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Do German Corporate Accelerators Accelerate?

Examining the learning experience
and success of startups participating in corporate
accelerator programs in Germany

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Title: Do German Corporate Accelerators Accelerate?
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Abstract

Startups gain importance in job creation and developing disruptive and highly innovative products and services. Despite the fact that startups are able to threaten business models of large companies, they often lack certain resources to further develop their business model. In this context, large corporations use the possibility to engage with highly innovative startups by setting up corporate accelerator programs. Through these programs, startups receive resources and in exchange, the corporate accelerator gains access to external innovations. The present dissertation is based on a survey conducted with alumni startups of corporate accelerator programs in Germany and measures the impact of expectations on learning throughout the program. Further, possible downsides for participating startups are considered and the subjective as well as objective outcomes are analyzed. The literature review covering corporate accelerators, learning, and investors' decision-making theory incorporates the dissertation into the existing research landscape. Results show that expectations towards the program lead to higher learning. Hence, high expectations guarantee high learning. A negative impact of possible downsides of corporate accelerator programs on startups was not found. However, the positive and significant relation between learning and the subjective outcome, measured directly at the end of the program, was quantified. It reflected satisfaction and overall learning. Further, the programs significantly increased participants' long-term success measures. The present dissertation adds value in this field of study, since the research landscape lacks quantitative studies focusing on the impact of corporate accelerators on alumni startups.

Resumo

As Startups ganham importância na criação de emprego e no desenvolvimento de produtos e serviços disruptivos, altamente inovadores. Apesar de ameaçarem os modelos de negócios das grandes empresas, muitas vezes não possuem os recursos para desenvolver os seus próprios modelos de negócios. Neste contexto, as grandes empresas criam programas corporativos de aceleração, de modo a interagirem com elas. Através destes programas, as Startups recebem recursos e, em troca, o patrocinador do programa de aceleração ganha acesso a inovações externas. Esta dissertação é baseada em questionários feitos a alumni de programas de aceleração Alemães, e mede o impacto das expectativas de aprendizagem no programa na aprendizagem real. Além disso, consequências negativas são consideradas e o seu resultado, quer objectivo quer subjectivo, é analisado. A revisão de literatura que cobre programas de aceleração, aprendizagem e o processo de decisão da teoria do investidor incorpora a dissertação na investigação existente. Os resultados demonstram que as expectativas em relação ao programa induzem uma maior aprendizagem. Assim, maiores expectativas levam a uma maior aprendizagem. O impacto negativo de eventuais consequências adversas dos programas nas Startups não foi provado. Contudo, a relação positiva e significativa entre a aprendizagem e o resultado directo subjectivo, que mede a satisfação, e a aprendizagem geral foi quantificada. Além disso, os programas aumentam significativamente as medidas de sucesso a longo-prazo dos participantes. Esta dissertação acrescenta valor neste campo de estudo dado que, neste campo, existe uma ausência de estudos quantitativos focados no impacto dos programas de aceleração nas Startups participantes.

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1. Introduction

1.1 Problem Definition and Relevance

“Between 1988 and 2011 companies more than five years old destroyed more jobs than they created in all but eight of those years.” (Denning, 2015, p. 1). This finding points to the growing importance of startups for the economy since new businesses account for the majority of net job creation. Besides job creation, entrepreneurship adds value through transforming technical knowledge into products and services (Denning, 2015). Further, it helps to overcome inefficiencies in the economy and is a key component in the process of change due to its innovative impact (Schumpeter, 1934).

The description of entrepreneurship is often related to a specific setting, for example small businesses or new firms, rather than to a specific concept, distinguishable from other business concepts (Shane & Venkataraman, 2000). Since the key basis of entrepreneurship is the discovery and exploitation of profitable opportunities, Shane and Venkataraman (2000) intend to give legitimacy to the field of entrepreneurship, apart from being a research setting or a teaching application. Their approach goes beyond previous definitions and instead emphasizes that entrepreneurial opportunities differ from all other opportunities concerned with profit optimization and increasing efficiency. Entrepreneurial opportunities are about new mean-ends relationships and other business opportunities are more interested in existing ones. Hereby, the asymmetry of beliefs is a requirement for an entrepreneurial opportunity. However, studying entrepreneurship is a challenge since data cannot be easily retrieved, little theory is available, and many results are comparable to other business fields. Nevertheless, reasons exist to pursue studying entrepreneurship (Shane & Venkataraman, 2000).

A recent development in entrepreneurship is that global players such as SAP, Siemens and Microsoft have launched accelerator programs to engage with promising startups in hopes to benefit from their innovations (Weiblen & Chesbrough, 2015). These corporate accelerator (CA) programs are a specific unit of analysis within the limited research on accelerator programs (Pauwels, Clarysse, Wright, & Van Hove, 2016). Despite the fact that some papers describe the CA concept (Cohen, 2013; Kanbach & Stubner, 2016; Kohler, 2016), little research sheds light on the startups participating in such a CA program. Especially, the quantitative point of view covering intention to participate, hence expectations towards the

program, and the learning throughout the program is scarcely considered. Additionally, authors such as Crichton (2014) list various possible downsides of CA programs for startups. For example, a very close relation between the program and the startup might harm the new venture's development and fit for the open market. However, the lack of research into these downsides necessitates further investigation.

1.2 Objective and Research Questions

The majority of studies on CA is of exploratory and qualitative nature (Bauer, Obwegeser, & Avdagic, 2016). Therefore, the author aims to explore the research topic from a quantitative perspective while applying the already existing research. Firstly, the influence of expectations towards the CA program on the learning throughout the program will be explored. Secondly, the further development and progress of CA alumni start-ups will be analyzed. Furthermore, investor selection criteria of potential startups are used to determine relevant items for the analysis in order to ensure that the present study focuses on the aspects, which investors consider as success factors.

To the best of the author's knowledge, the present dissertation provides a new approach to the yet limited research landscape. It provides a deeper understanding of the value CA programs add to new ventures (Kanbach & Stubner, 2016). Further, relevant success factors including specific program elements from an entrepreneurial point of view are investigated (Becker & Gassmann, 2006; Hochberg, 2016). Due to the fact that the second largest number of CA programs worldwide is located in Germany (Kanbach & Stubner, 2016), the study focuses on German programs. Within the scope of this dissertation, only alumni startups of the thirteen German CA programs are considered. Please see *Appendix I* with a detailed list of the programs and the contacted startups.

The objective of this dissertation is to provide quantitative results from the entrepreneur's point of view including the expectations during the application process, the learning throughout the program, and the state of the venture after the CA program.

Therefore, the following research questions are addressed:

RQ1: How do expectations towards the CA program influence learning?

The first research question aims to understand the impact of expectations while applying for a CA program on perceived learning throughout the program. Firstly, it explores the startups' expectations towards the program and, secondly, the obtained learning within different areas. Hereby, the study allows quantifying the impact of expectations on learning.

RQ 2: How does perceived learning impact the startups' satisfaction with the CA program?

Focusing on perceived learning throughout the CA program and on overall satisfaction, the second research question helps to identify the impact of perceived learning on program satisfaction.

RQ 3: Does the structure of the CA program fulfill the startups' expectations?

This research question matches the startups' expectations with the actual learning experience encountered throughout the program. It provides information if the CA targets the startups' needs and meets expectations.

RQ 4: What is the long-term impact of a CA program?

The goal of this research question is to explore if a CA program enhances the startups' success. Or, if the program stands for itself and does not have a considerable impact on the time period after the program.

RQ 5: Does a CA program have downsides for participants?

This research question addresses possible disadvantages for startups associated with their participation in a CA program. Further, it considers the research on downsides of such programs due to the differences in size and development stage of large corporations and startups (Doz, 1987; Dushnitsky & Lenox, 2005; Weiblen, 2015). Addressing the issue from a quantitative and thus new perspective adds to the existing research.

Since the study focuses on the early stage of a startup's development, the object of analysis is not only the startup itself but also the employees, mostly the founders and co-founders, who participated in the program. In the early stage of a new venture, the mentioned objects startup, founder and co-founder can be used interchangeably.

1.3 Thesis Structure

The dissertation is comprised of seven chapters. The first chapter contains an introduction to the underlying problem and a description of the dissertation's structure. The academic literature review in the subsequent chapter outlines the existing research landscape and puts the dissertation into the appropriate context. In the third chapter, the conceptual framework visualizes the study and hypotheses follow. The fourth chapter encompasses the analysis and the study results and is followed by the conclusion and implications in the sixth chapter. The dissertation ends with its limitations and avenues for future research, summarized in chapter seven.

2. Academic Literature Review

To incorporate the study into the existing research landscape, an academic literature review of learning in an entrepreneurial setting, corporate accelerators, possible downsides of corporate accelerators and investors' decision-making criteria is presented in the following sections.

2.1 Learning in an Entrepreneurial Setting

Knowledge is an outcome of experiencing success and failure after applying certain actions. Dependent on the obtained outcome, an action is categorized and its probability to be applied to solve a specific situation increases or decreases. However, this does not necessarily lead to an optimal strategy, since an inferior action which randomly leads to a positive outcome is associated with positive expectations and beliefs as well (Minniti & Bygrave, 2001).

Learning is understood as a dynamic process throughout which “a subjective stock of knowledge is accumulated on the basis of past experience” (Minniti & Bygrave, 2001, p. 5). Hence, entrepreneurs learn by continuously updating their decision-making process based on experiences, gained information and mistakes (p. 14). In fact, the learning throughout the entrepreneurial activity comprises the process between the initial moment of spotting an opportunity and the final developed product or service. These self-reinforcing learning cycles are fundamental for the innovation process in startups to develop a holistic business model (Ravasi & Turati, 2005).

Wang and Chugh (2014) describe entrepreneurial learning using a combination of entrepreneurship and organizational learning literature. Entrepreneurial learning explores the content behind the learning experience and the occurring learning processes taking place during the creation of a venture (Cope, 2005). Wang and Chugh (2014) define three pairs of key learning types including “individual and collective” learning, “exploratory and exploitative” learning, as well as “intuitive and sensing” learning. Whereas intuitive and sensing learning are enshrined in knowing relationships of facts, individual and collective learning focus on the process of how knowledge is gained. Exploratory learning entails a learning process designed to increase variance to draw valuable results, while exploitative learning includes a learning process, which incorporates a directed search to find average

solutions and to decrease variance (Wang & Chugh, 2014). *Figure 1* outlines a detailed description of key learning types within entrepreneurial learning.

Intuitive Learning	Learning by knowing relationships of facts through discovering possibilities (abstract, conceptual thinking) (Felder & Silverman, 1988)	Sensing Learning	Learning by knowing facts or details based on external contacts through sights, sounds and physical sensations (concrete, analytical thinking) (Felder & Silverman, 1988)
Individual Learning	The process in which individuals acquire data, information, skill or knowledge.	Collective Learning	“a social process of cumulative knowledge, based on a set of shared rules and procedures which allow individuals to coordinate their actions in search for problem solutions” (Capello, 1999, p. 354)
Exploratory Learning	Focus on discovery through enactment and interpretation to generate enough variations that some will prove ex post to yield desirable results (variance-seeking learning that increases performance variance) (McGrath, 2001)	Exploitative Learning	Emphasis on directed search that is amenable to ex ante planning and control to limit variety achieved by honing in on and deepening initial insights as experience increases (mean-seeking learning that improves mean performance and decreases variance) (McGrath, 2001)

Figure 1: Key Learning Types
Source: adapted from Wang and Chugh (2014)

Startups are substantially affected if there is a lack of resources. A high level of uncertainty at the beginning of the venture creation process and the need of contributions such as financial resources, skills and competencies underline the special characteristics of the entrepreneurial learning process (Ravasi & Turati, 2005).

Since learning is critical for the success of new ventures, different programs exist to support startups throughout their learning process. In the next section, a definition of the CA program and its characteristics are presented.

2.2 Corporate Accelerator

CA programs are initiated by a sponsoring corporate entity whose main business does not include the investment in startups (Kanbach & Stubner, 2016). It is often a time-limited program of approximately three months. During the program, a group, called cohort or batch, of early stage startups is supported to enhance its new venture process through mentoring, learning and resources provided by the sponsoring entity (Kohler, 2016; Weiblen & Chesbrough, 2015). Provided resources include for example funding and co-location (Weiblen & Chesbrough, 2015). Interested ventures participate in an open application process if their product or technology meets certain criteria e.g. a specific industry focus (Kohler, 2016; Weiblen & Chesbrough, 2015). Generally, the program ends with a demo day on which participants pitch their ideas to an audience of potential future investors (Cohen & Hochberg, 2014). *Figure 2* illustrates the setup of a CA.

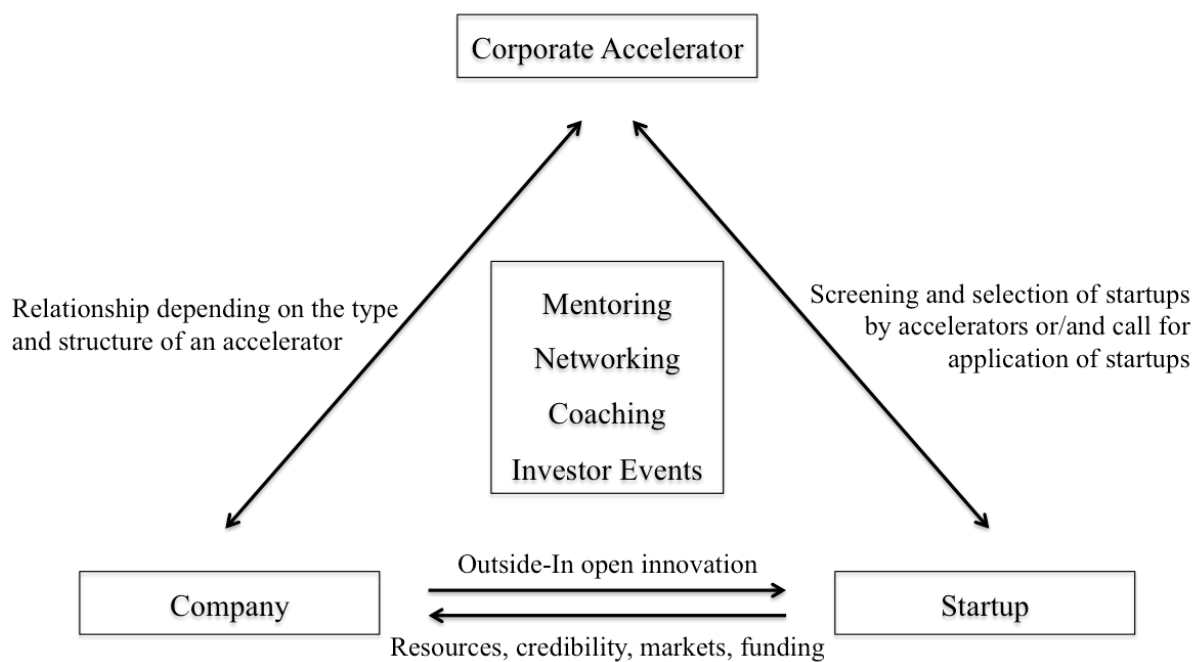


Figure 2: The Corporate Accelerator
Source: adapted from Bauer et al. (2016)

The Accelerator in General

Kohler (2016) states that CAs are a further development of business incubators, whereas Weiblen and Chesbrough (2015) describe the programs as an imitation of more recent independent accelerator programs. Pauwels et al. (2016) characterize accelerators as “a new generation incubation model” (p. 13) and strengthen its importance in the current development “towards a focus on intangible, knowledge intensive, support services in incubation services” (p. 14).

Based on the study findings, Pauwels et al. (2016) distinguish between five design elements, capturing the key dimensions of an accelerator program. Program package, strategic focus, selection process, funding structure and alumni relations define the basic structure (*Figure 3*).

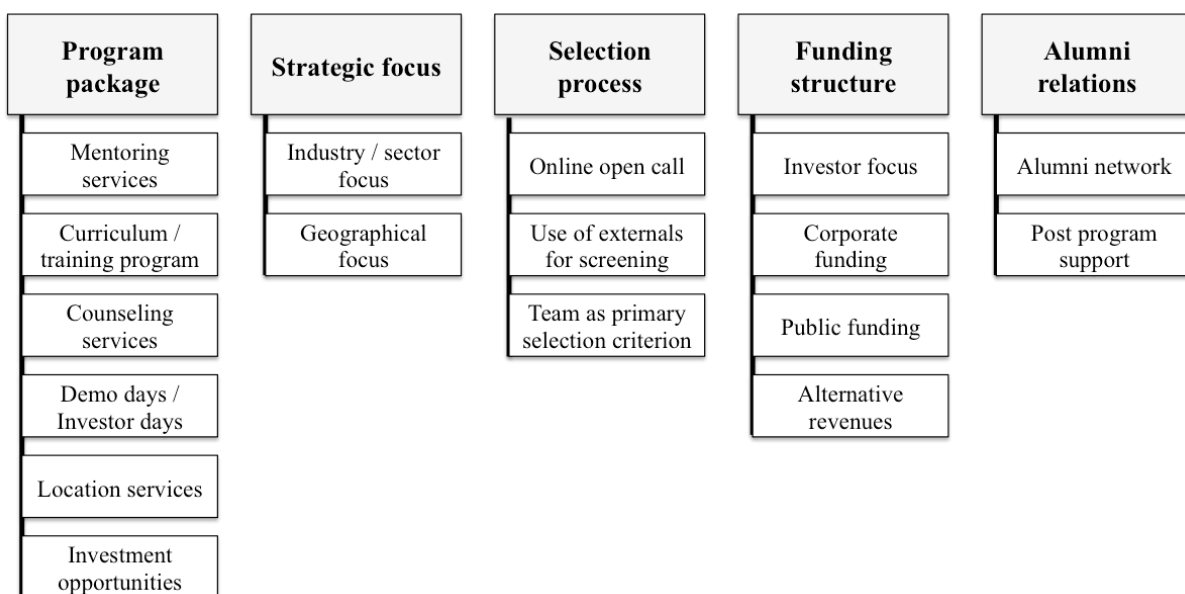


Figure 3: Key Dimensions of an Accelerator
Source: adapted from Pauwels et al. (2016)

The concrete characteristics of the design elements within the accelerator and its execution depend on the goals which the accelerator’s financing entity pursues (Pauwels et al., 2016). Kim and Wagman (2014) emphasize the accelerator’s role “in certifying the value of portfolio ventures to outside investors” (p. 24) and thus the positive correlation between the valuation of certain ventures and the accelerator’s reputation.

Objectives of a Corporate Accelerator

Main objectives to set up a CA are of financial or strategic nature. However, details including the program’s focus and its organization open up freedom in its design. Defining program

details such as an explorative or exploitative strategic logic, a tight or broad industry focus, equity involvement and the venture stage of the accepted startup lead to programs with distinctive specializations. The program organization deals with decisions whether external partners contribute to the program, the degree of connection to the sponsoring entity and whether the source of leadership experience is internal or external. All these different adjustments allow an exact alignment with the needs of the sponsoring entity (Kanbach & Stubner, 2016). Due to the CA's characteristics and its primary objective, Kanbach and Stubner (2016) subdivide the programs in four main groups, namely listening post, value chain investor, test laboratory and unicorn hunter as outlined in *Figure 4*.

Listening Post	Value Chain Investor	Test Laboratory	Unicorn Hunter
Understand recent trends and developments in a respective market and initiate relationships	Identify, develop, and integrate new products and services into parent company's value chain	Create a protected environment to test promising internal and external business ideas	Invest in promising startups, make them more valuable, and earn a financial premium

Figure 4: Different Corporate Accelerator Types and their Primary Objectives
Source: adapted from Kanbach and Stubner (2016)

By connecting with startups, corporations receive access to external innovation (Doz, 1987; Kohler, 2016; Pauwels et al., 2016; Weiblen & Chesbrough, 2015). Furthermore, they overcome the “innovator’s dilemma” (Moschner & Herstatt, 2016, p. 1), which highlights the lack of innovations within established firms. Access to innovation may also prevent the corporation from ending up with a situation in which a disruptive, external innovation threatens its entire business model to become obsolete (Moschner & Herstatt, 2016). Since the innovation process is initiated externally in the startup and the engagement with the established firm only starts afterwards, a CA program is part of the outside-in innovation programs. The startup operates as the supplier of a new, innovative product or technology improved with resources provided by the corporation which later benefits from accessing these inventions (Weiblen & Chesbrough, 2015). Markides and Geroski (2004) point out that established companies should not be involved in creating disruptive product innovations and rather focus on their scalability skills since these are their strengths. Thus, startups should independently handle the creation of disruptive innovations since they have the necessary competency. Following this logic, the role of large corporations is to foster a network of startups and provide the financial resources and skills to scale the business. Both players contribute the skills in line with their comparative advantage (Markides & Geroski, 2004).

Benefits of Corporate Accelerator Programs for Participants and the Sponsoring Entity

A CA program is advantageous for both the sponsoring entity and the participating startups. For sponsoring corporations, supporting new products and innovations closes innovation gaps within their organization. They can overcome severe business challenges and invest in arising opportunities to expand into new markets. At the same time, the sponsoring entities' working culture is positively influenced by the entrepreneurial setting, which facilitates attracting and retaining talented employees (Kohler, 2016). Further, Kohler (2016) points to several success drivers for a CA program. These include a careful selection process, capable program managers to serve the startups and the corporation at the same time, and executive management's commitment towards the program. Additionally, corporation employees should be involved at an early stage to align interests and to guarantee the program's fit. Moreover, the effort of the CA to not only interact with its participants but to become a player in the entrepreneurial ecosystem substantially adds value to the corporation and the startups.

Key benefits for startups are: internal and external mentoring, creation of a lasting network, access to resources as well as increased reputation and access to markets and funding. These aspects make the participation in a CA worthwhile (Kohler, 2016). The CA program creates a learning experience comparable to "years' worth of learning by doing" (Hathaway, 2016, p. 2). Further, Hathaway (2016) highlights several main findings from previous research on leading accelerator programs. Firstly, graduates from top accelerator programs were more likely to reach key milestones in the venture creation process compared to startups that did not participate in accelerator programs. Secondly, startups graduating from top accelerators received another funding round earlier and were either acquired or failed. Thirdly, the learning experience itself and the attraction of seed and early-stage financing opportunities for the local entrepreneurial ecosystems are the benefits of a CA program for new ventures.

2.3 Possible Downsides of Corporate Accelerators

However, following Clegg, Minshall, Mortara, Elia, and Probert (2008), various issues arise due to the asymmetric partnership between a corporation and a startup. Hereby, the "significant differences in scale and commercial experience" (Clegg et al., 2008) are a major issue.

Doz (1987) states that due to misalignment of objectives of large corporations and startups, "strategic partnerships between large, established, bureaucratic companies and smaller,

entrepreneurial, fledgling firms” (p. 56) are rarely effective. Besides, Kohler (2016) outlines the importance of involving the right people to guarantee the success of a CA program and the associated considerable effort. Following Doz (1987), four main aspects threaten the success of such partnerships. First, there is a hidden agenda problem due to the competition within the partnership since the large corporation aims to appropriate the technology of the smaller one and the startup tries to retain control. Secondly, the two company strategies and cultures are too different to ensure a valuable interaction. Startups are more agile and “different organizational clock speeds take their toll along the way” (Weiblen & Chesbrough, 2015, p. 67). Third, individual goals of employees within the large corporation can be counterproductive for the development of a valuable engagement. Fourth, top management decisions and the later implementation by middle management create a situation which is difficult to handle for the operating manager of the partnership (Doz, 1987).

Research criticizes that accelerator programs focus too much on preparing the graduation day with investors and that after the program, interaction between participants and the sponsoring entity is lacking (Isabelle, 2013). Moreover, Weiblen and Chesbrough (2015) mention possible downsides of corporate incubators¹. To describe the fact that participants are possibly overprotected since the corporate incubator creates an artificial environment, they refer to the “risk of overprotection through corporate backing” (p. 71). Thus, a later failure is probable since the participants’ business models do not fit in the real business environment. Moreover, the close connections with the sponsoring entity possibly “prevent incubator-bound startups from pursuing partnerships with their parent’s competitors or from developing competing products” (p. 71) with the potential to disrupt the sponsoring entity’s business. In case corporate venture capital is involved, Weiblen and Chesbrough (2015) emphasize the possible negative impact on the freedom to pivot and on collaborating with competitors of the corporate venture capitalist. Park and Steensma (2012) highlight the possible restricted access to supplementary assets in the open market due to the startup’s engagement with a specific corporate venture capitalist. Further, there is the risk that the corporation’s and the startup’s products compete and the threat that the startup’s intellectual property gets expropriated. Dushnitsky and Lenox (2005) describe corporate venture capital programs as a possible instrument when it comes to “harvesting innovations from entrepreneurial ventures” (p. 615), especially, in “weak intellectual property (IP) regimes” (p. 615).

¹ Since the program setups are comparable to a corporate accelerator program, possible downsides from other programs such as corporate incubator and corporate venture capital are mentioned within this section.

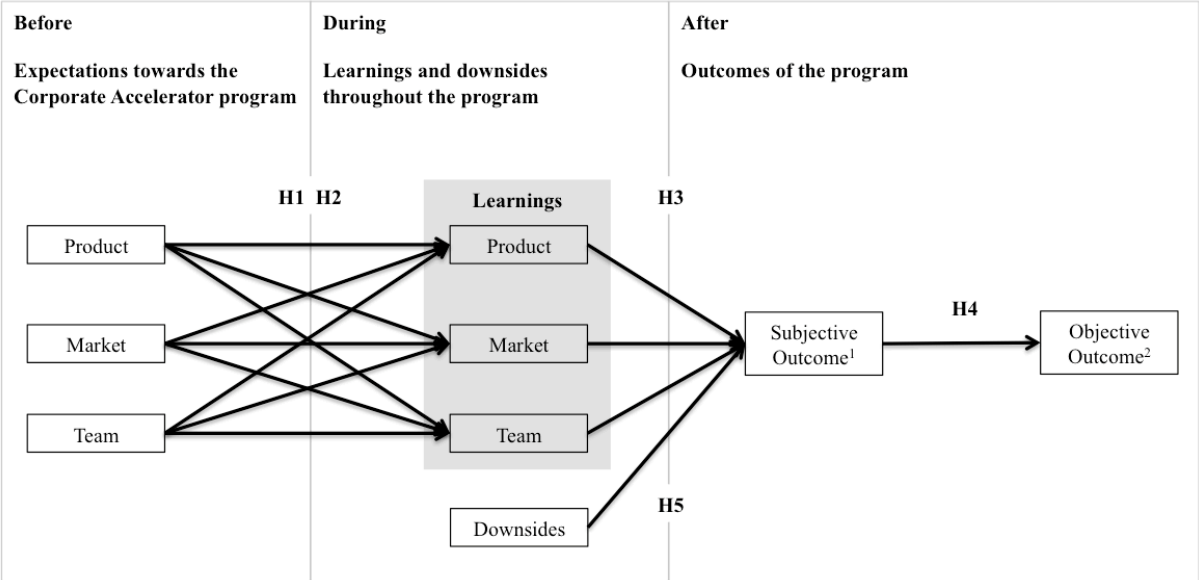
2.4 Investors' Decision-Making Criteria

When deciding to fund a promising start-up, investors apply certain selection criteria. Csaszar, Nussbaum, and Sepulveda (2006) combine strategic and cognitive criteria in their methodology to guide venture capitalists through the selection process of potential startups. Since the evaluation of technical know-how and business expertise reaches its limits, the decision-making process during the projects selection phase is expanded and improved with a cognitive model. Hereby, an analysis of the variables influencing venture's success guarantees that the right criteria is applied during the evaluation phase and a more reliable outcome is obtained. In the developed decision aid, each of the three categories of strategy, team and finance includes various questions to evaluate the startups potential in the best possible way. Conversely, Carpentier and Suret (2015) focus on the rejection reasons, versus selection reasons, applied by the decision makers. They conduct a longitudinal analysis considering the decision-making process of business angel group members when selecting promising startups. Hereby, a categorization of the rejection reasons into the areas product and model, market, financial, team and other is carried out.

Studying decision patterns of business angels when selecting potential early stage startups, Maxwell, Jeffrey, and Lévesque (2011) conclude that business angels do not apply a decision model based on weights and scores assigned to different selection attributes. Hence, a shorter list of decision criteria including eight critical factors is developed: adoption, product status, protectability, customer engagement, route to market, market potential, relevant experience and financial model. However, previous research mainly divided the decision criteria into the five groups product, market, entrepreneur, financial and investment (Maxwell et al., 2011).

3. Conceptual Framework and Hypotheses

After reviewing literature on learning theory, corporate accelerators, accelerators and investors’ decision-making criteria, the conceptual framework is presented in *Figure 5*.



Except the variables covering downsides, all variables are based on the investors’ decision-making criteria.
¹ includes variables measuring Satisfaction and Overall Learning Experience
² includes variables measuring the impact on Venture Success, Sales, Follow-up Funding and Employer Attractiveness

Figure 5: Conceptual Framework
 Source: Own elaboration

The conceptual framework (*Figure 5*) highlights that, for the empirical study, a chronological differentiation between before, during and after the CA program takes place. Relevant items were extracted from the investors’ decision-making criteria literature and categorized into the three areas product, market and team. The three areas are included in the first and the second part of the study. In the first part, they refer to the expectations to participate in a CA program. In the second part, the same areas with the same underlying items are used to explore the learning throughout the CA program.

Further, to evaluate the state of the startup after the CA program, other variables are selected. Overall satisfaction with the program and fundamental learning experience are combined in subjective outcome, which is directly measurable at the end of the CA program. In contrast, the variables sales, follow-up funding, attractiveness for employees, and success of the startup cannot be measured directly after the program, but after a certain time. These variables are combined in the objective outcome.

Hypotheses

The following hypotheses covering the intention to participate in a CA program are based on the review of different qualitative papers covering the benefits of such programs for startups (Cohen & Hochberg, 2014; Kohler, 2016; Weiblen, 2015).

The first hypothesis relates expectations towards a CA program with obtained learning.

H1: Expectations about learning positively influence the participants' perceived learning. Such that,

H1 a: Higher expectations about *Product* improvements increase learning related to the *Product*.

H1 b: Higher expectations about *Market* improvements increase learning related to the *Market*.

H1 c: Higher expectations about *Team* improvements increase learning related to the *Team*.

Despite the direct effect of expectations on learning addressed in H1, the startup possibly draws learning in all areas. The therefore arising hypothesis about the cross-impact is formulated as follows.

H2: There is a positive cross-impact between the expectations in a specific area and the learning experience in another area.

Due to the fact that CA programs are designed to accelerate learning by providing various means, the author formulates the following hypotheses on the learning experience during the program (Kohler, 2016).

H3: The perceived satisfaction of the CA program is positively influenced by the learning in

H3 a: the *Product* area.

H3 b: the *Market* area.

H3 c: the *Team* area.

Considering Kohler (2016) and Hathaway (2016), CA programs positively impact the situation and the development of alumni startups after the program. Consequently, the following hypothesis is formulated.

H4: An increase in the subjective outcome positively influences the objective outcome.

However, the literature review raises questions about possible downsides of CA programs due to an overprotected artificial environment in which only limited feedback is possible and

restrictions in engaging with other companies exist. These concerns regarding CA programs are harmful for the startups' development and reflected in the following hypothesis (Clegg, Minshall, Mortara, Elia, & Probert, 2008; Doz, 1987; Dushnitsky & Lenox, 2005; Isabelle, 2013; Park & Steensma, 2012; Weiblen, 2015).

H 5: Program downsides negatively impact the subjective outcome.

4. Methodology and Data Collection

4.1 Research Model

The author conducted an online survey on Qualtrics since this format has several advantages for participants and the author himself. The Qualtrics web platform offers the possibility to generate a survey link, which can be used throughout the entire contacting process via email and LinkedIn. Therefore, a large audience can be reached at very low administration costs and in a manageable time. The selected process is efficient and effective. Additionally, survey participants benefit from the flexibility and convenience in accessing the survey. There is no certain time frame in which the survey has to be completed. Evans and Mathur (2005) highlight the significant advantages of online surveys and additionally mention the “ease of data entry and analysis” (p. 197) and the flexibility in setting up the survey to match the researchers needs.

4.2 Sampling

The sampling follows a non-probability approach based on convenience sampling, since the data can be obtained in a short period of time at low costs (Kothari, 2004). Moreover, convenience sampling is used since the research questions address alumni startups of CA programs in Germany. The survey covers three parts, the expectations towards a CA program, the learning throughout such a program, the overall experience and the program’s impact on the period after the program. Therefore, only startups that already completed the program are considered. The names of the alumni startups of the considered CA programs were obtained via consulting the German accelerator programs’ web pages. *Appendix I* can be reviewed for further information regarding the programs and startups.

4.3 Research Instruments

After setting up the survey in Qualtrics, a link to the study was sent to alumni startups. Participants were contacted via email and LinkedIn (see *Appendix II*). The study was conducted anonymously to limit the risk that alumni startups do not want to share their experience if they have to fill in their name and the program’s name. Conducting an

anonymous survey did not limit the author in his analysis and seemed an appropriate method to serve the participants' rights and needs.

Pilot Study

The survey was pretested to ensure that questions were understood, the time to complete the survey was within an appropriate range as well as the content supported the survey's flow and the right thematic issues were addressed. A former participant in several CA programs was willing to do the pilot study. In the first Skype conversation, he was asked about his experience within CA programs in general. At the beginning, no specific issues addressed in the author's study were mentioned. Hereby, the author avoided a biased conversation about CAs and ensured that the interviewee highlighted the most important points from his point of view. Considering this input, the survey was adjusted. In the second Skype conversation, the survey was again presented to receive feedback from an alumnus of several CA programs. Based on the feedback, the final version was developed. This participant was only contacted for the pilot study and did not take part in the main study.

Main Study

An introductory email was sent to more than 1200 people working for alumni startups and, additionally, more than 1000 people were contacted via LinkedIn (see *Appendix I* and *Appendix II*). All contacted people were mainly founders and co-founders working for startups, which participated in a German accelerator program. Throughout the main study, a total of 153 responses were collected and 58 participants fully completed the online survey. A high dropout rate, in this study of 62%, is not uncommon for online and self-administered surveys since motivating the targeted audience to totally complete an online survey is rather difficult (Reips, 2002). However, the sample size is sufficiently large to proceed.

4.4 Design and Procedure

The data was collected between the 29th of March and the 3rd of May 2017. The survey was divided in three parts covering the alumni startups' expectations towards the CA program, the learning throughout the program, the overall perception of the program and the influence on the startups' subsequent development.

At the beginning of the survey, participants were welcomed and informed about the research purpose. Moreover, they were assured that responses are kept confidential, anonymous and

are only used for study purposes. In the first section, participants were asked about their intention to participate in the CA program. Different aspects covering the three areas product, market and team were included to be rated based on their importance in applying for the CA program. In the second section, the learning throughout the program was prompted. Participants were asked how the exact same factors included in the first section have improved. The third and last section aimed to shed light on the startup's overall perception of the CA program and on the program's influence on the startup's subsequent development.

A demographic question at the end of the survey was included to understand in which countries the startups had their headquarters. Finally, startups were thanked for their participation in the survey.

4.5 Variable Descriptions

All independent and dependent variables included in the Qualtrics online survey were measured on a seven-point Likert scale containing 1 = "strongly agree", 2 = "agree", 3 = "somewhat agree", 4 = "neither nor", 5 = "somewhat disagree", 6 = "disagree" and 7 "strongly disagree". The complete survey can be found in the *Appendix III*.

In the subsequent section, the subjective outcome variables, objective outcome variables and the expectations and learning variables are presented. The investors' decision-making criteria literature was reviewed to select relevant variables for the study. Csaszar et al. (2006), Maxwell et al. (2011) and Carpentier and Suret (2015) analyze which criteria are used by different investor groups to select promising startups. The highlighted criteria in the literature is adapted and integrated into the survey. Herewith, it is ensured that in the presented study about CA programs only relevant criteria for a startup's success is analyzed.

Subjective Outcome Variables

The following variables were included to measure the program's subjective outcome directly at the end of the CA program.

Satisfaction, was assessed by asking participants about their satisfaction with the outcome of the CA program.

Learning experience, was assessed by asking participants about their learning experience in a short amount of time due to the program.

Objective Outcome Variables

The following variables were included to measure the program's objective outcome reflecting the long-term impact of the CA program.

Venture success, was assessed by asking participants about the CA program's impact on the venture success.

Sales, was assessed by asking participants about an increase in sales due to the program.

Follow-up funding, was assessed by asking participants about their possibilities to receive follow-up funding due to the program.

Employer's attractiveness, was assessed by asking participants about the possibility to attract better employees due to the program.

Expectations towards the Corporate Accelerator Program and Learning

The variables of the first two parts of the survey, covering the expectations before and the learning throughout a CA program, are identical. The criteria are subdivided into the three areas product, market and team. Firstly, each criteria covers the intention to apply for the CA program and thus expectations towards the program. Secondly, each criteria covers the achieved improvements during the CA program and thus learning throughout the program.

Product

Customer benefit, was assessed by asking participants about the substantial benefit, which their product creates for customers.

Market needs, was assessed by asking participants about the readiness of their product for market needs.

Competitive advantage, was assessed by asking participants about the competitive advantage of their product compared to competitors.

Degree of innovation, was assessed by asking participants how innovative their product is.

Easiness of adoption, was assessed by asking participants about how easily their product can be adopted by customers.

Quality level, was assessed by asking participants about their product's quality.

Market

Identification target group, was assessed by asking participants about the identification of the right target group.

Contact target group, was assessed by asking participants about the easiness to get in touch with their target group.

Customer needs, was assessed by asking participants about the product's alignment with customer needs.

Marketing plan, was assessed by asking participants about the realism of their marketing plan.

Market potential, was assessed by asking participants about the market potential for their product or service.

Supply and distribution channels, was assessed by asking participants about the development of their supply and distribution channels.

Linkages target market, was assessed by asking participants about the development of their linkages to the target market.

Team

Business expertise, was assessed by asking participants about their business expertise.

Business network, was assessed by asking participants about the development of a valuable business network.

Passion, was assessed by asking participants about their level of passion for their business model.

Technical know-how, was assessed by asking participants about their technical know-how to implement their business model.

Pitching skills, was assessed by asking participants about their pitching skills to promote their business model.

Mentor coaching, was assessed by asking participants about the valuable coaching by mentors.

Learning in groups, was assessed by asking participants about the benefit of learning in groups.

Looking back at the Corporate Accelerator Program

Crichton (2014), Weiblen and Chesbrough (2015) and Isabelle (2013) refer to negative effects of CA programs on startups. To draw quantitative conclusions, different aspects addressing the overall experience during the program and the program's impact on a startup's situation after the program are included.

During the program

Competing products, was assessed by asking participants about the development of products competing with the products of the corporation sponsoring the CA.

Benefits sponsoring corporation, was assessed by asking participants about the benefits of a CA for the sponsoring corporation.

Target markets, was assessed by asking participants about the requirement that the target markets of the corporation and the startup have to match so that the program is beneficial for the participants.

Entrepreneurial mind, was assessed by asking participants about the harmfulness of the program for the entrepreneurial mind.

Artificial environment, was assessed by asking participants about the CA program providing an artificial environment without free market competition.

Overprotection, was assessed by asking participants about being overprotected in a CA program.

Limitations, was assessed by asking participants about the possibility to receive broad product feedback when advisors and mentors in a CA program come from one single orientation.

Internal competition, was assessed by asking participants about the competition between participants within a CA program.

Quality uncertainty, was assessed by asking participants about the uncertainty at the beginning of the program regarding the quality of a CA program and its outcome.

After the program

Competitors engagement, was assessed by asking participants about the engagement of competitors of the sponsoring corporation with alumni startups of the CA program.

Ties corporate accelerator, was assessed by asking participants about the persistence of the ties between the startup and the CA.

Ties network, was assessed by asking participants about the persistence of the ties between the startup and the CA's network.

Ties participants, was assessed by asking participants about the persistence of the ties between the participants of the CA.

Momentum, was assessed by asking participants about losing valuable momentum when the program ends.

Alumni network, was assessed by asking participants about the effort CAs put into a vital alumni network.

5. Analysis and Results

5.1 Sample Characterization

Descriptive statistical analyses were conducted to understand the sample characteristics. Despite the fact that only alumni startups, which participated in a German CA program were questioned, the participating startups' headquarters were located in 13 different countries. 96.6 % of the participants' headquarters are located in Europe and 3.4 % in the United States. However, 35 of the 58 participants' headquarters are located in Germany. 81 % of the participants agreed that the CA program had a positive impact on their venture's success. The same number of participants, 47, agreed to be satisfied with the program.

5.2 Model Assumptions

The author used structural equation modeling to test the hypotheses. Namely, he applied a partial least squares (PLS) model using the Smart PLS software, version 3.2.6 (Ringle, Wende, & Will, 2005). PLS uses an interactive estimation procedure to obtain regression coefficients. Compared to covariance-based programs, the sample size of 58 observations is normally not a problem in PLS. In addition to the small sample size, PLS allows constructing the model without knowing the exact relations of the latent variables. Therefore, possible relations between latent variables can be explored in a way, which is not possible in covariance-based ordinary least squares (OLS) regressions (Hulland, 1999).

Hulland (1999) points to key assumptions which need to be fulfilled to proceed with a PLS. Therefore, individual item reliability, convergent validity and discriminant validity are assessed.

Individual Item Reliability

To check for individual item reliability, the constructed nine latent variables reflecting the different areas of the survey (see Chapter 4.5 *Variable Descriptions*) were analyzed. The author used the Cronbach's Alpha to construct the following variables: *Product_expectations*, *Market_expectations*, *Team_expectations*, *Product_learning*, *Market_learning*, *Team_learning*, *Downsides*, *Subjective_outcome* and *Objective_outcome*. This approach ensured that the adequate items were included in each latent variable. A high Cronbach's

Alpha (higher than 0.8) is evidence for a good fit of the latent variable (Bagozzi, 1980). If deleting an item lead to an increase in the Cronbach's Alpha, the item was excluded from the latent variable. The following tables show how each latent variable was constructed to ensure a high Cronbach's Alpha.

Product Expectations

The variable *Competitive_advantage_E* was excluded from the latent variable *Product_expectations* due to a low item correlation (0.379). Cronbach's Alpha slightly increased from 0.848 to 0.850 (*Table 1*). Hereby, the number of included variables in the latent variable *Product_expectations* was reduced from six to five.

Table 1: Cronbach's Alpha Product Expectations

	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Customer_benefit_E	0.756	0.798
Market_needs_E	0.689	0.813
Competitive_advantage_E	0.479	0.850
Degree_of_innovation_E	0.602	0.829
Easiness_of_adoption_E	0.552	0.837
Quality_level_E	0.719	0.804

Market Expectations

With seven included variables the latent variable *Market_expectations* had a Cronbach's Alpha of 0.778. By deleting the very low correlated variable *Market_potential_E* the Cronbach's Alpha slightly increased to 0.787 (*Table 2*) and the latent variable *Market_expectations* contained six variables.

Table 2: Cronbach's Alpha Market Expectations

	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Identification_target_group_E	0.625	0.722
Contact_target_group_E	0.525	0.748
Customer_needs_E	0.575	0.735
Marketing_plan_E	0.468	0.757
Market_potential_E	0.297	0.787
Supply_and_distribution_channels_E	0.524	0.746
Linkages_target_market_E	0.518	0.749

Team Expectations

It was not possible to improve the latent variable *Team_expectations*'s Cronbach's Alpha of 0.848 by deleting any item. Therefore, the variables *Business_expertise_E*, *Business_network_E*, *Passion_E*, *Technical_know_how_E*, *Pitching_skills_E*, *Mentor_coaching_E* and *Learning_in_groups_E* were included in the latent variable *Team_expectations*.

Product Learning

It was not possible to improve the latent variable *Product_learning*'s Cronbach's Alpha of 0.935 by deleting any item. Therefore the variables *Customer_benefit_L*, *Market_needs_L*, *Competitive_advantage_L*, *Degree_of_innovation_L*, *Easiness_of_adoption_L* and *Quality_level_L* were included in the latent variable *Product_learning*.

Market Learning

With seven included variables the latent variable *Market_expectations* had a Cronbach's Alpha of 0.725. By deleting the variables *Marketing_plan_L* and *Market_potential_L* the Cronbach's Alpha increased to 0.883 (Table 3) and the latent variable *Market_learning* contained five variables.

Table 3: Cronbach's Alpha Market Learning

	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Identification_target_group_L	0.764	0.856
Contact_target_group_L	0.714	0.863
Customer_needs_L	0.772	0.856
Marketing_plan_L	0.544	0.883
Market_potential_L	0.548	0.883
Supply_and_distribution_channels_L	0.660	0.870
Linkages_target_market_L	0.718	0.863

Team Learning

It was not possible to improve the latent variable *Team_learning*'s Cronbach's Alpha of 0.902 with seven items by deleting any item. Therefore, the variables *Business_expertise_L*, *Business_network_L*, *Passion_L*, *Technical_know_how_L*, *Pitching_skills_L*, *Mentor_coaching_L* and *Learning_in_groups_L* were included in the latent variable *Team_learning*.

Subjective Outcome

It was not possible to improve the latent variable *Subjective_outcome*'s Cronbach's Alpha of 0.634 with two items. Therefore, the variables *Satisfaction* and *Learning_experience* were included in the latent variable *Subjective_outcome*.

Objective Outcome

It was not possible to improve the latent variable *Objective_outcome*'s Cronbach's Alpha of 0.816 with four items by deleting an item. Therefore, the variables *Venture_success*, *Sales*, *Follow_up_funding* and *Employer's_attractiveness* were included in the latent variable *Objective_outcome*.

Downsides

With nine included variables the latent variable *Downsides* had a Cronbach's Alpha of 0.691. By deleting the variables *Internal_competition*, *Quality_uncertainty*, *Target_market* and *Benefit_sponsoring_corporation* the Cronbach's Alpha increased to 0.767 (*Table 4*) and the latent variable *Downsides* contained five variables.

Table 4: Cronbach's Alpha Downsides

	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Competing_products	0.588	0.614
Benefits_sponsoring_corporation	0.328	0.702
Target_markets	0.213	0.698
Entrepreneurial_mind	0.503	0.635
Artificial_environment	0.578	0.623
Overprotection	0.545	0.634
Limitations	0.402	0.657
Internal_competition	0.083	0.717
Quality_uncertainty	0.116	0.708

Convergent Validity

Following Costa, Lages, and Hortinha (2015) the Cronbach's Alpha and construct reliability coefficients are evidence for convergent validity. Hereby, factor loadings (Bagozzi, 1980) and the average variance extracted (Fornell & Larcker, 1981) are analyzed (*Table 5* and *Table 6*). As highlighted in *Table 5*, all outer factor loadings are significant and greater than 0.50.

Table 5: Factor Outer Loadings

		Factor Outer Loadings
Product Expectations	Customer_benefit_E	0.833***
	Market_needs_E	0.802***
	Degree_of_innovation_E	0.720***
	Easiness_of_adoption_E	0.744***
	Quality_level_E	0.860***
Market Expectations	Identification_target_group_E	0.826***
	Contact_target_group_E	0.573***
	Customer_needs_E	0.791***
	Marketing_plan_E	0.677***
	Supply_and_distribution_channels_E	0.673***
Team Expectations	Linkages_target_market_E	0.567***
	Business_expertise_E	0.809***
	Business_network_E	0.656***
	Passion_E	0.730***
	Technical_know_how_E	0.677***
	Pitching_skills_E	0.771***
	Mentor_coaching_E	0.678***
	Learning_in_groups_E	0.774***
Product Learning	Customer_benefit_L	0.905***
	Market_needs_L	0.855***
	Competitive_advantage_L	0.810***
	Degree_of_innovation_L	0.880***
	Easiness_of_adoption_L	0.854***
	Quality_level_L	0.908***
	Identification_target_group_L	0.846***
Market Learning	Contact_target_group_L	0.818***
	Customer_needs_L	0.872***
	Supply_and_distribution_channels_L	0.767***
	Linkages_target_market_L	0.832***
Team Learning	Business_expertise_L	0.802***
	Business_network_L	0.741***
	Passion_L	0.809***
	Technical_know_how_L	0.865***
	Pitching_skills_L	0.770***
	Mentor_coaching_L	0.820***
	Learning_in_groups_L	0.750***
Subjective Outcome	Satisfaction	0.899***
	Learning_experience	0.811***
Objective Outcome	Venture_success	0.831***
	Sales	0.797***
Downsides	Follow_up_funding	0.858***
	Employer's_attractiveness	0.735***
	Competing_products	0.626*
	Entrepreneurial_mind	0.693**
	Artificial_environment	0.725*
	Overprotection	0.580*
	Limitations	0.727**

*** $p < .001$, ** $p < .01$, * $p < .05$

As shown in *Table 6* the average variance extracted (AVE) of each latent variable is above 0.5 (Fornell & Larcker, 1981). Hence, convergent validity is proven.

Table 6: Average Variance Extracted and Correlations

		Correlations								
	AVE	1	2	3	4	5	6	7	8	9
1 Downsides	0.581	0.762								
2 Market_E	0.578	-0.189	0.691							
3 Market_L	0.685	-0.433	0.680	0.828						
4 Product_E	0.630	-0.155	0.566	0.600	0.794					
5 Product_L	0.756	-0.359	0.590	0.772	0.804	0.869				
6 Team_E	0.533	0.205	0.561	0.700	0.673	0.717	0.730			
7 Team_L	0.632	-0.333	0.466	0.705	0.610	0.689	0.760	0.795		
8 Objective_outcome	0.651	-0.313	0.354	0.646	0.459	0.622	0.635	0.595	0.807	
9 Subjective_outcome	0.733	-0.373	0.424	0.612	0.522	0.665	0.612	0.723	0.764	0.856

All values for AVE significant at $p < .001$.

The bold diagonal values show the square root of the average variance extracted.

Discriminant Validity

To evaluate discriminant validity, the correlation between each pair of latent variables is compared to the root of the average value extracted among the pair in *Table 6* (Fornell & Larcker, 1981). Therefore, it is ensured that two latent variables which should not be correlated are indeed not correlated (Carlson & Herdman, 2012). Finally, cross-loadings between the variables and the latent variables were retrieved to show that variables load higher on their latent variable than on any other latent variable (Chin, 1998). As seen in *Table 6*, the computed root of AVE between all latent variables is higher than the corresponding correlations with the latent variable. Therefore, discriminant validity is proven (Costa et al., 2015).

5.3 Main Results

Since all necessary assumptions were fulfilled, Model 1 was run in the smart PLS software and results are presented in the following section.

Impact of Expectations on Learning

To validate the first hypothesis, *Table 7* containing path coefficients between the latent variables and standard deviations was computed.

Table 7: Path Coefficients Hypothesis 1

	Path coefficient	Stdv
Product_E → Product_L	0.545***	0.094
Market_E → Market_L	0.392***	0.108
Team_E → Team_L	0.755***	0.084

*** $p < .001$, ** $p < .01$, * $p < .05$

H1a proposed that higher expectations about product development in the CA program positively impact the learning throughout the program in that area. In order to test the hypothesis, the path coefficient showing the impact of the latent variable *Product_expectations* on *Product_learning* was computed (*Table 7*). As expected, the path coefficient had a positive and significant value of $\beta=0.545$ ($p < .001$) and highlighted the positive impact. Consequently, H1a was accepted at a significance level of 1%.

In order to test H1b, stating that increasing expectations in the market area positively impact learning in the market area the path coefficient connecting the latent variables *Market_expectations* and *Market_learning* was computed (*Table 7*). The path coefficient was positive and significant ($\beta=0.392$, $p < .001$). Thus, findings supported the hypothesis that higher expectations about the market development positively influence learning in the market area. H1b was accepted at a significance level of 1%.

To test H1c, addressing that higher expectations in the team area lead to higher learning in the team area, the same logic was applied (*Table 7*). The path coefficient between the latent variable *Team_expectations* and *Team_learning* was $\beta=0.755$ ($p < .001$) and outlined a positive, significant impact of expectations about personal learning for the team itself on

actual learning. Therefore, H1c was accepted at a significance level of 1%. Overall, the first hypothesis was accepted at a significance level of 1%.

In order to test the second hypothesis stating that expectations in the different areas product, market and team positively cross-impact the learning in the areas product, market and team, the relevant path coefficients were computed and significance tests were applied (*Table 8*). Results showed the path coefficients between the latent variables *Product_expectations* and *Market_learning* ($\beta=0.101$, $p>.05$), *Product_expectations* and *Team_learning* ($\beta=0.113$, $p>.05$), *Market_expectations* and *Product_learning* ($\beta=0.124$, $p>.05$), *Market_expectations* and *Team_learning* ($\beta=-0.012$, $p>.05$), *Team_expectations* and *Product_learning* ($\beta=0.281$, $p<.01$) and *Team_expectations* and *Market_learning* ($\beta=0.413$, $p<.001$). However, only the impact of the expectations in the team area on the learning in the product area and the market area were significant. Hence, expected learning about the personal development of the participant had a cross-impact on achieved learning in product and market development. Overall, the second hypothesis was partially accepted since two positive and significant cross-impacts were found (*Table 8*).

Table 8: Path Coefficients Hypothesis 2

	Path coefficient	Stdv
Product_E → Market_L	0.101	0.140
Product_E → Team_L	0.113	0.115
Market_E → Product_L	0.124	0.093
Market_E → Team_L	-0.021	0.138
Team_E → Product_L	0.281**	0.094
Team_E → Market_L	0.413***	0.108

*** $p<.001$, ** $p<.01$, * $p<.05$

Impact of Learning on Subjective Outcome

In order to validate the third hypothesis, stating that increased learning in the different areas positively influences the subjective outcome of the CA program, the three subparts were tested (*Table 9*).

Table 9: Path Coefficients Hypothesis 3

	Path coefficient	Stdv
Product_L → Subjective_outcome	0.296*	0.152
Market_L → Subjective_outcome	-0.009	0.149
Team_L → Subjective_outcome	0.490***	0.147

*** $p < .001$, ** $p < .01$, * $p < .05$

H3a refers to the impact of learning in the product area on the subjective outcome. The latent variable *Subjective_outcome* included the variables *Satisfaction* and *Learning_experience*. The value of the path coefficient between *Product_learning* and *Subjective_outcome* was positive and significant ($\beta = 0.296$, $p < .05$). This confirmed that the learning which a new venture gained related to the product, positively affected the subjective evaluation of the program's outcome (Table 9). H3a was accepted at a significance level of 5%.

H3b was tested in order to validate if what new ventures reported as learning in the market had an impact on how the program is assessed (Table 9). Results showed that the path coefficient between the latent variables *Market_learning* and *Subjective_outcome* was non-significant ($\beta = -0.009$, $p > 0.05$). Therefore, it was not possible to prove that market learning positively affects the subjective evaluation. H3b was not accepted.

To test H3c, stating that the learning in the team area had a positive impact on the subjective outcome, the path coefficient between the latent variables *Team_learning* and *Subjective_outcome* was retrieved (Table 9). The path coefficient had a positive and significant value of 0.490 ($p < .001$). It proved that the perceived personal development of the participants positively influenced the subjective evaluation. Consequently, H3c was accepted at a significance level of 1%. Since only H3a and H3c were significant ($p < .05$ and $p < .001$), the third hypothesis was partially accepted.

Impact of Subjective on Objective Outcome

In order to validate the fourth hypothesis stating that satisfaction and overall learning in the CA (*Subjective_outcome*) had a positive impact on later, further venture development, the path coefficient between the latent variable *Subjective_outcome* and *Objective_outcome* was computed (Table 10). The positive and significant path coefficient of $\beta = 0.764$ ($p < .001$) proved that a positive subjective evaluation at the end of the CA program positively impacts the long-term objective evaluation. Therefore, the fourth hypothesis was accepted at a significance level of 1%.

Table 10: Path Coefficients Hypothesis 4

		Path coefficient	Stdv
Subjective_outcome	→	0.764***	0.053
Objective_outcome			

*** $p < .001$, ** $p < .01$, * $p < .05$

Impact of Downsides on Learning

The fifth hypothesis states that downsides negatively impact the subjective outcome. For validation, the path coefficient between the latent variable *Downsides* and *Subjective_outcome* was computed (Table 11).

Table 11: Path Coefficients Hypothesis 5

		Path coefficient	Stdv
Downsides	→ Subjective_outcome	-0.108	0.130

*** $p < .001$, ** $p < .01$, * $p < .05$

No significant result was obtained ($\beta = -0.108$, $p > .05$) and therefore the fifth hypothesis was not accepted.

5.4 Further Analysis

CAs help startups to build a lasting network since startups get in contact with the sponsoring entity's existing network (Becker & Gassmann, 2006; Kanbach & Stubner, 2016; Kohler, 2016). Further, Becker and Gassmann (2006) emphasize that in contrast to the past focus on tangible resources such as funding, nowadays, intangible resources including networks to contact possible customers and suppliers considerably gained importance.

To quantify the effect of a lasting network, the three variables *Ties_corporate_accelerator*, *Ties_network* and *Ties_participants* were included in the survey to evaluate if strong ties between the participants and the CA itself, the participants and the CA's network and the participants themselves persisted after the program's end (see Chapter 4.5 *Variable Descriptions*).

Additional analysis on networking was conducted in order to understand how the introduced latent variable *Network* impacts *Objective_outcome*. The latent variable *Network* was

included in Model 1 between *Subjective_outcome* and *Objective_outcome* since the effect of a valuable network only becomes visible after the program ended (see Chapter 3 *Conceptual Framework and Hypotheses*). With all three variables included, the latent variable *Network* had a Cronbach's Alpha of 0.801. By deleting the variable *Ties_participants* the Cronbach's Alpha increased to 0.839 (Table 12). The latent variable *Network* was therefore constructed with the variables *Ties_corporate_accelerator* and *Ties_network* and was included into Model 1 to obtain Model 2.

Table 12: Cronbach's Alpha Network

	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Ties_corporate_accelerator	0.633	0.750
Ties_network	0.802	0.553
Ties_participants	0.531	0.839

Model 2 was computed in smart PLS following the same logic as while computing Model 1 (see Chapter 5.3 *Main Results*). Table 13 outlines path coefficients including significance levels and standard deviation of Model 2. Furthermore, to reflect possible changes, path coefficients including significance levels of Model 1 are shown in Table 13.

Table 13: Path Coefficients Model 1 and Model 2

	Model 2		Model 1
	Path Coefficient	Stdv	Path coefficient
Product_E → Product_L	0.545***	0.096	0.545***
Market_E → Market_L	0.392***	0.105	0.392***
Team_E → Team_L	0.756***	0.096	0.755***
Product_E → Market_L	0.100	0.138	0.101
Product_E → Team_L	0.112	0.111	0.113
Market_E → Product_L	0.124	0.088	0.124
Market_E → Team_L	-0.020	0.121	-0.021
Team_E → Product_L	0.281**	0.095	0.281**
Team_E → Market_L	0.413***	0.107	0.413***
Product_L → Subjective_outcome	0.272**	0.138	0.296*
Market_L → Subjective_outcome	0.010	0.152	-0.009
Team_L → Subjective_outcome	0.498***	0.145	0.490***
Downsides → Subjective_outcome	-0.104	0.126	-0.108

$$\frac{\text{Subjective_outcome} \rightarrow \text{Objective_outcome}}{\text{Objective_outcome}} = 0.764^{***}$$

*** $p < .001$, ** $p < .01$, * $p < .05$

In Model 1, the path coefficient between the latent variables *Subjective_outcome* and *Objective_outcome* was 0.764 ($p < .001$). After having included the latent variable *Network* as an intermediary variable between the latent variables *Subjective_outcome* and *Objective_outcome*, the results shown in Table 14 were obtained.

Table 14: Path Coefficients Model 2

	Path coefficient	Stdv
Subjective_outcome → Network	0.684***	0.066
Network → Objective_outcome	0.531***	0.085

*** $p < .001$, ** $p < .01$, * $p < .05$

As expected, the path coefficient between the latent variables *Subjective_outcome* and *Network* was positive and significant ($p < .001$). The path coefficient between the latent variables *Network* and *Objective_outcome* was positive and significant as well ($p < .001$).

Discussion

In this section, an extra analysis to test the impact of persisting strong ties after the program between the participants and the CA and between the participants and the CA's network on the *Objective_outcome* was assessed. Interestingly, results suggest a positive impact of a strong network on *Venture_success*, *Sales*, *Follow_up_funding* and *Employer's_attractiveness*. This result can assist managers of CAs. It demonstrates the importance of a strong network after the program has ended to increase startups' success indicators (*Objective_outcome*). Further, since CAs are interested in producing successful startups, the results highlight the fact that not only the duration of a CA program itself influences the startups success, but also the time afterwards needs to be taken into consideration. So CAs should consider strengthening a strong alumni network to accelerate the participants in the best possible way.

6. Conclusion and Implications

The study addressed the first research question to explore how the expectations towards a CA program influence the learning. Hereby, the relation between the expectations during the application process and the learning throughout the program was discovered. Findings showed that higher expectations in the areas product, market and team positively impacted the learning in the corresponding areas. Therefore, it can be concluded that higher expectations within one of the three areas significantly increased the learning within this area. In the area team, the highest effect was shown, followed by the areas product and market. This means that higher expectations within the team area increase learning within the team area to a greater extent than increasing expectations in the product or market area influence learning within these areas. Additionally, cross-impacts between the expectations in a certain area and the learning in another area were analyzed. Since only the expectations within the area team had a positive and significant cross-impact on the learning in the area product and market, it is concluded that a positive spillover from expectations on learning only happens when the expectations in the area team increase.

The impact of the obtained learning during the program on the overall satisfaction and overall learning experience was reflected by the second research question. Thus, it evaluated whether learning impacted the subjective outcome in the same positive way or if differences in areas existed. Interestingly, subjective outcome, which consists of variables reflecting satisfaction and overall learning, only significantly increased when the learning in the areas product and team increased. Positive and significant effects of the learning in the areas product and team were expected, however, no significant effect from the learning in the market area was retrieved. This leads to the contradictive conclusion that increased learning in the area market does not impact the subjective outcome and therefore seems to be less important.

The third research question was answered to proof if a CA program fulfills the startup's expectations regarding learning. As assumed, the expectations within the areas product, market and team highly correlated with the corresponding learning within these areas. The results outlined that the CA programs were able to enhance learning in the areas in which participants expected to improve. Consequently, the results highlight the good alignment of the program with the startups needs. Despite the fact that good overall alignment was

discovered, the market area showed the lowest match between expectations and learning. Hence, there is room for improvement.

To consider the long-term impact of a CA program, research question four was answered. Hereby, the relation between the subjective and objective outcome was explored. The analysis of the relationship between the subjective and the objective outcome displayed a considerable positive and significant impact of a CA program on the participant's long-term performance. It proved that CA programs had a substantial impact on the startup's further development after the program ended.

Finally, to enhance literature about the downsides of CA programs, research question five was addressed to quantify the impact of downsides on the subjective outcome. Despite the fact that various authors within the CA literature outline possible downsides of such programs, the study was not able to prove a significant, negative effect of downsides on the subjective outcome. Thus, conclusions on the impact of downsides on the subjective outcome cannot be drawn.

6.1 Theoretical Implications

Various studies describe the CA concept (Cohen, 2013; Kanbach & Stubner, 2016; Kohler, 2016). However, this study goes beyond by quantifying the impact of CA programs on startups. By quantifying the effects of the participation in a CA on startups' learning, the present dissertation contributes to former research about the benefits of CA programs for startups (Hathaway, 2016; Kohler, 2016). Hereby, it fills a gap in the research landscape (Pauwels et al., 2016). In fact, the study advances the pure listing of the various benefits, which startups receive by participating in a CA program by quantifying the benefits, measured as learning.

Additionally, the study verifies the fit of the CA program with startups' expectations. Expectations towards the program and learning throughout the program were separately questioned in the study's survey. Therefore, it was possible to draw empirical conclusions about the fit of CA programs and startups' needs.

During the study, a distinctive line was drawn between the subjective outcome, measurable at the end of the CA program and the objective outcome reflecting the program's long-term impact on the startups. This allowed the separate quantification of both impacts and therefore

adds value to the existing literature about CA programs. Quantifying the impact goes far beyond the existing literature mainly referring to qualitative results (Cohen, 2013; Kanbach & Stubner, 2016; Kohler, 2016).

Further, including possible downsides of CAs mentioned in the literature to quantify the expected negative effect on the subjective outcome was a new approach (Clegg et al., 2008; Doz, 1987; Dushnitsky & Lenox, 2005; Isabelle, 2013; Kohler, 2016; Park & Steensma, 2012; Weiblen, 2015). To the best of the author's knowledge, previous academic literature did not intend to incorporate possible downsides into a quantitative model. Despite the fact that the present study did not obtain significant results regarding downsides, it opens ways for future research.

6.2 Practical Implications

This work enables managers of CA programs to better understand how expectations towards CA programs translate into learning throughout the program. The study reveals that there are differences between the three areas product, market and team. Therefore, it is a starting point for further analysis on how expectations can be more effectively translated into a learning experience. Whereas overall results are good, the areas product and market lag behind the team area. Further, the finding that expectations in certain areas have a cross-impact on the learning in other areas is interesting for program managers, as well. It highlights that program managers should not only consider the direct impact of the expectations in one area on the learning in the same area.

Overall, expectations and learning showed high correlation, which is an indicator of a good program fit. However, perceived learning did not equally translate into subjective outcome measuring satisfaction and overall learning experience. Learning in the market area did not have any significant effect on the subjective outcome. Therefore, program managers should possibly redefine how to address the market area within the CA program. Results suggest that the market area is not addressed in an adequate way since increased learning does not translate into a higher subjective outcome.

Further, the study indicates that the subjective outcome has a great impact on the objective outcome reflecting the CA's long-term impact on the startup. Thus, in general, program managers prove to set the right focus with their CA programs since long-term effects are

positive. However, the effect only reflects the relation between the subjective and objective outcome. Hence, results outline that it is very likely that startups, which positively perceive the CA's overall experience, also benefit in the long-term.

The study was not able to produce significant results quantifying a possible negative effect coming from downsides of CA programs on the subjective outcome. This indicates that how the study was set up, a negative influence of the CA program's characteristics on participants was not revealed. Therefore, based on this study, program managers do not need to expend too much energy or focus in changing the program characteristics to account for potential downsides. Further, they do not need to worry that highly qualified startups possibly choose more independent accelerator programs to eliminate possible downsides specific to CA programs.

7. Limitations and Future Research

As all studies, this research has certain limitations. Since the study relied on the information on alumni startups published on the CA's webpage, there might be incomplete data and therefore startups missing. The small sample size of 58 participants causes generalization problems of the findings. Hence, a bigger sample would definitely be necessary to draw generalizable conclusions. Despite the fact that the author tried to formulate the survey questions as objective as possible, the answers are still very subjective. Evaluating expectations, learning, and satisfaction is very dependent on participants' perceptions and thus leads to biased results.

Since all survey respondents participated in a CA program in Germany, certain limitations in generalizing study results to other geographical areas need to be outlined. A German CA might not be representative for a program in another country (Clegg et al., 2008; Levie, Autio, Acs, & Hart, 2014; Moschner & Herstatt, 2016; Pauwels et al., 2016). Further research analyzing CAs in different countries would add considerable value to the research landscape. Additionally, participants were part of CA programs' in different industries and the program setups might therefore vary. Also, the exact length of the CA program was not considered. Hence, measured learning might include an industry and duration bias (Moschner & Herstatt, 2016).

The research field of CAs contains various interesting avenues for further research. A long-term study would be of great value and startups could be observed throughout the CA program and afterwards. At the same time, this approach eliminates limitations of this study. The dependence on startups' ability to recollect their past experience comes along with great difficulties and leads to inaccuracies (Nisbett & Wilson, 1977). Further, a long-term study would reduce the risk of a common method variance bias since exogenous and endogenous variables are included in the same survey (Rindfleisch, Malter, Ganesan, & Moorman, 2008).

Moreover, a study questioning participants of CA programs and a control group of for example startups whose applications got rejected by the CA would be of great interest (Pauwels et al., 2016). The value added by a CA program would become more visible.

From a general point of view, this study quantifies the interfaces between corporate accelerators and alumni startups. Although various limitations of the research were presented,

this dissertation documents that taking a quantitative perspective in exploring the interactions taking place in a corporate accelerator program is possible. Hopefully, more researchers are inspired and follow on the described avenue of future research.

Appendices

Appendix I: List of Contacted Alumni Startups

The following table outlines a list of all alumni startups, which were contacted and the name of the CA they participated in.

Corporate Accelerator	Alumnus Startup
Allianz SE Allianz Digital Accelerator	Abracar Fairfleet BodyLabs Milebox
Deutsche Bahn AG DB Accelerator	Alumia inabe konux senvisys dynamic components emmy sharing naturtrip podaris siut smart shippr
Microsoft Corporation Microsoft Ventures Accelerator	AttachingIT Babbo brightup BuddyGuard Caspar cringle datary factor-e firstbird flockpit flowtap flutaro foodexpress hidoc hipventory hyper igroove lyptics jobufo kelsen

Telefónica, S.A. Wayra Accelerator

Linknovate
Medlanes
NeuroFlash
payever
portadi
predictiv industries
productive mobile
q.datum
quantified code
raklet
semper
sensorberg
skoove
synergist.io
tandemploy gmbh
tripcombi
videopath
wunderAgent
Wunderflats

Axel Springer

Zyncd
Neokami
parkpocket
matchinguu
foodora
Nfware
meet'n'learn
52masterworks
yeti
bernstein
walletsaver
cadami
saffe payments
mesh:ine
people
5 analytics
e-bot 7
Rysta
Hivex
Personiq

N26
ZenMate
blogfoster
reachhero
InStaff

Zizoo
Vicomi
Truffls
Joinesty
Careship
Dentolo
Massagio
Tiresio
Foodguide
Manonamission
lineupr
ZeniAd
Vanolia
mangowerk
aurora
govolunteers
coachfox
techspaghetti
haulin
wingly
trill
Pivii
weps
FinanzRitter
retime
daheim
getacamp
livecall
oeex
zalvus
girafi
timble
deckard
aaron
atameo
roomiapp
sharethemeal
autumn
bookastreet artist
apparently different
gallereplay
nesthub
peerace
ReDi school
coyno
nextsocial

applanga
attensee
musicnow
enso
foodscovey
linkedage
satoshiPay
Sopreso
cross cloud
Egyptian Streets
Halfbake
karosso
matchrider
offtime
phizzard
rentse
solid sound
asuum
classiqs.com
mpax
get2play
1o1 Media
styleup
adincon
milonetworks
orat
yeppt
shopeat
dataspin
passenger
retravel
broadsay
getjob
incend
pagido
stunn
tickticktickets
jobspotting
socius

Bayer AG

oasis websoft
Turbine
Vital Smith
xbird
medikeep
sendinaden

Deutsche Telekom AG

serona
vitameter
viomedo
cortrium
linehealth
Fabulyzer
Fibrichcheck
Parica

Klang
gopopup
conichi
SatoshiPay
ViewSay
AdaptivPlan / task 36
relayr
videopath
edition f
Primal Shield
Pocket Aid
OptRetina
easy ID
Klara
Junique
gamewheel
the new africa
aerial power
scolibri
mighty-office
offtime
trecker
eisenhower
Codeship
cliperize
changify
capsule.fm
appetico

dpa

streamTime
scenic
newsreps
contentflow
authorship
supermashapp
Stadeom
whocares

E.ON SE

is not tv
pussapps
narrativa
yatus analytics
AdTria
Spectrm
nqyer media
spotgun

AirGrid
Astra Innovations
Cenior
easycharge.me
ecoligo
eMovements
Epplication
FahrradJäger
FinchBuildings
Freight Pilot
HeartBike
mDiabetes
Nettergy
port
Powerdoo
tryggel

ImmobilienScout24

MieterEngel
LookAround
FlatNut
airTeam
eywalk
vrNow
casavi
building radar
myKeys 24
KeyDock
Timum
Kautionsretter
gopopup
cleanagents
groupestate
SorglosInternet
smartCheckups
StorageBook
Leinentausch
homeWhere

	<p>orderlift capsuling bauvermietung parknav mycleaner myfitnessclub warmmiete24 wg-suche bau wohnen leben</p>
Media-Saturn Group	<p>expertiger kaputt.de myhomeservices deutsche- technikberatung</p>
Merck Group	<p>checker matibabu peat capsule maishameds totohealth apoly contags sulfotools</p>
METRO AG	<p>apparier cheerfy frag paul hoard hyre jagger pantreeco reputize smunch tsneso Zenchef CoffeeCloud Flowtify Gastrozentrale GroupRaise Journy Lunchio PoshPacker Roomatic Rublys</p>

ProSiebenSat.1 Media AG

Wynd

123makler

JimDrive

Spielzeugkiste

Valendo

kaputt.de

Kukimi

foodist

triprebel

fairr.de

clark

AsanaYoga

Layoutfabrik

springtab

cashboard

ekoio

eurosender

hellocare

JaimieJacobs

Pablo&Paul

PhotoCircle

Veeplay

Flairelle

SecureBeam

media4care

littlepostman

myonbelle

videostream360

eyeglass

tvib

jurato

kinematics / tinkerbots

myradioday

ampido

dreama

moosify

tickethelden

get2play

talentry

Appendix II: Email and LinkedIn Text Sent to Alumni Startups

The following email was sent to the alumni startups.



Dear **ProductiveMobile Team**,

I am contacting you since you participated in the **Microsoft Accelerator**.

Within the scope of my **master thesis** I aim to understand **your reasons to participate** in the program and **your learning experience** throughout the program. Therefore, I'm conducting a **confidential and anonymous survey** in which I would like you to participate.

What's in it for you?

With **8-9 minutes of your time** you enhance research on Corporate Accelerator Programs and help to improve the fitting of Corporate Accelerator Programs and startups' needs.

Survey link:

https://ucplbusiness.co1.qualtrics.com/jfe/form/SV_ebQdlbPb1gn6rJP

I kindly ask you to forward this email to someone who was involved in the program.

Thank you very much for your time and contribution.

Best regards from Lisbon,

Marius Kramer



Marius Kramer

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Leading Today. Inspiring Tomorrow.

The following text was sent to employees of alumni startups on linked in.

8. Apr.

8 minutes make a difference!

Do you mind sharing your experience in the Axel Springer Plug&Play Accelerator? I appreciate your contribution to my master thesis on Corporate Accelerators at Católica Lisbon.

Survey link:

https://ucplbusiness.co1.qualtrics.com/jfe/form/SV_ebQdlbPb1gn6rJP

Thank you!

10:21

Appendix III: Online Survey

The conducted online survey is outlined on the following pages.

Welcome to my survey!

The following survey contributes to my Master Thesis at Católica Lisbon School of Business & Economics. The research purpose is to investigate the reasons why startups apply for Corporate Accelerator Programs, the learning throughout the program and the startup's further development.

All responses will be kept confidential, anonymous and used for study purposes only.

Thank you very much for your time!
Marius Kramer

Section I

Your intention to participate in the Corporate Accelerator Program. Please think back to the time when you applied for the program.

Do you agree or disagree with the following statements?

Product / Service: We applied for the Corporate Accelerator Program so that our product / service ...

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
generates a more substantial benefit for customers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is more ready for the market needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
has a higher competitive advantage compared to competitors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is more innovative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is easier adoptable by customers in the target market.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is of higher quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Intention to participate

Please think back to the time when you applied for the program.

Do you agree or disagree with the following statements?

Market: We applied for the Corporate Accelerator Program so that ...

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
the right target group is identified.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it is easier to get in touch with our target group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the product meets customer needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
our marketing plan is more realistic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
there is a larger market potential for our product or service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
supply and distribution channels are better developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we have direct and well developed linkages to the target market.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Intention to participate

Please think back to the time when you applied for the program.

Do you agree or disagree with the following statements?

Team: We applied to the Corporate Accelerator Program so that ...

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
we gain valuable business expertise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a valuable business network is built up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we are more passionate about our business model.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we improve our technical know-how necessary to implement our business model.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we improve our pitching skills to promote our business model.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we receive valuable coaching by mentors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we benefit from learning in groups.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section II

Learning throughout the Corporate Accelerator Program.

Considering the development of your startup throughout the Corporate Accelerator Program and the state when you finished the program.

Learning

Considering the development of your startup throughout the Corporate Accelerator Program and the state when you finished the program.

Do you agree or disagree with the following statements?

Product / Service: Due to the Corporate Accelerator Program our product / service ...

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
generates a more substantial benefit for costumers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is more ready for the market needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
has a higher competitive advantage compared to competitors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is more innovative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is easier adoptable by customers in the target market.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
is of higher quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Learning

Considering the development of your startup throughout the Corporate Accelerator Program and the state when you finished the program.

Do you agree or disagree with the following statements?

Market: Due to the Corporate Accelerator Program ...

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
the right target group is identified.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
it is easier to get in touch with our target group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the product meets customer needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
our marketing plan is more realistic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
there is now a larger market potential for our product or service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
supply and distribution channels are now better developed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we now have direct and well developed linkages to the target market.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Learning

Considering the development of your startup throughout the Corporate Accelerator Program and the state when you finished the program.

Do you agree or disagree with the following statements?

Team: Due to the Corporate Accelerator Program ...

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
we gained valuable business expertise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a valuable business network was built up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we are more passionate about our business model.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we improved our technical know-how necessary to implement our business model.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we improved our pitching skills to promote our business model.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we received valuable coaching by mentors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
we benefited from learning in groups.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you agree or disagree with the following statements?

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
The Corporate Accelerator Program helped us to succeed with our venture.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section III

Looking back at the Corporate Accelerator Program.

Do you agree or disagree with the following statements?

The Corporate Accelerator Program helped us to ...

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
increase sales.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
receive follow-up funding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
attract better employees.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
obtain fundamental learning experience in a short amount of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Looking back

Startups participating in a Corporate Accelerator Program:

Do you agree or disagree with the following statements?

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
Participants are prevented from developing competing products to the corporation sponsoring the Corporate Accelerator.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The sponsoring corporation sets up a Corporate Accelerator Program mainly for its own benefit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The corporation's and the startup's target markets have to match perfectly so that the Corporate Accelerator Program is beneficial.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A Corporate Accelerator Program harms the entrepreneurial mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The program provides an artificial environment without free market competition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The program overprotects its participants.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>Since advisors / mentors in a Corporate Accelerator Program come from one single orientation, a broad product feedback is not possible.</p>	○	○	○	○	○	○	○
<p>Startups in a Corporate Accelerator Program compete against each other.</p>	○	○	○	○	○	○	○
<p>At the beginning of the Corporate Accelerator Program it is difficult to determine the outcome of the program.</p>	○	○	○	○	○	○	○

Looking back

Startups having completed a Corporate Accelerator Program:

Do you agree or disagree with the following statements?

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
Competitors of the sponsoring corporation do not engage with participants of the Corporate Accelerator Program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strong ties between the startup and the Corporate Accelerator persist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strong ties between the startup and the Corporate Accelerator's network persist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strong ties between the participants persist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When the Corporate Accelerator Program ends valuable momentum gets lost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Corporate Accelerator needs to put more effort into a vital alumni network.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Looking back

Do you agree or disagree with the following statement?

	Strongly agree	2	3	Neither nor	5	6	Strongly disagree
We are very satisfied with the outcome of the Corporate Accelerator Program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In which country is the headquarters of your company?
Drop-down list

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