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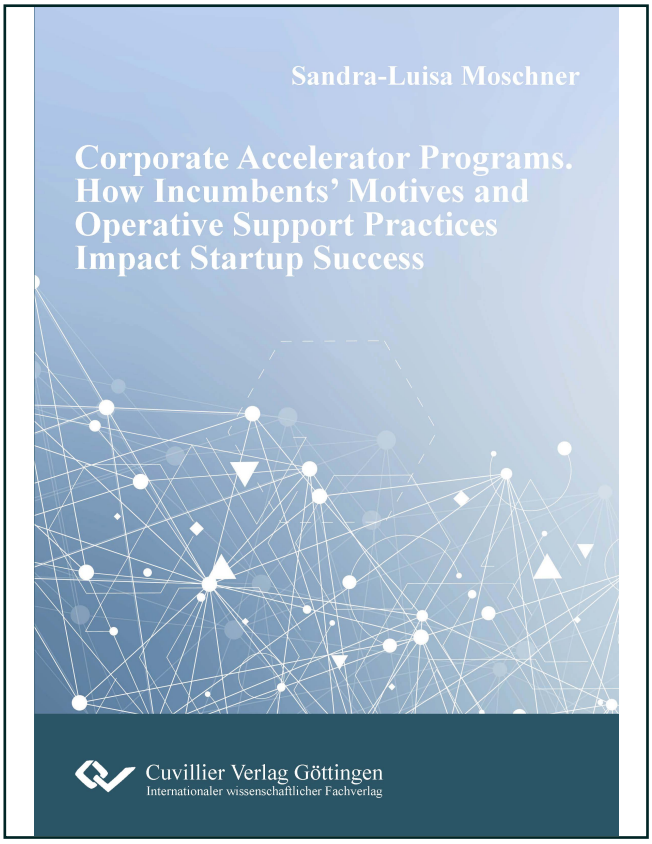
Corporate Accelerator Programs.

How Incumbents' Motives and Operative Support Practices Impact Startup Success



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1 Introduction

The first objective of this thesis is to examine the influence of corporate accelerator support practices on the success of startups. Second, the incumbent's motives for initiating a corporate accelerator and their impact on the support practices is assessed. As an introduction, the following sections include an outline of the research motivation (chapter 1.1), the research objectives and contributions (chapter 1.2) and the overview of this dissertation's structure (chapter 1.3).

1.1 Research motivation[1]

Major changes in the environment pose challenges for established firms with regard to innovating rapidly and keeping a competitive advantage among others. (Teece and Pisano, 1994a; Lyytinen, Yoo and Boland Jr., 2016; Rindfleisch, O'Hern and Sachdev, 2017). In particular, these changes are driven, for instance, by the digital transformation, accelerated product development cycles as well as democratized innovation processes (von Hippel, 2005; Lyytinen, Yoo and Boland Jr., 2016; Rindfleisch, O'Hern and Sachdev, 2017). According to the resource-based view, tangible and intangible resources of a firm are essential for its ability to innovate and therefore, to sustain its competitive advantage (Barney, 1991). Yet, contrary to the idea of a closed innovation process, the above mentioned challenges can be solved with open innovation. This logic assumes that not all resources, abilities and ideas for developing and commercializing innovation need to be located inside the same firm. Thus, established organizations are opening up their innovation processes to benefit from external knowledge and solution sources (Chesbrough, 2003; Gassmann and Enkel, 2004; Gassmann, Enkel and Chesbrough, 2010), such as suppliers, universities, and users (Herstatt and von Hippel, 1992; Lüthje and Herstatt, 2004; Laursen and Salter, 2014; Mina, Bascavusoglu-Moreau and Hughes, 2014). Another example of external knowledge sources are startups (Vanhaverbeke, Van de Vrande and Chesbrough, 2008; Clarke, Evald and Munksgaard, 2012; Weiblen and Chesbrough, 2015), which are the focus of this thesis.

[1] Excerpts of this section have been published before in Moschner, Herstatt (2017). All that glitters is not gold. How motives for open innovation collaboration with startups diverge from action in corporate accelerators. TUHH-TIM Working Paper No. 102.

In comparison to incumbents that have power, financial resources, and routines (Zingales, 2000), young ventures are characterized by entrepreneurial creativity, flexibility, and speed (Weiblen and Chesbrough, 2015). Therefore, established firms have started engaging with startup firms in various forms, for instance alliances, acquisitions, or corporate venture capital (CVC) investment, in order to benefit from these resource complementarities (e.g. Dushnitsky and Lenox, 2005; Wang and Zajac, 2007; Lehmann, Braun and Krispin, 2012; Weiblen and Chesbrough, 2015). Since 2010 (Heinemann, 2015), another form of corporate-startup engagement has emerged in practice (Kohler, 2016) and has also received growing attention by scholars (e.g. Pauwels *et al.*, 2016; Jackson and Richter, 2017; Shankar and Shepherd, 2019). *Corporate accelerators* are mostly viewed as an open innovation model (Hochberg, 2016; Jackson and Richter, 2017; Kohler, 2016; Richter, Jackson, and Schildhauer, 2017) that enables faster exchange with startups than traditional CVC activities do (Weiblen and Chesbrough, 2015). Within corporate accelerator programs, incumbents and external startups collaborate in order to advance entrepreneurial ideas and venture creation by making use of complementary assets (Kohler, 2016; Shankar and Shepherd, 2019).

Corporate accelerators are built upon the model of independent accelerators (Cohen *et al.*, 2019), which are defined as *"a fixed-term, cohort-based program, including mentorship and educational components, that culminates in a public pitch event or demo-day"* (Cohen and Hochberg, 2014, p. 4). Independent and corporate accelerators are distinct intermediary organizations that support startup development over a short and limited program duration (e.g. Cohen *et al.*, 2019; Crisan *et al.*, 2019). However, corporate accelerators are a specific type of accelerator, as their respective sponsor is an incumbent firm and not an investor. Investor-sponsored accelerators invest equal small amounts of funding into all startups of a batch and receive equity stakes in exchange. The objective is to generate large financial returns via early exits (Kim and Wagman, 2014; Yin and Luo, 2018; Cohen *et al.*, 2019). In comparison, established firms do not always take equity stakes in startups participating in their corporate accelerator program and do not necessarily aim for financial benefits (Pauwels *et al.*, 2016; Shankar and Shepherd, 2019). Further, corporate accelerators are in-between two institutional environments (Meyer and Rowan, 1977a), like CVC units are in relation to independent venture capital (VC) funds (Souitaris, Zerbinati and Liu, 2012; Souitaris and Zerbinati, 2014). These institutional environments are the corporate organization on the one hand, and the accelerator environment on the other.

Current research has demonstrated that corporate accelerators imitate the program design of independent accelerators. Thus, they are also characterized by accelerator key design elements, such as time limited and cohort-based educational support (Hochberg, 2016; Pauwels *et al.*, 2016; Shankar and Shepherd, 2019). Furthermore, previous studies have identified and discussed the various objectives of incumbents for initiating a corporate accelerator program, which can be grouped into financial and/or strategic goals (e.g. Weiblen and Chesbrough, 2015; Hochberg, 2016; Pauwels *et al.*, 2016; Shankar and Shepherd, 2019) and thus, partly deviate from those of independent accelerators. Based on the variety of identified objectives, scholars have put forward a typology of various program configurations (Kanbach and Stubner, 2016; Prexl *et al.*, 2018). In addition, prior research has provided guidelines and success factors for structuring the engagement of both parties (Kohler, 2016; Kupp, Marval and Borchers, 2017). However, existing research has not yet managed to identify and analyze the operative practices specific to corporate accelerators and different from independent accelerators to support startup growth by using complementary resources.

Given the discrepancy of the sponsor's objectives of independent and corporate accelerators, operative support practices in corporate programs and thus, the programs' impact on startups' developments can be expected to vary. In line with this, there has been a recent call for more comparative research on how different types of accelerators operate due to their environmental context (Crisan *et al.*, 2019). Additionally, scholars called for the evaluation of the impact of different design elements and support practice (Cohen *et al.*, 2019). With respect to accelerator research, a few studies have started to examine the treatment effects of different independent accelerators, or in comparison to other investment practices, such as angel investment, as well as to non-accelerated startups (e.g. Winston Smith and Hannigan, 2015; Hallen, Cohen and Bingham, 2019; Yu, 2020). However, research in the field of corporate accelerators has largely neglected the startups' perspectives so far. Therefore, for addressing the recent calls from literature as well as the current gap, this thesis aims at developing a deeper understanding of corporate accelerator-specific operative practices, and their impact on startup success.

1.2 Research objectives and contribution

This thesis aims at uncovering corporate accelerator-specific operative practices to support startups' developments that differentiate them from independent accelerators in order to provide valuable implications for research and managerial practice. Thus, the following research questions will direct this thesis[2]:

RQ1: How do corporate accelerators support participating startups?

RQ2: How do corporate accelerators influence the success of startups?

For answering these research questions, an exploratory, qualitative study as well as a subsequent exploratory, quantitative study is conducted. In the beginning of the research for this thesis, corporate accelerator literature was still in a nascent state (Edmondson and McManus, 2007). Thus, the first research question is approached by conducting multiple case research. Based on the generated insights and more intermediate accelerator literature at that time (Edmondson and McManus, 2007), the author deduced a research framework for answering the second research question. The research models and hypotheses developed from the framework are empirically tested in an exploratory, quantitative study based on a sample of startups that were supported by one of 25 corporate accelerator programs located in Germany, Singapore, or Australia.

[2] The first research question includes the set of following sub-research questions:
RQ1a: Why do incumbents engage with startups through corporate accelerators?
RQ1b: Through which design elements and operative practices do corporate accelerators support participating startups?
RQ1c: Which underlying aspects influence the variance in operative practices in different corporate accelerators?

The second research question includes the set of following sub-research questions:
RQ 2a: How do the incumbent's motives influence the offered operative practices in corporate accelerators?
RQ 2b: How does regular mentoring with top managers and high corporate accelerator staff abilities influence technical exchange/corporate network access in corporate accelerators?
RQ 2c: How do the operative practices in corporate accelerators impact the success for startups that participated in the program?

The findings of this thesis contribute to the corporate accelerator and symbolic management literature in various ways. First, this thesis transfers symbolic management literature to the context of corporate accelerators by analyzing the effects of symbolic and substantive motives on the operative practices in corporate accelerators. Moreover, the thesis identifies and accordingly, coins the concept of *startup washing,* similar to greenwashing in the research field of corporate social responsibility (CSR). Second, the empirical findings of this thesis indicate distinct characteristics regarding operative practices of corporate accelerators. In this aspect, the study identifies the relevance of so far neglected corporate accelerator-specific operational practices. Therefore, the findings complement prior research, which so far has largely treated corporate accelerators as a subgroup of independent accelerators or as mere open innovation initiatives. Third, the empirical study answers the question of how corporate accelerator treatment and in particular, which specific practices in corporate-sponsored programs, affect startup growth. Consequently, the results offer recommendations for the managerial practice of incumbents that aim at operating a corporate accelerator program, the corporate accelerator management itself, and startups that plan on participating in such a program.

1.3 Outline of the thesis

This thesis is organized in six chapters. Subsequent to this introduction (chapter 1), the theoretical foundation of this thesis is depicted in chapter 2. This section covers relevant previous research on the accelerator as a venture development organization, the open innovation concept for accessing external resources, and the phenomenon of the corporate accelerator. In order to answer RQ 1, chapter 3 includes the exploratory qualitative study on corporate accelerators. Chapter 3.1 is dedicated to the explanation of the methodological approach of a multiple case study conducted in Germany. It is followed by the presentation of the empirical findings in chapter 3.2. Consequentially, the dimensions of incumbents' motives for initiating a corporate accelerator are then identified and discussed by drawing from the research body of symbolic management. Furthermore, the relationship between the dimensions of motives, operative practices in corporate accelerator as well as startup success are discussed. A formative operationalization of the dimension success of startups is subsequently proposed. The dimensions identified in this section serve as the foundation for deducing the research framework and the development of the corresponding hypotheses. (chapter 3.3).

Chapter 4 is focused on the main empirical study of this thesis, which evaluates the proposed research framework and hypotheses to answer RQ 2. In chapter 4.1, the methodological approach is presented, including the research setting, organization of the online survey, operationalization of variables, and data collection. Further, it includes the method of data analysis, data preparation, and evaluation of reflectively and formatively measured constructs. Chapter 4.2 focuses on the empirical analysis of the online survey data. Following the provision of the descriptive results, the findings from the analyses of the structural models will be presented. Moreover, two additional analyses, of which one includes the analysis of secondary data, are conducted as robustness checks. Finally, the evaluation of the proposed hypotheses is summarized.

In chapter 5, the empirical findings are discussed considering the tested hypotheses and previous research. Based on the discussion, the implications for theory and managerial practice are presented in chapter 6. Lastly, this thesis concludes with a discussion of the study's limitations and opportunities for future research.

2 Theoretical foundation of the accelerator and open innovation

The aim of this chapter is to provide a theoretical basis for the research questions of the qualitative study. For that purpose, the author summarizes the evolution of the accelerator as a new generation of incubator model (chapter 2.1.1). This is followed by the analysis of the design and specific characteristics of accelerators (chapter 2.1.2), as well as the discussion of accelerator founders and sponsors (chapter 2.1.2). To close the theoretical overview, the concept of the independent accelerator as a model for imitation for corporate accelerators is illuminated and the author discusses initial results on independent accelerators' performances.

In the second part of the theoretical overview, chapter 2.2.1 and 2.2.2 identify the different resource bases of incumbents and startups and their potential complementarities in an open innovation collaboration. Following this, chapter 2.2.3 presents the approach of corporate venturing, also in comparison to venture capital activities by investors. The chapter closes with a short introduction of the corporate accelerator phenomenon (chapter 2.2.4), gives an overview of the objectives and practices and highlights different typologies.

2.1 The accelerator as a venture development organization

The first accelerator program was introduced in 2005 by Paul Graham, an angel investor and entrepreneur in the USA, as part of an entrepreneurial education program (Graham, 2012). An accelerator is defined as *"a fixed-term, cohort-based program, including mentorship and educational components, that culminates in a public pitch event or demo-day"* (Cohen and Hochberg, 2014, p. 4).

The accelerator is based on the idea of incubation, which is to accelerate young venture[3] growth through numerous support services (Smilor, 1987; e.g. Bruneel *et al.*, 2012). The objective of the incubation concept is to help ventures to overcome their liabilities of newness[4] (Stinchcombe, 1965) and the founder's bounded rationality (Cohen, Bingham and Hallen, 2019). Further, accelerators aim to overcome deficiencies of previous incubation

[3] Early-stage company that is referred to as "venture" or "startup" hereafter.

[4] New organizations have a higher risk of failure than established ones. This is due to the fact that a new organization implies new roles, that need to be learned as well as defined and routinized. Furthermore, new organizations have to establish new, trustful relations to suppliers and do not have a stable customer base as established organizations (Stinchcombe, 1965).

models (Pauwels *et al.*, 2016) by accelerating venture success and failure cyclically in cohorts over a short-term period (Cohen and Hochberg, 2014).

In theory, the accelerator phenomenon was first discussed as a new generation of the incubation model (Pauwels *et al.*, 2016; Hausberg and Korreck, 2020). However, meanwhile the accelerator is analyzed as a new and distinct form of intermediary organization that supports venture development and growth over a short and fixed period of time (e.g. Cohen *et al.*, 2019; Crisan *et al.*, 2019). As the first independent accelerators served all other following ones as a model for imitation (Hallen, Cohen and Bingham, 2019), nowadays there are various founders and sponsors of different accelerator types. Hence, concepts, objectives, and performances are expected to vary.

2.1.1 Evolution of the accelerator

In 2005, the first independent accelerator Y Combinator was founded by the former angel investor and entrepreneur Paul Graham in Cambridge, Massachusetts, who aimed at providing undergraduate students an entrepreneurial education during summer so that they could work on their startup ideas (Graham, 2012). Ever since, the accelerator as an organization form that fosters entrepreneurship and innovation has been widely adopted and the emergence of this phenomenon has gained momentum in theory and practice (Pauwels *et al.*, 2016; Crisan *et al.*, 2019).

Figure 1 provides an overview of the evolution of incubator generations, which evolved regarding their basic service provision levels due to the changing participants' needs in three generations (Adkins, 2002; Bruneel *et al.*, 2012, p. 118). The first incubator services originated in the United States in the 1950s and 60s and provided incubatees with infrastructure, especially affordable and shared office space. The second incubator generation complemented the offered service with business support such as mentoring and training in the 1970s (Hackett and Dilts, 2004; Grimaldi and Grandi, 2005; Bergek and Norrman, 2008; Bruneel *et al.*, 2012). The third generation of incubators of the 1980s and 90s (Hackett and Dilts, 2004) is defined as *"organizations that supply joint location services, business support and networks to early stage ventures"* (Bergek and Norrman, 2008, p. 22). Although third generation incubators offer amplified support and the incubation periods of tenants declined by

three years on average (Bruneel *et al.*, 2012), a new generation[5] of incubation model has largely expanded since 2005.

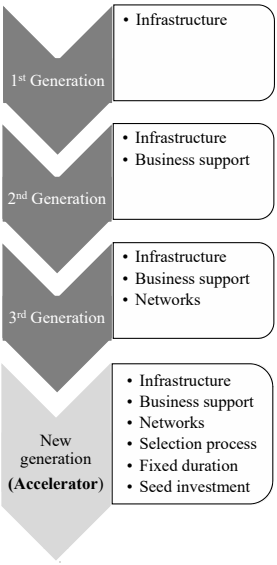

Figure 1: The evolution of incubator generations.[6]

The primary distinguishing features of accelerators in comparison to former incubator models are the strict time-limited, short-term training aspect as well as the selection of cohorts of startups into their programs after an official application process (Cohen, 2013). The objective is to accelerate success or failure by providing feedback on the quality of the startups' ideas, as research has shown that the protected incubator environment keeps successful but also not self-sufficient young ventures alive (Stayton and Mangematin, 2019; Yu, 2020). With an average program length of three to six months the acceleration phase has decreased substantially from third to fourth incubation model generation. Furthermore, accelerators provide participating startups seed funding in exchange for small equity stakes. The knowledge intensive support program also offers several networking opportunities and always culminates in a public pitch event in front of an audience of qualified external investors (Cohen and Hochberg, 2014; Kim and Wagman, 2014; Wise and Valliere, 2014; Pauwels *et*

[5] In contrast to the first research studies on accelerators, recent research analyzes the phenomenon as an intermediary organization and not as the fourth incubator generation.

[6] Author's own illustration.

al., 2016). Thus, the accelerator aims to overcome deficiencies of previous incubation models while still offering primary services, such as shared office space (Pauwels *et al.*, 2016).

In general, incubation types of all four generations differ regarding their specific value propositions and selection criteria, such as venture growth stage, business idea or team composition. This is due to varying objectives, specialization in type of innovation, requirements of young ventures and foci of sponsors. For instance, non-profit service providers, like governments or universities, intent to foster economic development respectively commercializing research. In contrast, private operators, such as investors or corporate companies, primarily aim at financial returns or ecosystem building (Allen and McCluskey, 1991; Aernoudt, 2004; Grimaldi and Grandi, 2005; Bergek and Norrman, 2008; Barbero *et al.*, 2014; Pauwels *et al.*, 2016). As a result, there exist various classifications of incubation types with high resemblance to each other in literature.[7]

2.1.2 Design of the accelerator

Recent literature treats accelerators less as a new generation of incubation model (Pauwels *et al.*, 2016; Hausberg and Korreck, 2020), and more as a new and distinct form of intermediary organization that supports venture development and growth over a short and fixed period of time (Hochberg, 2016; Cohen *et al.*, 2019; Cohen, Bingham and Hallen, 2019; Crisan *et al.*, 2019; Del Sarto, Isabelle and Di Minin, 2020). The above stated definition of an accelerator by Cohen and Hochberg (2014) comprises most of the key program elements: cohorts, program duration, mentoring, education, and graduation event. Further, additional elements, namely a competitive application process (Pauwels *et al.*, 2016), working space, funding and equity taken in exchange for funding were also identified as essential aspects of accelerators (Cohen *et al.*, 2019). Accelerators are typically designed along these key program elements, however, the individualization of organizational design results in substantial variations of accelerator programs and most likely their outcomes. Thus, the heterogeneity of programs may explain the inconsistent results regarding the examination of accelerator treatment on startup performance (Winston Smith and Hannigan, 2015; Hallen, Cohen and Bingham, 2017; Yu, 2020). The following descriptions of accelerator design elements include insights from the first studies on accelerators combined with very recent research results:

[7] For further information, see e.g. Hackett and Dilts, 2004; Barbero *et al.*, 2014; Hausberg and Korreck, 2018.