D. C., Hochberg, Y. V., & Murray, F. 2019. The design of startup accelerators. ***Research Policy***, 48(7): 1781–1797.

Cohen, S., & Hochberg, Y. V. 2014. Accelerating Startups: The Seed Accelerator Phenomenon. ***SSRN Electronic Journal***. https://doi.org/10.2139/ssrn.2418000.

Cohen, W. M., & Levinthal, D. A. 1990. Absorptive Capacity: A New Perspective on Learning and Innovation. ***Administrative Science Quarterly***, 35(1): 128.

Coleman, S., Cotei, C., & Farhat, J. 2013. A resource-based view of new firm survival: New perspectives on the role of industry and exit route. ***Journal of Developmental Entrepreneurship***, 18(01): 1350002.

Connolly, A. J., Turner, J., & Potocki, A. D. 2018. IGNITE your corporate innovation: Insights from setting up an ag-tech start-up accelerator. ***International Food and Agribusiness Management Review***, 21(6): 833–846.

Covin, J. G., Garrett, R. P., Kuratko, D. F., & Bolinger, M. 2021. Internal corporate venture planning autonomy, strategic evolution, and venture performance. ***Small Business Economics***, 56(1): 293–310.

Covin, J. G., Garrett, R. P., Kuratko, D. F., & Johnson, K. L. 2013. Value Proposition Evolution and the Performance of Internal Corporate Ventures. ***Academy of Management Proceedings***, 2013(1): 10540.

Covin, J. G., & Miles, M. P. 2007. Strategic Use of Corporate Venturing. ***Entrepreneurship Theory and Practice***, 31(2): 183–207.

Crișan, E. L., Salanță, I. I., Beleiu, I. N., Bordean, O. N., & Bunduchi, R. 2021. A systematic literature review on accelerators. ***The Journal of Technology Transfer***, 46(1): 62–89.

Cyert, R. M., March, J. G., & Clarkson, G. P. E. 1963. ***A behavioral theory of the firm***. Englewood Cliffs, N.J.: Prentice-Hall.

Dahl, M. S., & Sorenson, O. 2012. Home sweet home: Entrepreneurs' location choices and the performance of their ventures. ***Management Science***, 58(6): 1059–1071.

Dahlander, L., & Gann, D. M. 2010. How open is innovation? ***Research Policy***, 39(6): 699–709.

de Bettignies, J.-E., & Chemla, G. 2008. ***Corporate Venturing, Allocation of Talent, and Competition for Star Managers***, 41.

De Silva, M., Howells, J., & Meyer, M. 2018. Innovation intermediaries and collaboration: Knowledge–based practices and internal value creation. ***Research Policy***, 47(1): 70–87.

Denyer, D., Tranfield, D., & van Aken, J. E. 2008. Developing Design Propositions through Research Synthesis. ***Organization Studies***, 29(3): 393–413.

Dess, G. 2003. Emerging Issues in Corporate Entrepreneurship. ***Journal of Management***, 29(3): 351–378.

DiMaggio, P. J., & Powell, W. W. 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. ***American Sociological Review***, 48(2): 147.

Dimov, D., de Holan, P. M., & Milanov, H. 2012. Learning patterns in venture capital investing in new industries. ***Industrial and Corporate Change***, 21(6): 1389–1426.

Ditillo, A. 2004. Dealing with uncertainty in knowledge-intensive firms: The role of management control systems as knowledge integration mechanisms. ***Accounting, Organizations and Society***, 29(3–4): 401–421.

Dokko, G., & Gaba, V. 2012. Venturing into new territory: Career experiences of corporate venture capital managers and practice variation. ***Academy of Management Journal***, 55(3): 563–583.

Drover, W., Busenitz, L., Matusik, S., Townsend, D., Anglin, A., et al. 2017. A Review and Road Map of Entrepreneurial Equity Financing Research: Venture Capital, Corporate Venture Capital, Angel Investment, Crowdfunding, and Accelerators. ***Journal of Management***, 43(6): 1820–1853.

Durand, R., & Thornton, P. H. 2018. Categorizing Institutional Logics, Institutionalizing Categories: A Review of Two Literatures. ***Academy of Management Annals***, 12(2): 631–658.

Dushnitsky, G., & Birkinshaw, J. 2016. Corporate Venturing Virtual Special Issue. ***Strategic Management Journal***, 37(13): E6–E10.

Dushnitsky, G., & Lavie, D. 2010. How alliance formation shapes corporate venture capital investment in the software industry: A resource-based perspective: Alliance Formation and Corporate Venture Capital. ***Strategic Entrepreneurship Journal***, 4(1): 22–48.

Dushnitsky, G., & Lenox, M. J. 2005a. When do incumbents learn from entrepreneurial ventures? ***Research Policy***, 34(5): 615–639.

Dushnitsky, G., & Lenox, M. J. 2005b. When do firms undertake R&D by investing in new ventures? ***Strategic Management Journal***, 26(10): 947–965.

Dushnitsky, G., & Lenox, M. J. 2006. When does corporate venture capital investment create firm value? ***Journal of Business Venturing***, 21(6): 753–772.

Dushnitsky, G., & Shapira, Z. 2010. Entrepreneurial finance meets organizational reality: Comparing investment practices and performance of corporate and independent venture capitalists. ***Strategic Management Journal***, n/a-n/a.

Dushnitsky, G., & Shaver, J. M. 2009. Limitations to interorganizational knowledge acquisition: The paradox of corporate venture capital. ***Strategic Management Journal***, 30(10): 1045–1064.

Dyer, J. H., Gregersen, H. B., & Christensen, C. 2008. Entrepreneur behaviors, opportunity recognition, and the origins of innovative ventures. ***Strategic Entrepreneurship Journal***, 2(4): 317–338.

Easterby-Smith, M., Golden-Biddle, K., & Locke, K. 2008. Working With Pluralism: Determining Quality in Qualitative Research. ***Organizational Research Methods***, 11(3): 419–429.

Eisenhardt, K. M. 1989a. Building Theories from Case Study Research. ***Academy of Management Review***, 14(4): 532–550.

Eisenhardt, K. M. 1989b. Agency Theory: An Assessment and Review. ***The Academy of Management Review***, 14(1): 57.

Eisenhardt, K. M. 2021. What is the Eisenhardt Method, really? ***Strategic Organization***, 19(1): 147–160.

Eisenhardt, K. M., & Graebner, M. E. 2007. Theory building from cases: Opportunities and challenges. ***Academy of Management Journal***, 50(1): 25–32.

Enkel, E., & Sagmeister, V. 2020. External corporate venturing modes as new way to develop dynamic capabilities. ***Technovation***, 96–97: 102128.

Esho, E., & Verhoef, G. 2021. Variance decomposition of firm performance: Past, present and future. ***Management Research Review***, 44(6): 867–888.

European Commission. Joint Research Centre. 2022. ***In search of EU unicorns: What do we know about them?*** LU: Publications Office. https://data.europa.eu/doi/10.2760/843368.

Fletcher, M., & Plakoyiannaki, E. 2011. Case Selection in International Business: Key Issues and Common Misconceptions. ***Rethinking the Case Study in International Business and Management Research***: 13328. Edward Elgar Publishing.

Ford, S., Garnsey, E., & Probert, D. 2009. Evolving corporate entrepreneurship strategy: Technology incubation at Philips: Evolving corporate entrepreneurship strategy. ***R&D Management***, 40(1): 81–90.

Forman, C., & Goldfarb, A. 2020. ***Concentration and agglomeration of IT innovation and entrepreneurship: Evidence from patenting***. National Bureau of Economic Research.

Friedland, R., & Alford, R. R. 1991. Bringing Society Back In: Symbols Practices, and Institutional Contradictions. In W. W. Powell & P. DiMaggio (Eds.), ***The New institutionalism in organizational analysis***. Chicago: University of Chicago Press.

Fulghieri, P., & Sevilir, M. 2009. Organization and Financing of Innovation, and the Choice between Corporate and Independent Venture Capital. ***Journal of Financial and Quantitative Analysis***, 44(6): 1291–1321.

Gaba, V., & Bhattacharya, S. 2012. Aspirations, innovation, and corporate venture capital: A behavioral perspective. ***Strategic Entrepreneurship Journal***, 6(2): 178–199.

Gaba, V., & Meyer, A. D. 2008. Crossing the Organizational Species Barrier: How Venture Capital Practices Infiltrated the Information Technology Sector. ***Academy of Management Journal***, 51(5): 976–998.

Gaganis, C., Papadimitri, P., Pasiouras, F., & Tasiou, M. 2020. Cultural Diversity in New Venture Founding Teams: Does it Matter for Accelerators' Selection Decisions? ***SSRN Electronic Journal***. https://doi.org/10.2139/ssrn.3562351.

Gans, J. 2016. The other disruption. ***Harvard Business Review***, 94(3): 78–84.

Gans, J. S., Stern, S., & Wu, J. 2019. Foundations of entrepreneurial strategy. ***Strategic Management Journal***, 40(5): 736–756.

Garcia Herrera, C., & Autio, E. 2020. When Whales Meet Dolphins: Incumbent-New Venture Relationships During Architectural Disruption. ***Academy of Management Proceedings***, 2020(1): 21481.

Garrett, R. P., & Covin, J. G. 2015. Internal Corporate Venture Operations Independence and Performance: A Knowledge-Based Perspective. ***Entrepreneurship Theory and Practice***, 39(4): 763–790.

Garrett, R. P., & Neubaum, D. O. 2013. Top Management Support and Initial Strategic Assets: A Dependency Model for Internal Corporate Venture Performance: A Dependency Model of ICV Performance. ***Journal of Product Innovation Management***, 30(5): 896–915.

Gavetti, G., Greve, H. R., Levinthal, D. A., & Ocasio, W. 2012. The Behavioral Theory of the Firm: Assessment and Prospects. ***Academy of Management Annals***, 6(1): 1–40.

Gilbert, B. A., McDougall, P. P., & Audretsch, D. B. 2008. Clusters, knowledge spillovers and new venture performance: An empirical examination. ***Journal of Business Venturing***, 23(4): 405–422.

Gimeno, J., Folta, T. B., Cooper, A. C., & Woo, C. Y. 1997. Survival of the Fittest? Entrepreneurial Human Capital and the Persistence of Underperforming Firms. ***Administrative Science Quarterly***, 42(4): 750–783.

Gioia, D. A., Corley, K. G., & Hamilton, A. L. 2013. Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. ***Organizational Research Methods***, 16(1): 15–31.

Glynn, M. A., & D'Aunno, T. 2022. An Intellectual History of Institutional Theory: Looking Back to Move Forward. ***Academy of Management Annals***, annals.2020.0341.

Granados, C., Ayala, Y., & Rámos-Mejía, M. 2021. Fake it until you make it? Understanding "innovation theater" in organizations. ***Academy of Management Proceedings***, 2021(1): 14013.

Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E. R., & Lounsbury, M. 2011. Institutional Complexity and Organizational Responses. ***Academy of Management Annals***, 5(1): 317–371.

Gümüsay, A. A., Smets, M., & Morris, T. 2020. "God at Work": Engaging Central and Incompatible Institutional Logics through Elastic Hybridity. ***Academy of Management Journal***, 63(1): 124–154.

Guo, H., Shen, R., & Su, Z. 2019. The Impact of Organizational Legitimacy on Product Innovation: A Comparison Between New Ventures and Established Firms. ***IEEE Transactions on Engineering Management***, 66(1): 73–83.

Gutmann, T. 2019. Harmonizing corporate venturing modes: An integrative review and research agenda. ***Management Review Quarterly***, 69(2): 121–157.

Gutmann, T., Kanbach, D., & Seltman, S. 2019. Exploring the benefits of corporate accelerators: Investigating the SAP Industry 4.0 Startup Program. ***Problems and Perspectives in Management***, 17(3): 218–232.

Hallen, B. L., Cohen, S. L., & Bingham, C. B. 2020. Do Accelerators Work? If So, How? ***Organization Science***, 31(2): 378–414.

Hallen, B. L., & Eisenhardt, K. M. 2012. Catalyzing Strategies and Efficient Tie Formation: How Entrepreneurial Firms Obtain Investment Ties. ***Academy of Management Journal***, 55(1): 35–70.

Hallen, B. L., Katila, R., & Rosenberger, J. D. 2014. How Do Social Defenses Work? A Resource-Dependence Lens on Technology Ventures, Venture Capital Investors, and Corporate Relationships. ***Academy of Management Journal***, 57(4): 1078–1101.

Hambrick, D. C., & Fukutomi, G. D. S. 1991. The Seasons of a CEO's Tenure. ***Academy of Management Review***, 16(4): 719.

Hampel, C., Perkmann, M., & Phillips, N. 2020. Beyond the lean start-up: Experimentation in corporate entrepreneurship and innovation. ***Innovation***, 22(1): 1–11.

Hausberg, J. P., & Korreck, S. 2020. Business incubators and accelerators: A co-citation analysis-based, systematic literature review. ***The Journal of Technology Transfer***, 45(1): 151–176.

Heinemann, F. 2016, December 20. ***Corporate Accelerator Data Base***. https://corporate-accelerators.net/database/index.html.

Hill, A. D., Johnson, S. G., Greco, L. M., O'Boyle, E. H., & Walter, S. L. 2021. Endogeneity: A Review and Agenda for the Methodology-Practice Divide Affecting Micro and Macro Research. ***Journal of Management***, 47(1): 105–143.

Hill, C. W., & Snell, S. A. 1988. External control, corporate strategy, and firm performance in research-intensive industries. ***Strategic Management Journal***, 9(6): 577–590.

Hill, S. A., & Birkinshaw, J. 2008. Strategy–organization configurations in corporate venture units: Impact on performance and survival. ***Journal of Business Venturing***, 23(4): 423–444.

Hill, S. A., & Birkinshaw, J. 2014. Ambidexterity and Survival in Corporate Venture Units. ***Journal of Management***, 40(7): 1899–1931.

Hill, S. A., Maula, M. V. J., Birkinshaw, J. M., & Murray, G. C. 2009. Transferability of the venture capital model to the corporate context: Implications for the performance of corporate venture units: Transfer of Venture Capital Model to Corporate Venture Units. ***Strategic Entrepreneurship Journal***, 3(1): 3–27.

Hochberg, Y. V. 2016. Accelerating Entrepreneurs and Ecosystems: The Seed Accelerator Model. ***Innovation Policy and the Economy***, 16: 25–51.

Hochberg, Y. V., & Fehder, D. C. 2015. Accelerators and ecosystems. ***Science***, 348(6240): 1202–1203.

Hsieh, C., Nickerson, J. A., & Zenger, T. R. 2007. Opportunity Discovery, Problem Solving and a Theory of the Entrepreneurial Firm. ***Journal of Management Studies***, 44(7): 1255–1277.

Hu, S., Gu, Q., & Xia, J. 2021. Problemistic Search of the Embedded Firm: The Joint Effects of Performance Feedback and Network Positions on Venture Capital Firms' Risk Taking. ***Organization Science***. https://doi.org/10.2139/ssrn.3888515.

Islam, M., Fremeth, A., & Marcus, A. 2018. Signaling by early stage startups: US government research grants and venture capital funding. ***Journal of Business Venturing***, 33(1): 35–51.

Ivanov, V. I., & Xie, F. 2010. Do Corporate Venture Capitalists Add Value to Start-Up Firms? Evidence from IPOs and Acquisitions of VC-Backed Companies. ***Financial Management***, 39(1): 129–152.

Jay, J. 2013. Navigating Paradox as a Mechanism of Change and Innovation in Hybrid Organizations. ***Academy of Management Journal***, 56(1): 137–159.

Jensen, M. C., & Meckling, W. H. 2019. Theory of the firm: Managerial behavior, agency costs and ownership structure. ***Corporate Governance***: 77–132. Gower.

Jeon, E., & Maula, M. 2022. Progress toward understanding tensions in corporate venture capital: A systematic review. ***Journal of Business Venturing***, 37(4): 106226.

Jones, C., & Thornton, P. H. (Eds.). 2005. ***Transformation in cultural industries*** (1. ed). Amsterdam Heidelberg: Elsevier JAI.

Jones, O., & Gatrell, C. 2014. Editorial: The Future of Writing and Reviewing for *IJMR*: Editorial. ***International Journal of Management Reviews***, 16(3): 249–264.

Jordanius, A. H., Viktoria, R., & Kailas, A. 2019. ***Digital Innovation and Incubators: A Comparative Interview Study from the Perspective of the Automotive Industry***, 10.

Kanbach, D. K., & Stubner, S. 2016. Corporate Accelerators As Recent Form Of Startup Engagement: The What, The Why, And The How. ***Journal of Applied Business Research (JABR)***, 32(6): 1761.

Kanze, D., Huang, L., Conley, M. A., & Higgins, E. T. 2018. We Ask Men to Win and Women Not to Lose: Closing the Gender Gap in Startup Funding. ***Academy of Management Journal***, 61(2): 586–614.

Katila, R., & Chen, E. L. 2008. Effects of Search Timing on Innovation: The Value of Not Being in Sync with Rivals. ***Administrative Science Quarterly***, 53(4): 593–625.

Keil, T. 2004. Building External Corporate Venturing Capability. ***Journal of Management Studies***, 41(5): 799–825.

Keil, T., Autio, E., & George, G. 2008. Corporate Venture Capital, Disembodied Experimentation and Capability Development. ***Journal of Management Studies***, 45(8): 1475–1505.

Keil, T., Maula, M., Schildt, H., & Zahra, S. A. 2008. The effect of governance modes and relatedness of external business development activities on innovative performance. ***Strategic Management Journal***, 29(8): 895–907.

Keil, T., Maula, M. V. J., & Wilson, C. 2010. Unique Resources of Corporate Venture Capitalists as a Key to Entry into Rigid Venture Capital Syndication Networks. ***Entrepreneurship Theory and Practice***, 34(1): 83–103.

Keupp, M. M., & Gassmann, O. 2009. The Past and the Future of International Entrepreneurship: A Review and Suggestions for Developing the Field. ***Journal of Management***, 35(3): 600–633.

Kim, H., Bae, J., & Bruton, G. D. 2012. Business groups and institutional upheaval in emerging economies: Corporate venturing in Korea. ***Asia Pacific Journal of Management***, 29(3): 729–752.

Kohler, T. 2016. Corporate accelerators: Building bridges between corporations and startups. ***Business Horizons***, 59(3): 347–357.

Kotha, S., Shin, S. J., & Fisher, G. 2022. Time to unicorn status: An exploratory examination of new ventures with extreme valuations. ***Strategic Entrepreneurship Journal***, 16(3): 460–490.

Kötting, M. 2019. Corporate incubators as knowledge brokers between business units and ventures: A systematic review and avenues for future research. ***European Journal of Innovation Management***, 23(3): 474–499.

Kraatz, M. S., & Block, E. S. 2008. Organizational implications of institutional pluralism. ***The Sage Handbook of Organizational Institutionalism***, 840: 243–275.

Kuratko, D. F., Covin, J. G., & Garrett, R. P. 2009. Corporate venturing: Insights from actual performance. ***Business Horizons***, 52(5): 459–467.

Kurpjuweit, S., & Wagner, S. M. 2020. Startup Supplier Programs: A New Model for Managing Corporate-Startup Partnerships. ***California Management Review***, 62(3): 64–85.

Langley, A. 1999. Strategies for Theorizing from Process Data. ***Academy of Management Review***, 24(4): 691–710.

Langley, A., & Abdallah, C. 2011. Templates and Turns in Qualitative Studies of Strategy and Management. In D. D. Bergh & D. J. Ketchen (Eds.), ***Research Methodology in Strategy and Management***, vol. 6: 201–235. Emerald Group Publishing Limited.

Lee, S. U., & Kang, J. 2015. Technological Diversification Through Corporate Venture Capital Investments: Creating Various Options to Strengthen Dynamic Capabilities. ***Industry and Innovation***, 22(5): 349–374.

Leubner, A., & Vedula, S. 2022. Looking back to Speed Forward: Origins, Evolution, Path Forward for Corporate Accelerator Research. ***Academy of Management Proceedings***, 2022(1): 12340.

Lin, S.-J., & Lee, J.-R. 2011. Configuring a corporate venturing portfolio to create growth value: Within-portfolio diversity and strategic linkage. ***Journal of Business Venturing***, 26(4): 489–503.

Lundh, A., Lexchin, J., Mintzes, B., Schroll, J. B., & Bero, L. 2017. Industry sponsorship and research outcome. ***Cochrane Database of Systematic Reviews***, (2).

Mahmoud-Jouini, S. B., Duvert, C., & Esquirol, M. 2018. Key Factors in Building a Corporate Accelerator Capability: Developing an effective corporate accelerator requires close attention to the relationships between startups and the sponsoring company. ***Research-Technology Management***, 61(4): 26–34.

Maine, E. 2008. Radical innovation through internal corporate venturing: Degussa's commercialization of nanomaterials. ***R&D Management***, 38(4): 359–371.

Mair, J., Mayer, J., & Lutz, E. 2015. Navigating Institutional Plurality: Organizational Governance in Hybrid Organizations. ***Organization Studies***, 36(6): 713–739.

Makarevich, A. 2017. Organizing for success in internal corporate venturing: An inductive case study of a multinational consumer goods company. ***Creativity and Innovation Management***, 26(2): 189–201.

March, J. G. 1991. Exploration and Exploitation in Organizational Learning. ***Organization Science***, 2(1): 71–87.

Masulis, R. W., & Nahata, R. 2009. ***Financial contracting with strategic investors: Evidence from corporate venture capital backed IPOs***, 33.

Matusik, S. F., & Fitza, M. A. 2012. Diversification in the venture capital industry: Leveraging knowledge under uncertainty. ***Strategic Management Journal***, 33(4): 407–426.

Maula, M. V. J., Autio, E., & Murray, G. C. 2009. Corporate venture capital and the balance of risks and rewards for portfolio companies. ***Journal of Business Venturing***, 24(3): 274–286.

Maula, M. V. J., Keil, T., & Zahra, S. A. 2013. Top Management's Attention to Discontinuous Technological Change: Corporate Venture Capital as an Alert Mechanism. ***Organization Science***, 24(3): 926–947.

McGahan, A. M., & Porter, M. E. 1997. How much does industry matter, really? ***Strategic Management Journal***, 18(S1): 15–30.

Mcgee, J. E., & Sawyerr, O. O. 2003. Uncertainty and Information Search Activities: A Study of Owner–Managers of Small High-Technology Manufacturing Firms. ***Journal of Small Business Management***, 41(4): 385–401.

McMullen, J. S., & Shepherd, D. A. 2006. Entrepreneurial Action And The Role Of Uncertainty In The Theory Of The Entrepreneur. ***Academy of Management Review***, 31(1): 132–152.

Meyer, J. W., & Rowan, B. 1977. Institutionalized Organizations: Formal Structure as Myth and Ceremony. ***American Journal of Sociology***, 83(2): 340–363.

Miles, M. B., Huberman, A. M., & Saldaña, J. 2014. ***Qualitative data analysis: A methods sourcebook*** (Third edition). Thousand Oaks, Califorinia: SAGE Publications, Inc.

Miles, M. P., & Covin, J. G. 2002. Exploring the Practice of Corporate Venturing: Some Common Forms and Their Organizational Implications. ***Entrepreneurship Theory and Practice***, 26(3): 21–40.

Miller, D., & Shamsie, J. 2001. Learning across the life cycle: Experimentation and performance among the hollywood studio heads. ***Strategic Management Journal***, 22(8): 725–745.

Milliken, F. J. 1987. Three Types of Perceived Uncertainty about the Environment: State, Effect, and Response Uncertainty. ***Academy of Management Review***, 12(1): 133.

Mittermaier, A., Patzelt, H., & Shepherd, D. A. 2021. Motivating Prosocial Venturing in Response to a Humanitarian Crisis: Building Theory From the Refugee Crisis in Germany. ***Entrepreneurship Theory and Practice***, 104225872110252.

Mittermaier, A., Shepherd, D. A., & Patzelt, H. 2021. We Cannot Direct the Wind, but We Can Adjust the Sails: Prosocial Ventures' Responses to Potential Resource Threats. ***Organization Science***, 1–26.

Moed, H. F. 2005. ***Citation analysis in research evaluation***. Dordrecht: Springer.

Moschner, S.-L., Fink, A. A., Kurpjuweit, S., Wagner, S. M., & Herstatt, C. 2019. Toward a better understanding of corporate accelerator models. ***Business Horizons***, 62(5): 637–647.

Mueller, S., Volery, T., & von Siemens, B. 2012. What Do Entrepreneurs Actually Do? An Observational Study of Entrepreneurs' Everyday Behavior in the Start–Up and Growth Stages. ***Entrepreneurship Theory and Practice***, 36(5): 995–1017.

Munari, F., & Toschi, L. 2015. Assessing the impact of public venture capital programmes in the United Kingdom: Do regional characteristics matter? ***Journal of Business Venturing***, 30(2): 205–226.

Nair, S., Gaim, M., & Dimov, D. 2020. Toward the Emergence of Entrepreneurial Opportunities: Organizing Early Phase New-Venture Creation Support Systems. ***Academy of Management Review***, amr.2019.0040.

Nambisan, S., & Sawhney, M. 2007. A Buyer's Guide to the Innovation Bazaar. ***Harvard Business Review***, 10.

Napp, J. J., & Minshall, T. 2011. Corporate Venture Capital Investments for Enhancing Innovation: Challenges and Solutions. ***Research-Technology Management***, 54(2): 27–36.

Narayanan, V. K., Yang, Y., & Zahra, S. A. 2009. Corporate venturing and value creation: A review and proposed framework. ***Research Policy***, 38(1): 58–76.

Nesner, Tobias, Eismann, Tobias, & Voigt, Kai-Ingo. 2020. It's a Match! – Building Relationships Between Corporates and Start-Ups Throughout Corporate Accelerators. ***Journal of Technology and Innovation Management***, 4: 1–33.

Neumann, M., Hintzen, D., Riel, A., Waldhausen, G., & Dismon, H. 2019. Startup Engagement as Part of the Technology Strategy Planning – How Rheinmetall Automotive Increases Innovation by Using Corporate Venturing. In A. Walker, R. V. O'Connor, & R. Messnarz (Eds.), ***Systems, Software and Services Process Improvement***, vol. 1060: 743–755. Cham: Springer International Publishing.

Nicolai, A., & Seidl, D. 2010. That's Relevant! Different Forms of Practical Relevance in Management Science. ***Organization Studies***, 31(9–10): 1257–1285.

Ocasio, W., & Radoynovska, N. 2016. Strategy and commitments to institutional logics: Organizational heterogeneity in business models and governance. ***Strategic Organization***, 14(4): 287–309.

Osterwalder, A., Pigneur, Y., & Tucci, C. L. 2005. Clarifying Business Models: Origins, Present, and Future of the Concept. ***Communications of the Association for Information Systems***, 16. https://doi.org/10.17705/1CAIS.01601.

Ott, T. E., & Eisenhardt, K. M. 2020. Decision weaving: Forming novel, complex strategy in entrepreneurial settings. ***Strategic Management Journal***, 41(12): 2275–2314.

Ouchi, W. G. 1977. The Relationship Between Organizational Structure and Organizational Control. ***Administrative Science Quarterly***, 22(1): 95.

Ouchi, W. G., & Maguire, M. A. 1975. Organizational Control: Two Functions. ***Administrative Science Quarterly***, 20(4): 559.

Pache, A.-C., & Santos, F. 2010. When worlds collide: The internal dynamics of organizational responses to conflicting institutional demands. ***Academy of Management Review***, 35(3): 455–476.

Pache, A.-C., & Santos, F. 2013a. Embedded in Hybrid Contexts: How Individuals in Organizations Respond to Competing Institutional Logics. In M. Lounsbury & E. Boxenbaum (Eds.), ***Institutional Logics in Action, Part B***, vol. 39 Part B: 3–35. Emerald Group Publishing Limited.

Pache, A.-C., & Santos, F. 2013b. Inside the Hybrid Organization: Selective Coupling as a Response to Competing Institutional Logics. ***Academy of Management Journal***, 56(4): 972–1001.

Pahnke, E. C., Katila, R., & Eisenhardt, K. M. 2015. Who Takes You to the Dance? How Partners' Institutional Logics Influence Innovation in Young Firms. ***Administrative Science Quarterly***, 60(4): 596–633.

Park, H. D., & Steensma, H. K. 2012. When does corporate venture capital add value for new ventures? ***Strategic Management Journal***, 33(1): 1–22.

Pauwels, C., Clarysse, B., Wright, M., & Van Hove, J. 2016. Understanding a new generation incubation model: The accelerator. ***Technovation***, 50–51: 13–24.

Perkmann, M., McKelvey, M., & Phillips, N. 2019. Protecting Scientists from Gordon Gekko: How Organizations Use Hybrid Spaces to Engage with Multiple Institutional Logics. ***Organization Science***, 30(2): 298–318.

Perkmann, M., Phillips, N., & Greenwood, R. 2022. Institutional Arbitrage: How Actors Exploit Institutional Difference. ***Organization Theory***.

Phene, A., Tallman, S., & Almeida, P. 2012. When Do Acquisitions Facilitate Technological Exploration and Exploitation? ***Journal of Management***, 38(3): 753–783.

Porter, M. E. 1981. The contributions of industrial organization to strategic management. ***Academy of Management Review***, 6(4): 609–620.

Prexl, K.-M., Hubert, M., Beck, S., Heiden, C., & Prügl, R. 2019. Identifying and analysing the drivers of heterogeneity among ecosystem builder accelerators: Identifying and analysing the drivers of heterogeneity. ***R&D Management***, 49(4): 624–638.

Qin, F., Wright, M., & Gao, J. 2019. Accelerators and intra-ecosystem variety: How entrepreneurial agency influences venture development in a time-compressed support program. ***Industrial and Corporate Change***, 28(4): 961–975.

Ramalingam, B., & Prabhu, J. 2020. ***Innovation, development and COVID-19: Challenges, opportunities and ways forward***. OECD Policy Responses to Coronavirus (COVID-19). https://doi.org/10.1787/0c976158-en.

Ray, G., Barney, J. B., & Muhanna, W. A. 2004. Capabilities, business processes, and competitive advantage: Choosing the dependent variable in empirical tests of the resource-based view. ***Strategic Management Journal***, 25(1): 23–37.

Ream, J., & Schatsky, D. 2016. Corporate Accelerators: Spurring digital innovation with a page from the Silicon Valley playbook. ***Deloitte University Press***.

Richter, N., Jackson, P., & Schildhauer, T. 2018. Outsourcing creativity: An abductive study of open innovation using corporate accelerators. ***Creativity and Innovation Management***, 27(1): 69–78.

Ries, E. 2021. ***Lean Startup: Schnell, risikolos und erfolgreich Unternehmen gründen***. (U. Bischoff, Tran.) (8. Auflage). München: Redline Verlag.

Röhm, P. 2018. Exploring the landscape of corporate venture capital: A systematic review of the entrepreneurial and finance literature. ***Management Review Quarterly***, 68(3): 279–319.

Rossi, M., Festa, G., Papa, A., Kolte, A., & Piccolo, R. 2020. Knowledge management behaviors in venture capital crossroads: A comparison between IVC and CVC ambidexterity. ***Journal of Knowledge Management***, 24(10): 2431–2454.

Sahaym, A., Steensma, H. K., & Barden, J. Q. 2010. The influence of R&D investment on the use of corporate venture capital: An industry-level analysis. ***Journal of Business Venturing***, 25(4): 376–388.

Santos, F., Pache, A.-C., & Birkholz, C. 2015. Making Hybrids Work: Aligning Business Models and Organizational Design for Social Enterprises. ***California Management Review***, 57(3): 36–58.

Saunders, D. 2022, August 23. ***Corporate Accelerators Must Be Reimagined—Here's Why***. https://www.forbes.com/sites/forbestechcouncil/2022/08/23/corporate-accelerators-must-be-reimagined-heres-why/?sh=44c9cb2ef126.

Sawhney, M., Prandelli, E., & Verona, G. n.d. "Innomediaries" are helping companies innovate more effectively by connecting them over the Internet with a wide variety of current and potential customers. ***MIT Sloan Management Review***, Vol. 44(No 2): 8.

Saz-Carranza, A., & Longo, F. 2012. Managing Competing Institutional Logics in Public–Private Joint Ventures. ***Public Management Review***, 14(3): 331–357.

Schildt, H. A., Maula, M. V. J., & Keil, T. 2005. Explorative and Exploitative Learning from External Corporate Ventures. ***Entrepreneurship Theory and Practice***, 29(4): 493–515.

Schildt, H. A., Zahra, S. A., & Sillanpaa, A. 2006. Scholarly Communities in Entrepreneurship Research: A Co-Citation Analysis. ***Entrepreneurship Theory and Practice***, 30(3): 399–415.

Schildt, H., & Perkmann, M. 2017. Organizational Settlements: Theorizing How Organizations Respond to Institutional Complexity. ***Journal of Management Inquiry***, 26(2): 139–145.

Schmalensee, R. 1985. Do markets differ much? ***The American Economic Review***, 75(3): 341–351.

Scholl, L., & Hirte, R. 2018. Incubation in Multinational Corporations. ***2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC)***, 1–8. Presented at the 2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC), Stuttgart: IEEE.

Schuh, G., Lau, F., Zimmermann, R., & Vogt, F. 2017. Configuration Options for Corporate Incubators: Development of a Description Model Using the Morphological Analysis Method. ***2017 Portland International Conference on Management of Engineering and Technology (PICMET)***, 1–10. Presented at the 2017 Portland International Conference on Management of Engineering and Technology (PICMET), Portland, OR, USA: IEEE.

Schuh, G., Vogt, F., Lau, F., & Bickendorf, P. 2017. Concept of Innovation Transfer from Corporate Incubators. ***2017 Portland International Conference on Management of Engineering and Technology (PICMET)***, 1–11. Presented at the 2017 Portland International Conference on Management of Engineering and Technology (PICMET), Portland, OR, USA: IEEE.

Seitz, N., Lehmann, E., & Haslanger, P. 2019. Corporate Accelerators and Start-up Performance – Evidence from Germany. ***Academy of Management Proceedings***, 2019(1): 15052.

Selig, C. J., & Baltes, G. H. 2019. Towards an effective management of corporate entrepreneurship activities. ***2019 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC)***, 1–9. Presented at the 2019 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC), Valbonne Sophia-Antipolis, France: IEEE.

Selig, C. J., Gasser, T., & Baltes, G. H. 2018. How Corporate Accelerators Foster Organizational Transformation: An Internal Perspective. ***2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC)***, 1–9. Presented at the 2018 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC), Stuttgart: IEEE.

Semadeni, M., Withers, M. C., & Trevis Certo, S. 2014. The perils of endogeneity and instrumental variables in strategy research: Understanding through simulations: Research Notes and Commentaries. ***Strategic Management Journal***, 35(7): 1070–1079.

Shane, S., & Stuart, T. 2002. Organizational Endowments and the Performance of University Start-ups. ***Management Science***, 48(1): 154–170.

Shankar, R. K., & Shepherd, D. A. 2019. Accelerating strategic fit or venture emergence: Different paths adopted by corporate accelerators. ***Journal of Business Venturing***, 34(5): 105886.

Sharma, P., & Chrisman, S. J. J. 1999. Toward a Reconciliation of the Definitional Issues in the Field of Corporate Entrepreneurship*. ***Entrepreneurship***, 23(3): 1–16.

Siddaway, A. P., Wood, A. M., & Hedges, L. V. 2019. How to Do a Systematic Review: A Best Practice Guide for Conducting and Reporting Narrative Reviews, Meta-Analyses, and Meta-Syntheses. ***Annual Review of Psychology***, 70(1): 747–770.

Simon, M., Houghton, S. M., & Gurney, J. 1999. Succeeding at internal corporate venturing: Roles needed to balance autonomy and control. ***Journal of Applied Management Studies***, 8(2): 145.

Small, H. 1973. Co-citation in the scientific literature: A new measure of the relationship between two documents. ***Journal of the American Society for Information Science***, 24(4): 265–269.

Smets, M., Jarzabkowski, P., Burke, G. T., & Spee, P. 2015. Reinsurance Trading in Lloyd's of London: Balancing Conflicting-yet-Complementary Logics in Practice. ***Academy of Management Journal***, 58(3): 932–970.

Smith, S. W., & Shah, S. K. 2013. Do Innovative Users Generate More Useful Insights? An Analysis of Corporate Venture Capital Investments in the Medical Device industry. ***Strategic Entrepreneurship Journal***, 7(2): 151–167.

Souitaris, V., & Zerbinati, S. 2014. How do Corporate Venture Capitalists do Deals? An Exploration of Corporate Investment Practices: How do CVCs do Deals? ***Strategic Entrepreneurship Journal***, 8(4): 321–348.

Souitaris, V., Zerbinati, S., & Liu, G. 2012. Which Iron Cage? Endo- and exoisomorphism in Corporate Venture Capital Programs. ***Academy of Management Journal***, 55(2): 477–505.

Stopford, J. M., & Baden-Fuller, C. W. F. 1994. Creating corporate entrepreneurship. ***Strategic Management Journal***, 15(7): 521–536.

Strauss, A. L., & Corbin, J. M. 1998. ***Basics of qualitative research: Techniques and procedures for developing grounded theory*** (2nd ed). Thousand Oaks: Sage Publications.

Stuart, R., & Abetti, P. A. 1987. Start-up ventures: Towards the prediction of initial success. ***Journal of Business Venturing***, 2(3): 215–230.

Stuart, T. E. 2000. Interorganizational alliances and the performance of firms: A study of growth and innovation rates in a high-technology industry. ***Strategic Management Journal***, 21(8): 791–811.

Suchman, M. C. 1995. Managing Legitimacy: Strategic and Institutional Approaches. ***Academy of Management Review***, 20(3): 571–610.

Suddaby, R. 2006. From the Editors: What Grounded Theory is Not. ***Academy of Management Journal***, 49(4): 633–642.

Sunley, P., Klagge, B., Berndt, C., & Martin, R. 2005. Venture capital programmes in the UK and Germany: In what sense regional policies? ***Regional Studies***, 39(2): 255–273.

Sunny, S. A., & Shu, C. 2019. Investments, incentives, and innovation: Geographical clustering dynamics as drivers of sustainable entrepreneurship. ***Small Business Economics***, 52: 905–927.

Sykes, H. B., & Block, Z. 1989. Corporate venturing obstacles: Sources and solutions. ***Journal of Business Venturing***, 4(3): 159–167.

Tallman, S., Jenkins, M., Henry, N., & Pinch, S. 2004. Knowledge, Clusters, and Competitive Advantage. ***Academy of Management Review***, 29(2): 258–271.

Taran, Y., Boer, H., & Lindgren, P. 2015. A Business Model Innovation Typology: A Business Model Innovation Typology. ***Decision Sciences***, 46(2): 301–331.

Thomke, S. H. 2020. ***Experimentation works: The surprising power of business experiments***. Harvard Business Press.

Thornberry, N. 2001. Corporate entrepreneurship: ***European Management Journal***, 19(5): 526–533.

Thornton, P. H. 1999. The Sociology of Entrepreneurship. ***Annual Review of Sociology***, 25(1): 19–46.

Thornton, P. H., & Ocasio, W. 1999. Institutional Logics and the Historical Contingency of Power in Organizations: Executive Succession in the Higher Education Publishing Industry, 1958– 1990. ***American Journal of Sociology***, 105(3): 801–843.

Thornton, P. H., & Ocasio, W. 2008. Institutional logics. ***The Sage Handbook of Organizational Institutionalism***, 840(2008): 99–128.

Thornton, P. H., Ocasio, William, & Lounsbury, Michael. 2015. The Institutional Logics Perspective. In R. A. Scott & S. M. Kosslyn (Eds.), ***Emerging Trends in the Social and Behavioral Sciences: An Interdisciplinary, Searchable, and Linkable Resource*** (1st ed.). Wiley. https://doi.org/10.1002/9781118900772.

Titus, V., House, J. M., & Covin, J. G. 2017. The Influence of Exploration on External Corporate Venturing Activity. ***Journal of Management***, 43(5): 1609–1630.

Titus, V. K., & Anderson, B. S. 2018. Firm Structure and Environment as Contingencies to the Corporate Venture Capital-Parent Firm Value Relationship. ***Entrepreneurship Theory and Practice***, 42(3): 498–522.

Tong, T. W., & Li, Y. 2011. Real Options and Investment Mode: Evidence from Corporate Venture Capital and Acquisition. ***Organization Science***, 22(3): 659–674.

Toole, A., Jones, C., & Madhavan, S. 2021. ***Patentsview: An open data platform to advance science and technology policy***.

Tran, Y., Hsuan, J., & Mahnke, V. 2011. How do innovation intermediaries add value? Insight from new product development in fashion markets: How do innovation intermediaries add value? ***R&D Management***, 41(1): 80–91.

Tranfield, D., Denyer, D., & Smart, P. 2003. Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. ***British Journal of Management***, 14(3): 207–222.

Urbaniec, M., & Żur, A. 2020. Business model innovation in corporate entrepreneurship: Exploratory insights from corporate accelerators. ***International Entrepreneurship and Management Journal***. https://doi.org/10.1007/s11365-020-00646-1.

van Burg, E., de Jager, S., Reymen, I. M. M. J., & Cloodt, M. 2012. Design principles for corporate venture transition processes in established technology firms: Design principles for corporate venturing. ***R&D Management***, 42(5): 455–472.

Van de Vrande, V., & Vanhaverbeke, W. 2013. How Prior Corporate Venture Capital Investments Shape Technological Alliances: A Real Options Approach. ***Entrepreneurship Theory and Practice***, 37(5): 1019–1043.

van de Vrande, V., Vanhaverbeke, W., & Duysters, G. 2011. ***Technology In-Sourcing and the Creation of Pioneering Technologies***, 15.

van Eck, N. J., & Waltman, L. 2017. Citation-based clustering of publications using CitNetExplorer and VOSviewer. ***Scientometrics***, 111(2): 1053–1070.

Vedula, S., Doblinger, C., Pacheco, D., York, J., Bacq, S., et al. 2021. Entrepreneurship for the Public Good: A Review, Critique, and Path Forward for Social and Environmental Entrepreneurship Research. ***Academy of Management Annals***, annals.2019.0143.

Vedula, S., & Matusik, S. F. 2017. Geographic, Network, and Competitor Social Cues: Evidence from U.S. Venture Capitalists Internationalization Decisions: *Geographic, Network, and Competitor Social Cues*. ***Strategic Entrepreneurship Journal***, 11(4): 393–421.

Vedula, S., York, J. G., Conger, M., & Embry, E. 2022. Green to Gone? Regional Institutional Logics and Firm Survival in Moral Markets. ***Organization Science***, orsc.2021.1533.

Verona, G., Prandelli, E., & Sawhney, M. 2006. Innovation and Virtual Environments: Towards Virtual Knowledge Brokers. ***Organization Studies***, 27(6): 765–788.

Vogel, R., & Güttel, W. H. 2012. The Dynamic Capability View in Strategic Management: A Bibliometric Review: DCV in Strategic Management. ***International Journal of Management Reviews***, n/a-n/a.

Wadhwa, A., & Basu, S. 2013. Exploration and Resource Commitments in Unequal Partnerships: An Examination of Corporate Venture Capital Investments: Exploration and Resource Commitments. ***Journal of Product Innovation Management***, 30(5): 916–936.

Wadhwa, A., & Kotha, S. 2006. Knowledge Creation Through External Venturing: Evidence from the Telecommunications Equipment Manufacturing Industry. ***Academy of Management Journal***, 49(4): 819–835.

Wadhwa, A., Phelps, C., & Kotha, S. 2016. Corporate venture capital portfolios and firm innovation. ***Journal of Business Venturing***, 31(1): 95–112.

Weber, C., & Weber, B. 2011. Exploring the antecedents of social liabilities in CVC triads—A dynamic social network perspective. ***Journal of Business Venturing***, 26(2): 255–272.

Weiblen, T., & Chesbrough, H. W. 2015. Engaging with Startups to Enhance Corporate Innovation. ***California Management Review***, 57(2): 66–90.

Weng, D. H., & Lin, Z. (John). 2014. Beyond CEO Tenure: The Effect of CEO Newness on Strategic Changes. ***Journal of Management***, 40(7): 2009–2032.

Winston Smith, S. 2020. Spanning Two Worlds? Corporate Accelerators and Corporate Venture Capital in Innovation Portfolios. ***Wharton Technology & Innovation Conference***.

Wójcik, P., Obłój, K., Wąsowska, A., & Wierciński, S. 2020. Corporate acceleration process: A systems psychodynamics perspective. ***Journal of Organizational Change Management***, 33(6): 1163–1180.

Wurth, B., Stam, E., & Spigel, B. 2022. Toward an Entrepreneurial Ecosystem Research Program. ***Entrepreneurship Theory and Practice***, 46(3): 729–778.

Yang, Y., Narayanan, V. K., & De Carolis, D. M. 2014. The relationship between portfolio diversification and firm value: The evidence from corporate venture capital activity: The Relationship between Portfolio Diversification and Firm Value. ***Strategic Management Journal***, 35(13): 1993–2011.

Yang, Y., Narayanan, V. K., & Zahra, S. 2009. Developing the selection and valuation capabilities through learning: The case of corporate venture capital. ***Journal of Business Venturing***, 24(3): 261–273.

York, J. G., Vedula, S., & Lenox, M. J. 2018. It's Not Easy Building Green: The Impact of Public Policy, Private Actors, and Regional Logics on Voluntary Standards Adoption. ***Academy of Management Journal***, 61(4): 1492–1523.

Zahra, S. A., & Covin, J. G. 1995. Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. ***Journal of Business Venturing***, 10(1): 43–58.

Zhang, J., Bessler, D. A., & Leatham, D. J. 2013. Aggregate business failures and macroeconomic conditions: A VAR look at the US between 1980 and 2004. ***Journal of Applied Economics***, 16(1): 179–202.

Zichella, G. 2020. Surprisingly stable: An experiment on willingness to bear uncertainty in individuals with and without entrepreneurial intentions. ***Journal of Management Development***, 39(9/10): 989–1011.

Zott, C., & Amit, R. 2007. Business Model Design and the Performance of Entrepreneurial Firms. ***Organization Science***, 18(2): 181–199.

Zott, C., & Amit, R. 2010. Business Model Design: An Activity System Perspective. ***Long Range Planning***, 43(2–3): 216–226.

Zupic, I., & Čater, T. 2015. Bibliometric Methods in Management and Organization. ***Organizational Research Methods***, 18(3): 429–472.

7 APPENDICES

7.1 Appendix Chapter 3

Appendix A: Differences in Institutional Logics between Incumbents and New Ventures

In this study, we highlighted five distinct differences in institutional logics between incumbents and new ventures, i.e. (1) differences in basis of strategy, (2) differences in basis of norms, (3) differences in basis of attention, (4) differences in basis of legitimacy, and (5) differences in organizational practices.

Differences in Basis of Strategy. Established firms that are involved in external CV activities seek for strategic benefits, i.e., by gaining a window on innovation and learning from new technologies (Basu & Wadhwa, 2013; Dushnitsky & Lenox, 2005a; Wadhwa & Basu, 2013). As disciples of a corporate logic, corporate managers seek for strategic renewal to strengthen the position and respond to challenges in their markets, following the basis of corporate strategy to increase firm size and diversification (Dess, 2003; Jones & Thornton, 2005; Saz-Carranza & Longo, 2012). In essence, established firms' strategic base lies in the positioning against competitors in the market (Cohen, Fehder, et al., 2019; Katila & Chen, 2008). In contrast, new ventures' strategic focus lies on gaining market access and rapidly growing their business (Kohler, 2016; Mueller et al., 2012; Ries, 2021; Weiblen & Chesbrough, 2015). In doing so, entrepreneurs intend to raise awareness for their venture and iteratively improve their product quality (Ries, 2021). This refers to the professions logic, where the strategic base lies in increasing "personal reputation and quality of craft" (Jones & Thornton, 2005, p.57). In CAs, the strategic base of established firms collides with the ambitions of new ventures, which both follow different institutional logics (i.e., corporate vs. professions). This might create institutional complexity.

Differences in Basis of Norms. Established firms are usually long-standing organizations that offer relatively safe employment conditions to their staff. Incumbent's employees and managers are embedded within the organization and are therefore marked by a corporate's institutional norms (Jones & Thornton, 2005; Saz-Carranza & Longo, 2012). While they can build on their extensive experience within the corporation, technical and managerial know-how (Dushnitsky & Lenox, 2005b), corporate employees are strongly influenced by the companies' internal standards and rules (Jones & Thornton, 2005). On the other hand, entrepreneurs act under higher uncertainty (Gans et al., 2019), are driven by entrepreneurial passion (Chen, Yao, & Kotha, 2009) and experimentation (Hampel et al., 2020), while focusing on problem solving (Chesbrough & Tucci, 2020; Hsieh, Nickerson, & Zenger, 2007). Given the small size of new ventures, the basis of norms for their founders or employee's is defined by the entrepreneurial ecosystem they are engaging with, rather than the individual firm level (Qin, Wright, & Gao, 2019; Wurth, Stam, & Spigel, 2022). Entrepreneurial basis of norms refers more to a 'membership in a guild' than 'employment in firm' and is represented by a professions logic (Jones & Thornton, 2005; Saz-Carranza & Longo, 2012).

Differences in Basis of Attention. The basis of attention for incumbents is shaped by their assumptions on how to succeed and where to focus (Pahnke et al., 2015). For established firms, these lie in their position in industry, based on the availability of resources as well as highest product quality standards (Chesbrough & Tucci, 2020; Jones & Thornton, 2005; Weiblen & Chesbrough, 2015). Opposed to that, new ventures must cope with resource scarcity (Hallen et al., 2014; Weiblen & Chesbrough, 2015), build prototypes and move fast (Chesbrough & Tucci, 2020), to secure the subsequent funding round and prevail in the entrepreneurial ecosystem (Park & Steensma, 2012). New ventures, before fully establishing in a particular industry, have to focus on survival and effective exploitation of their available resources (Coleman, Cotei, & Farhat, 2013).

Again, on the basis of attention, new ventures focus more on their temporary position and survival in the entrepreneurial environment than on the industry sector, and therefore are closer to a professions logic.

Differences in Basis of Legitimacy. An organization's legitimacy is multilayered and differs by organizational context and audience of engagement, so as for established firms and new ventures (Guo, Shen, & Su, 2019). Resulting from their basis of norms, attention and strategy, established firms draw their legitimacy from their market position (Jones & Thornton, 2005; Saz-Carranza & Longo, 2012). Building on a long history and recurring approval of quality (Chesbrough & Tucci, 2020), established firms are legitimized via long-lasting customer relationships, trust, and legacy of their achievements (Meyer & Rowan, 1977). New ventures, in turn, are emerging, changing, inconstant organizations (Nair et al., 2020), that cannot rely on a long history and must therefore draw their legitimacy from innovative approaches and opportunity recognition (Dyer, Gregersen, & Christensen, 2008), fundraising (Islam, Fremeth, & Marcus, 2018), fast-pace customer creation (Hallen et al., 2020) and new, at times disruptive, technologies (Benson & Ziedonis, 2009; Weiblen & Chesbrough, 2015). Thus, new ventures' legitimacy stems from individual expertise, and relates stronger to a professions logic (Jones & Thornton, 2005; Saz-Carranza & Longo, 2012). We might expect a gradual transition in the base of legitimacy from a professions logic towards a corporate logic, as new ventures establish in the market and mature over time (Meyer & Rowan, 1977). However, at the stage of participating in CA programs, new ventures and incumbents still have different bases of legitimacy.

Differences in Organizational Practices. The above differences in key characteristics of corporate and professions logics between established firms and new ventures breaks down to and is reflected in the respective organizational practices. Established firms are often large organizations with multiple different units, which require more standardized processes and more

hierarchical, at times bureaucratic structures (Jones & Thornton, 2005; Pahnke et al., 2015; Saz-Carranza & Longo, 2012; Thornton, 1999). New ventures, as young, growing organizations have flat hierarchies, more informal processes and agile, iterative ways of working (Qin et al., 2019; Ries, 2021; Thomke, 2020; Weiblen & Chesbrough, 2015). The underlying logic for entrepreneurial organizational practices is, therefore, strongly related to the professions logic, which is organized in networks and peer control instead of hierarchical structures (Jones & Thornton, 2005; Saz-Carranza & Longo, 2012).

All in all, by bringing together an institutional corporate logic and a professions-related entrepreneurial logic, CAs tend to create institutional complexity. This might lead to dyadic tensions (Garcia Herrera & Autio, 2020), which need to be mitigated during the acceleration process. Table 8 summarizes the discussed institutional differences between incumbents and new ventures.

Appendix B: Interview Guideline

Semi-structured interviews, minimum one interviewer; questions individually adapted to the conversation; interviews were recorded and transcribed

INTRODUCTORY QESTION

- *All:* Can you please briefly introduce yourself and your role in the CA program?

- *For startups:*
- Can you briefly describe your background, your startup and how you got in contact with the CA program?
- What is the ambition for your startup to participate in the CA program?
- How was the program organized and structured along the entire process?
- Who were the key contact people for you during the program?
- How did the interaction with the corporate parent work?

- *For CA managers or corporate managers*
- What is the ambition of your CA and how does it work?
- How is your CA structurally organized?
- Who are the people in the key positions?
- How does the CA org interact with the Corporate parent?
- How has the business model of your CA evolved over the past years?
    - What were the factors for change?

VALUE PROPOSITION

- What is/was the offering of the CA towards new ventures?
    - Mentoring and Coaching
    - Infrastructure (Spaces, Software, Hardware)
    - Networking and Community
    - Financial support
- Where do the offerings take place?
- How does the offering work out?
- Who in the company/CA is providing the offering?
- Why (do you think) is the offering designed this way?

VALUE/BENEFIT CREATION

- Looking comprehensively at the entire CA program (pre-acceleration, acceleration, post-acceleration), where do you invest most of your resources?

- Looking at the entire CA process (pre-acceleration, acceleration, post-acceleration)
    - Where do you see the value creation for the corporate parent at each of the three steps? Look at them separately/distinctively. What do the corporations learn/receive from startups?
    - Where do you see the value creation for the new venture at each of the three steps? Look at the steps separately/distinctively. Imagine you hadn't made it to the next step. What would you have taken from this step? What do the startups learn/receive from the corporates?

- Let's take the Accelerator Program as a transfer platform:
    - What does the new venture learn or adopt from the established firm?
    - What does the established firm learn or adopt from the new venture?

- What are, from your perspective, the key benefits of an accelerator program being run by a corporate?
- What are, from your perspective the main drawbacks of an accelerator program being run by a corporate

CONTROL OPTIONS/WILLINGNESS TO BEAR UNCERTAINTY

- Why do you focus on/prefer pilot projects//not focus on pilot projects?
    - How do you think does this choice influence the outcome of the CA program?

- Why do you run/participate in cohort based project vs. rolling/ongoing intakes?

- What do you think are the main differences between an in-house CAs and an externally managed CA program?
    - *For corporate/CA managers:* Why did you prefer to run the CA in-house/externally?
    - How do you think does this design choice influence the outcome of the CA program for startups and incumbents?

Appendix C: Representative Quotes for Goal Specific CAs with Pilot Projects

Laying the foundation for acceleration: Driving towards execution through established collaboration modes
"They actually prefer this very driven process that we have now… where we only reach out to them if there's actually a budget, the resources, kind of a case challenge to be solved and I also think, for the startups it's just better." (IV-A2) "So we first had to talk to our legal and procurement people so that that they changed the rules on how we work together with our suppliers." (V-C1) "Working with an early-stage startup can be very difficult for a company, because the early-stage startup doesn't have any contract templates processes, etc. The business unit from [the corporation] knows that [the CA] understands the startup world and that they can ask them questions." (II-F1)
Managing potential limitations: Minimizing over-customization of venture's product and processes
"Start-ups are in between those two processes: so customized but not as customized as my own business units or R&D department would do it, and not too big so as not to be able to customize it enough (e.g. when buying it from Google, Adobe, Photoshop, whatever)" (II-A1) "The pilot project problem is the over-customization of processes towards the corporate IT infrastructure." (IV-F1) "For sure you are restricted to the technology that they want to offer, and that they want to broaden in the world. Which for us is not really restricted because that's why we went there." (III-F1)
Managing potential limitations: Protecting IP through legal agreements and sensitivity for tech piracy
"I think, especially around exclusivity, and that really depends on the interaction between the startup and corporate. Some corporates want to have exclusive rights for certain market, which of course limits the applicable market for the start-up." (IV-A1) "In our pilot agreement it is shared IP with something that is created and after the pilot phase, this can be changed…for instance, we can say after the pilot phase 'this is great we take the IP and we pay you this money for it'. But during the pilot phase it's shared IP what's been created." (IV-C2) "The terms and conditions are a little bit dangerous, from our perspective regarding IP, so there are some unclear formulations in the terms and conditions." (III-F2)
Altering institutional arbitrage: Fostering post-acceleration partnership and collaboration between incumbent and venture support legitimacy gains of new ventures
"The goal is that the startups come, also on [the incumbent] store. So, we have a platform, which they are on, and from that store, we have our sales people, promoting the startups towards our customers" (III-A3) "It's really to find partners for [the incumbent]. So, I wouldn't call us the classical accelerator actually because it's really to build partnerships with the startups to offer the customers a bigger spectrum of solutions in the end." (II-A1) "First of all, we have a key account, which is really huge." (V-F2)
Altering institutional arbitrage: Specifying venture's capability valuation through feedback for customer-readiness
"'How is my daily business or what I had as a challenge doing?' or 'Does what I had in mind, my idea, or inspiration work?' or 'Should I move on or change something?' So they really validate their daily businesses, processes, and ideas they have." (II-A1) "In contact with our corporate partners, they definitely get feedback on what they are doing, get feedback on their solution if it's a good fit for the corporate partner's challenge already." (IV-A4) "They learn how to present what's important […]'What do we need to focus on? How can we convince [the incumbent] that we are the right guys for them?' E.g. focus on your value for the company." (II-C1)

Appendix D: Representative Quotes on Exploratory CA Program with Adaptable Goals

Laying the foundation for acceleration: Aligning mutual expectations
"In these four weeks we talked with startups we try to understand what they expect from the program they define their targets their KPIs so what would they like to have, at the end of the of the 12 weeks, and this is my input for looking into the pool of mentors and define who is the right one because there's one lead mentor defined with the right one, who covers most of what the startup needs are." (I-A1)
"We do the onboarding with them, we have a lot of calls with them to understand: What are their needs? What are their company building business needs? What are their technical needs? We build their plan together with them and set up KPIs." (I-A2)
Managing potential limitations: Balancing customer focus of CA
"We are clear on the fact that actually our first priority are the startups and second is [the corporation]. The first priority is that the startups get what they need at the stage and that what we give them helps them to strengthen the company to learn company building." (I-A2)
Altering institutional arbitrage: Space for entrepreneurial logic to unfold
"One target is for sure that we want to see new technical innovation market trends and how can this be brought back" (I-A1)
"It's about growing the pie, growing the ecosystem around [the corporation], connecting them with multiple startups, to new businesses they've never had contact with." (I-A3)
"Especially if you are such a big ship on the sea. You have to be aware of all the innovation around you and it's better to be part of it. And it's better to melt with the innovative ecosystem, to get to know the knowledge early on." (I-F1)

Appendix E: Representative Quotes on Internally Managed CAs with Governance Control

Laying the foundation for acceleration: Enhancing engagement within incumbent organization
"Each program will only run if we have executive sponsorship from that area of the business." (III-A2)
"I think the way we work with the teams and the depth we work with the teams is not possible, very hard for me to imagine how that would be possible with an external partner." (I-A4)
"I'm trying to involve the stakeholders early on and really get their support and their buy-in that they really support us, because without them we can't handle it." (III-A1)
"People are more committed. We know that this accelerator is part of [the corporation], we need to make this work." (IV-C3)
"They dedicate that part of the time and they know that in advance and she knows, but they're usually very excited to participate in this kind of thing and it's usually not an issue." (IV-C1)
"In-house acceleration with active corporate involvement leads to stronger access and connection to company." (IV-F1)
Laying the foundation for acceleration: Facilitating access to incumbent's capabilities for ventures
"The start-ups are very free, they get all the access, and then it's like "I get what I need and I give what I have." (II-A1)
"Through [the CA] you provide access and that opens our business opportunities that opens up partnership opportunities so it's really more focused on making the resources of the company available, where there is a win, win situation for both." (I-C1)
"We wanted to have a tight connection between [the corporation] databases, waste and recycling systems, and our algorithm course that we provide." (III-F1)
Laying the foundation for acceleration: Enforcing strategic fit through understanding of complementarity
"We couple technology experts our technology domain with startups that are in a similar technology domain and that's super important." (I-A1)
"For the internal process, we are closer with both of them, because we know the company." (II-A1)
Managing potential limitations: Overcoming rigid corporate processes
"For a startup, there are so many challenges faced to win at big corporate such as Telefonica: the procurement process, data security process, etc. Everything takes longer, is complicated." (II-A2)
"Having to go jump through these loops to get them approved and then getting like push back because it's not a preferred vendor of [the corporation] because we have to report to these processes, that's frustrating." (I-A3)
Altering institutional arbitrage: Transfer of entrepreneurial attitude into incumbent
"A bigger topic is cultural shift. A lot of the employees are purely science students, have always just worked in the corporate environment, haven't had those touch points with let's say a faster pace, different environment. So I think just manifesting that more entrepreneurship thinking, the lean and agile way of working." (IV-A1)
"It's agile, adapting ourselves, we have a huge customer base, we have a lot of sales people, we need to align them, we need to change the culture so it's also culture change here, we are working on. (III-A3)
"There is a cultural aspect as a big company innovating and fast cycles and you know breaking through established processes can sometimes be challenging and so the more people who get exposed to startups and work with startups and see how quickly you need to fit and adjust that's just a cultural influence that the program brought you" (I-C1)
Altering institutional arbitrage: Strengthening of public awareness for incumbent
"Changing the overall brand perception of [the corporation] within the startup space. That's something that I worked extremely hard on for the past few years (II-A2)"
"Presence in the startup space and be recognized that someone that is willing to invest, willing to engage. But also play a good place to work." (I-C1)
"You have a bit of a different brand awareness. (I-F2)

Appendix F: Representative Quotes on Governance Outsourcing in Externally Managed CAs

Laying the foundation for acceleration: Driving towards execution through program controlling
"There is really a guarantee, that they can work together with that corporate and that all the frameworks are given." (V-A2)
"We have a chat about all the ongoing projects. We track where we stand, have our help and really push them and give them ideas, how to roll this out. (IV-A2)
Managing potential limitations: Balancing customer focus of CA
"In the end the corporates are our clients, they pay us an annual fee, and we want to make sure they're happy." (IV-A5)
"They make it very tough for startups to get in there and then make it very easy for corporates. Because a corporate just needs to pay money. And that's the biggest flaw." (V-F1)
Altering institutional arbitrage: Facilitating multi-directional exchange
"We have some anchor partners and ecosystem partners with successively less influence but which are still involved." (IV-A1)
"We give to the corporate partners, networking, exchange, best practice sharing also among the corporate partners. […] We connect them with partners on the platform that have been doing this for years." (IV-A4)

7.2 Appendix Chapter 4

Appendix A: Parametric Survival Model Table

	Model 1			Model 2 (time lagged)		
Variables	Coefficient	Std. err	p-value	Coefficient	Std. err	p-value
CA-specific factors						
Non-overlapping Tech	-0.701	0.228	**0.002*****	-0.641	0.232	**0.006*****
Pilot-project driven	0.024	0.224	0.913	-0.012	0.224	0.956
Externally Managed	-0.405	0.242	**0.093****	-0.379	0.244	0.12
Financial resources	0.129	0.239	0.588	0.145	0.241	0.547
Corporate specific factors						
Active CVC invest	-0.456	.218	0.036	-0.431	0.21	**0.04****
Innovativeness	0.01	0.026	0.692	0.007	0.025	0.772
Revenue Growth	-0.097	0.229	0.673	-0.215	0.23	0.35
EBIT Margin	0.00	0.008	0.964	0.003	0.008	0.721
CEO change	-0.965	0.461	**0.036****	-0.086	0.268	0.749
Ecosystem factors						
Industry (base: Pharma, Chem., Biotech)						
Consumer & Hardware	1.359	0.797	**0.088****	1.418	0.79	**0.073****
Finance, Insur., Services	1.36	0.794	**0.087****	1.334	0.789	**0.091****
Industrial Goods	1.615	0.776	**0.038****	1.645	0.773	**0.033****
Media, Telco, Online	1.291	0.765	**0.092****	1.272	0.769	**0.098****
Retail	0.92	0.867	0.289	0.991	0.87	0.255
Tech, Software, IT	0.86	0.887	0.332	0.907	0.894	0.31
Transport & Logistics	1.696	0.859	**0.048****	1.814	0.867	**0.036****
Utilities, Mining, Constr.	1.345	0.809	**0.097****	1.438	0.802	**0.073****
Other	1.227	0.82	0.134	1.275	0.818	0.119
Region (base: Europe)						
Asia Pacific	0.423	0.273	0.122	0.427	0.278	0.125
Middle East/Africa	-0.069	0.504	0.892	-0.021	0.515	0.968
North America	-0.17	0.324	0.599	-0.159	0.328	0.627
South America	0.456	0.407	0.262	0.491	0.418	0.24
Constant	-2.46	0.811	**0.002*****	-2.645	0.818	**0.001*****
Mean dependent variable		2.581		SD dependent variable		2.252
Prob.> chi2		<0.058		Number of obs.		790

**** p<0.01, ** p<0.05, * p<0.1*

Appendix B: Logistic Regression Table

	Model 1			Model 2 (time lagged)		
Variables	Coefficient	Std. err	p-value	Coefficient	Std. err	p-value
CA-specific factors						
Non-overlapping Tech	-0.693	0.237	**0.003*** **	-0.664	0.237	**0.005*** **
Pilot-project driven	0.012	0.237	0.96	-0.037	0.237	0.876
Externally Managed	-0.46	0.253	**0.069***	-0.43	0.251	0.087
Financial resources	0.171	0.254	0.502	0.124	0.246	0.614
Corporate specific factors						
Active CVC invest	-0.476	0.251	**0.058***	-0.243	0.236	0.305
Innovativeness	0.011	0.023	0.639	0.005	0.023	0.835
Revenue Growth	-0.013	0.221	0.952	-0.219	0.253	0.387
EBIT Margin	0	0.008	0.971	0.002	0.008	0.802
CEO change	-1.007	0.498	**0.043** **	0.032	0.323	0.922
Contextual factors						
Industry (base: Pharma, Chem., Biotech)						
Consumer & Hardware	1.407	0.837	0.093*	1.47	0.846	**0.082***
Finance, Insur., Services	1.365	0.834	0.102	1.35	0.838	0.107
Industrial Goods	1.664	0.822	**0.043** **	1.688	0.832	**0.042** **
Media, Telco, Online	1.333	0.802	**0.096***	1.315	0.818	0.108
Retail	0.952	0.902	0.292	1.097	0.932	0.239
Tech, Software, IT	0.806	0.932	0.387	0.89	0.951	0.349
Transport & Logistics	1.684	0.912	**0.065***	1.791	0.938	**0.056***
Utilities, Mining, Constr.	1.362	0.854	0.111	1.427	0.855	**0.095***
Other	1.324	0.873	0.129	1.429	0.88	0.104
Region (base: Europe)						
Asia Pacific	0.412	0.29	0.155	0.426	0.289	0.14
Middle East/Africa	-0.042	0.533	0.937	0.022	0.531	0.966
North America	-0.213	0.343	0.534	-0.169	0.337	0.616
South America	0.479	0.437	0.273	0.427	0.443	0.335
Constant	-2.565	0.847	**0.002*** **	-2.826	0.869	**0.001*** **
Mean dependent variable		0.110		SD dependent variable		0.313
Prob.> chi2		<0.253		Number of obs.		790

**** p<0.01, ** p<0.05, * p<0.1*