



**CATÓLICA
LISBON**
BUSINESS & ECONOMICS

**“On which success factors should
corporate accelerator programs focus to
achieve sustained competitive advantage
for its incumbent company?”**

Tobias Kummle

[152117017]

Dissertation written under the supervision of Cláudia Costa

Dissertation submitted in partial fulfilment of requirements for the MSc in
International Management, at Universidade Católica Portuguesa,
02.01.2019

Abstract

Title: “On which success factors should corporate accelerator programs focus to achieve sustained competitive advantage for its incumbent company?”

Author: Tobias Kummle

Corporate accelerator programs (CAPs) are company-supported, cohort-based programs for a limited period of time, that support startups through manifold types of resources. They are operated by corporations to achieve competitive advantage in a fast-changing economic environment and are a relatively recent phenomenon. As a result, the research on the efficacy and key success criteria of CAPs is highly important. Past research has identified nine success factors (implementation capability, networking, selection criteria, value proposition, target definition, top management support, mentor selection, mutual value, prior knowledge) on a nominal scale. However, it remains unclear if one is more or less important than the other. To close this gap in research a multiple case-study was performed interviewing eight top managers of corporate accelerator programs, four for each category, (strategic & investment) to rank the success factors according to their expert opinion on an ordinal scale. In this process two additional success factors (reputation and local proximity) were identified. Subsequently all eleven factors were examined to determine whether they would give the incumbent company a sustainable competitive advantage or not, through a resource-based view. The study finds that three of eleven success factors under study (selection criteria, networking and implementation capability) are able to create a sustained competitive advantage for the incumbent company for both types of programs although in different order. Lastly, recommendations were given on how a general program could be optimized both on a high level as well as through tangible examples (e.g. divesting target definition in favour of mentor selection).

Keywords: entrepreneurship; corporate accelerator programs; startup engagement; corporate entrepreneurship; success factors; competitive advantage; resource-based view

Abstrato

Título: "Em quais fatores de sucesso os programas de aceleradores corporativos devem se concentrar para alcançar vantagem competitiva sustentada para sua empresa incumbente?"

Autor: Tobias Kummle

Os programas aceleradores corporativos (CAPs) são programas apoiados por empresas, baseados em coortes por um período limitado de tempo, que dão suporte a startups através de vários tipos de recursos. Eles são operados por empresas para alcançar vantagem competitiva em um ambiente econômico em rápida mudança e são um fenômeno relativamente recente. Como resultado, a pesquisa sobre a eficácia e os principais critérios de sucesso dos CAPs é muito importante. Estudos anteriores identificaram nove factores de sucesso (capacidade de implementação, ligação em rede, critérios de selecção, proposta de valor, definição de objectivos, apoio à gestão de topo, selecção de mentores, valor mútuo, conhecimentos prévios) numa escala nominal. No entanto, continua a não ser claro se um é mais ou menos importante do que o outro. Para preencher essa lacuna na pesquisa, um estudo de caso múltiplo foi realizado entrevistando oito gestores de topo de programas aceleradores corporativos, quatro para cada categoria (estratégica e de investimento) para classificar os fatores de sucesso de acordo com sua opinião especializada em uma escala ordinal. Nesse processo, dois fatores de sucesso adicionais (reputação e proximidade local) foram identificados. Posteriormente, todos os onze fatores foram examinados para determinar se dariam à empresa incumbente uma vantagem competitiva sustentável ou não, através de uma visão baseada em recursos. O estudo conclui que três dos onze factores de sucesso em estudo (critérios de selecção, rede e capacidade de implementação) são capazes de criar uma vantagem competitiva sustentada para a empresa incumbente em ambos os tipos de programas, embora em ordem diferente. Por último, foram dadas recomendações sobre como um programa geral poderia ser otimizado tanto a um nível elevado como através de exemplos tangíveis (por exemplo, desinvestir na definição de objectivos em favor da selecção de mentores).

Palavras-chave: empreendedorismo; programas de acelerador corporativo; engajamento startup; empreendedorismo corporativo; fatores de sucesso; vantagem competitiva; visão baseada em recursos

Acknowledgements

I would like to express my deepest gratitude to the 10 interview partners for making this empirical research possible, by offering their valuable time and professional expertise.

Furthermore, I would like to thank my supervisor, Cláudia Costa for her valuable feedback and support throughout the process.

A big thank you goes to my family, who supported me constantly in my personal and academic career and my girlfriend Nicole, for giving me the motivation to always strive for the best.

Finally, I would like to thank my dear friend Maximilian Wald, for sharing his great expertise about the entrepreneurial ecosystem and for our interesting discussions about corporate accelerators.

Table of Contents

List of figures and tables.....	1
1. Introduction.....	1
2. Academic Literature Review	4
2.1. Introduction to the concept of accelerator	4
2.2. Objectives of corporate accelerator programs	6
2.3. Categorization of corporate accelerator programs	7
2.4. The Resource-Based View	8
2.5. Success factors of corporate accelerator programs in current literature	11
2.6. Conclusion	13
3. Methodology	15
3.1. Research Approach	15
3.2. Explanation of Research Approach.....	15
3.3. Data Collection	17
3.4. Data Analysis.....	18
4. Results	22
4.1. Individual case studies, importance and ranking of success factors.....	22
4.2. Resource Based View analysis	26
5. Discussion und conclusion.....	35
5.1. On which success factors should corporate accelerator programs focus to achieve sustained competitive advantage for its incumbent company?.....	35
5.2. Theoretical implications	38
5.3. Managerial implications	38
6. Limitation and future research	41
Appendix.....	42
7. References.....	45

List of figures and tables

Figure 1: Relationship of Agents within an Accelerator Program (Bauer, 2016).....	6
Figure 2: Adapted from Mata et. al. 1995.....	10
Figure 3: Overview of the applied research methodology.....	21
Figure 4: General CAP-process with success factors that lead to a sustained competitive advantage highlighted in blue. The bar indicates to which step of the process this factor is related to.	40
Table 1: Success Factors for the incumbent company identified in current literature	13
Table 2: Sample of corporate accelerators in the data set (eight CAP's)	18
Table 3: Weights applied depending on 25% intervals of success ratio	20
Table 4: Results of the individual case study analyses showing relative frequencies of the times a success factor was mentioned in an interview separated by CAP-type. Each CAP's success rate as mentioned by the experts is displayed as well.	23
Table 5: Each success factor's importance by CAP-type calculated as quadratic weighted average depending on the CAP's success rate.	24
Table 6: Ranked success factors according to their weighted average importance.	26
Table 7: Summary of the RBV-analysis' results segmented by category.	33
Table 8: Proposed allocation of importance to the success factors, in imitation of the ABC-analysis. The set of factors is divided into three groups depending on their ability to deliver a sustainable competitive advantage (A), a temporary competitive advantage (B) or competitive parity (C). Then 70% of all capacity is allocated amongst category A, 20% amongst category B and 10% amongst category C.	36

1. Introduction

“Industries are changing in the blink of an eye. How can companies keep up?” (World Economic Forum 2016, Kupp et al, 2017).

The exponential rate change (economic and social) demands corporations to constantly seek out new ways of doing things, new approaches to the market or even new ventures to pursue. Innovation is key to the continued success and competitive advantage (Tohidi, 2012; Urbancová, 2013). To meet the challenges of change, corporations must screen outside to seek out new ideas and use them to adjust their core business in order to meet those challenges (Weiblen & Chesborough, 2015; Kupp et al, 2017).

The greatest challenge to established corporations is driven by technological innovation and digitalization. In the past, only the very largest corporations had the resources to fund cost intensive research programs, for instance Volkswagen (\$13 bn), Alphabet (\$16 bn) and Samsung (\$14 bn), while in comparison the R&D spending of the country of Sweden was only \$4 bn in the same year. Nowadays, two people working in a back-room can challenge industry giants and large corporate can no longer be assured of their markets, when a new concept or business model is launched. These include innovative startups such as Uber, which undercuts traditional taxi firms by enabling customers to book rides with private persons and pay with an app on their smartphones or Airbnb, which enables private citizens to rent their personal homes as holiday lets, thus in one initiative undercutting the hotel industry. In ten years, Airbnb has achieved four million listings in 191 countries that now exceeds the combined total of the five biggest hotel brands (Zervas et al, 2017).

To learn from these examples of innovative lateral thinking (De Bono, 1970) large firms are increasingly seeking out startup ventures to support, where the product or service model is congruent with the incumbents' core business. From this point, corporations will either strategically absorb the innovation within its own portfolio and develop it or alternatively capitalise on the startup, in which it already holds equity, and finance it to generate ROI. This is what Chesborough (2003) refers to when firms adopt an Open Innovation Strategy (OIS) in which the firm utilises its own resources of infrastructure to provide office space, services and personnel to mentor and nurture startups. In this way, the innovation model is developed and combined with external innovators and new business entrepreneurs. Corporations working with

OIS very often operate within emerging technologies and seek related products for development (Kohler, 2016). Both approaches are present in the corporate accelerator model.

Accelerator programs were developed largely after the 2008 recession as a consequence of the downturn in investment funds, which are normally the available finance to new ventures and include angel investors and incubators (Hoffman & Radojevich-Kelley, 2012). What large corporations required was a more cost effective, simplified model of investment in startups (Weiblen & Chesborough, 2015). Startups can be defined as companies in the first stage of operations with the attempt to capitalize by developing a new product or service for which they believe there is demand (Wiklund et al, 2011). Accelerators, including private, corporate and non-profit ones differ from other models such as incubation in offering a time-limited format, during which the innovation will either demonstrate its value for further investment or be recognised as a business idea which is not worth pursuing (Cohen, 2013). As such the model encourages new ideas and allows for brief-time, limited cost experimentation that might otherwise wastefully absorb corporate investment.

The accelerator model provides an exclusive opportunity for the corporation to assess innovations and identify possibilities for long-term growth (Kohler, 2016). Furthermore, by launching multiple startups at the same time, there is commonality, competition and the time parameters are clear. Office-space, mentoring and seed finance are provided and the normally three month's trial ends with a 'Demo Day' where the accelerator presents their portfolio for judgement. The model assumes high pressure working driven by enthusiasm and ways of working that might differ from those within the incumbent company. It fosters commitment and the opportunity to deliver on ideas, while it offers for the corporation, in case of an early failure of a startup, the opportunity to shift their investment into more viable and profitable ventures (Cohen, 2013).

However, despite the increasing use of corporate accelerator programs (hereafter, CAP) relatively little research about this phenomenon is available. Bauer (2016) states that knowledge about success factors and how corporations should design their corporate accelerator programs to optimise their value is still incipient. This gap can be attributed to the brief timeframe, since it is a very recent phenomenon. In addition, difficulties in empirical research arise since privately funded accelerators are not obliged to publish its findings and experience to the public, which limits the number of available research reports (Dempwolf et al, 2014).

This research is intended to address this gap and to contribute to the body of literature by conducting a multiple case study among 8 corporate accelerator top managers engaged in accelerator development, for both, financial and strategic purposes. It seeks to identify and confirm the success factors and to create a ranking of their importance, whereby the incumbent company's objectives can be met. Furthermore, a general design configuration for achieving success and a competitive advantage will be discussed and a suggestion is derived to provide corporate accelerator managers guidance for making design choices.

The dissertation begins with a review of existing academic literature on corporate accelerator programs before setting out the research methodology, results, discussion and drawing together primary and secondary research to answer the research question:

“On which success factors should corporate accelerator programs focus to achieve sustained competitive advantage for its incumbent company?”

2. Academic Literature Review

This review will begin with an elaboration of the accelerator concept (2.1), examining the objectives of the corporately funded and supported accelerator model (2.2) and explaining its different categories (2.3). Afterwards the resource-based view methodology is introduced (2.4). Finally, the success factors known to literature are explained (2.5) before a conclusion is drawn which legitimizes the research question (2.6).

2.1. Introduction to the concept of accelerator

According to Hochberg more than 3 000 accelerators were active in 2016. The first accelerator, Ycombinator, was founded in the US in 2005 and was followed by, Plug & Play, TechStars and 500 Startups (Bauer, 2016; Hochberg, 2016). The model was subsequently extended into Europe and then globally. A corporate accelerator is the mechanism by which new, small startup ventures can be given assistance (Pauwels et al, 2016) through the provision of office space, mentoring advice and seed financing (Radojevich & Hoffman, 2012; Kohler, 2016). Digitalization has reduced startup costs and the seed financing required to launch a new venture (Kupp et al, 2017). The process begins with an open call period, followed by the screening and selection of the startups, through which the most viable and congruent startups are identified (Pauwels et al., 2016).

Accelerators provide several benefits such as mentoring and office space for a pre-fixed and finite duration (Fishback et al, 2015). The average duration of a CAP is limited to 3 months providing a finite period where resources and energy can be concentrated and ensuring an early evaluation of the viability of the proposed innovation (Cohen & Hochberg, 2014; Weiblen & Chesborough, 2015; Bauer, 2016; Hochberg, 2016). The argument against longer duration is the possible risk of mutual dependency between accelerator and startup, which might emerge over time, thus the initial drive decreases (Kohler, 2016). Short duration programs also limit expenditure upon any startup which enables the CAP to broaden its portfolio and retain the capital to assist more ventures.

The other argument for programs is to arrive at a recognised end point, which is normally the Demo Day, opening the opportunity for participants to present their pitch in front of key decision makers. It acts as a quality gate for the success or failure of the idea and enables

corporate decision makers to decide whether further investment is justifiable or whether the venture cannot deliver the value that is required and should be discharged (Cohen, 2013).

The function of the corporate accelerator is to encourage and support and to decide which startups can best meet the corporation's strategic requirements. The role of a CAP is to incorporate the new initiative within its own portfolio and to further decide, whether to support it through equity investment, which presumes some commonalities of the product or market, or whether to choose the startup only on the basis of its capability to generate capital, thus as an investment proposition. The latter one does not necessarily require a linkage to the parent corporation's core business (Hochberg, 2016).

Corporate accelerators report only to the incumbent company's board, which is often reluctant to have evaluations of its new ventures placed in the public domain (Pauwels, 2015; Kohler, 2016) while non-profit organisations are responsible to a board of trustees or to government bodies, such as the German Ministerium for Business and Energy (Ministerium für Wirtschaft und Energie) or, to give a specific example, the Canadian Technology Accelerator to the Canadian Government. The corporate accelerator sector is also more recent with Citrix, Microsoft and Telefonica in 2011 amongst the first to support external startups with the intention of internalising the best ventures into their portfolio (Weiblen & Chesborough, 2015; Kanbach, 2016). The corporate accelerator initiative has been spread so rapidly and widely that according to Desai (2016) citing the Corporate Accelerator Database, 80 programs in 27 countries were already active, while Future Asia cited more than 120 (Heinemann, 2016).

CAPs offer the valuable opportunity for corporations to identify potentially beneficial initiatives and to obtain equity at the seed stage, although in only the most promising cases it is larger than a very basic funding (Hoffman & Radojevich-Kelley, 2012). Corporate accelerator programs exist in several forms, which can involve the entering into private and non-profit models by offering executive expertise or contracting with these accelerators to outsource or establish its own independent model as at Citrix and Microsoft (Hochberg, 2016).

In most cases the orientation of the startup is aligned with the corporation's existing products and services, thus the startup provides a different way of addressing the market or offer an extension of what it already has (Weiblen & Chesborough, 2015). Resources in services, as people and facilities, originate from the corporation. Unlike private accelerators where a small equity is held, for CAPs the ownership ratio is much higher. However, in several cases startups can be seeded by the corporation for eventual incorporation or nurtured to develop into a

separate entity. *Figure 1* exemplifies the connections between those parties engaged upon an accelerator program.

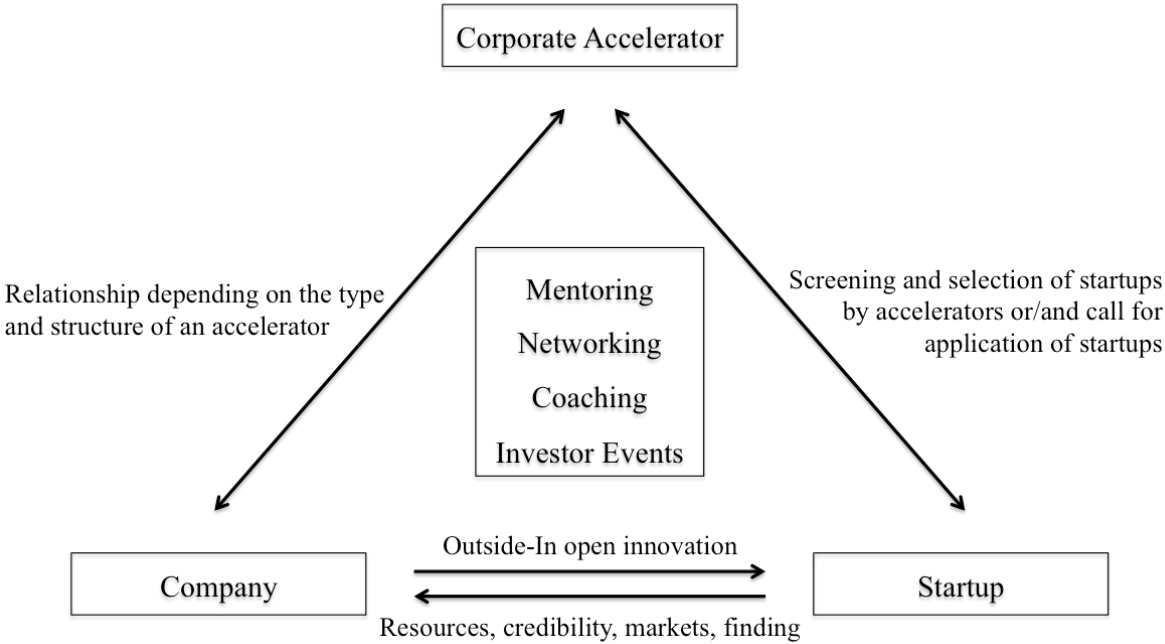


Figure 1: Relationship of Agents within an Accelerator Program (Bauer, 2016)

2.2. Objectives of corporate accelerator programs

Corporate accelerators identify, support and ultimately select startup ventures for collaboration on innovation or absorption into the corporation or for an investment. This process may be done in-house or outsourced, but the key objective is to secure best value ventures (Kohler, 2016). Within this model corporation objectives and design choices determine, which startups are selected and how they are developed (Kanbach, 2016). Two primary objectives are in play. These are the strategic and the financial objective of the program and the organization structures supporting the specific objective.

The program focuses are firstly, internal vs. external focus of opportunity in terms of where the startup is placed in relation to the CAP. Secondly, exploration vs. exploitation, as the startup venture is identifying market opportunity or a source of ROI within itself and lastly a specific and tightly limited or broad industry focus, which is the extent of equity held by the corporation and the stage of the initiative, whether it is in its early or later stages (Kanbach, 2016).

With regard to the two primary objectives the corporation can be led by financial or strategic motivations. The former the corporation is investigating investment opportunities, that may be congruent with the corporation's primary focus of achieving a high ROI. This objective is based on the principle, that the startup ventures will increase in value through the provision of mentoring and seed financing (Kupp et al, 2017). Strategic objectives are wider with the assumption, that the startup innovation can be added to the corporation's existing portfolio and that it is congruent with its value proposition. The startup might provide research into market trends that can be acted upon and the product and services offered by the startup will improve through participation in the CAP. From this it can be absorbed into the corporation's value chain. Lastly the startup can be a test place for products that cannot be tested within the existing corporation business model. It describes a way of trying out new potentials to substantiate existing activities (Cohen, 2013).

A subtler strategic objective is to use the startup to influence the internal processes and corporate culture of the parent corporation, although there is to date relatively little research into the cultural impact of CAPs (Kanbach, 2016). The assumption is, that the successful startup can rejuvenate a corporation, enhance its image both internally and externally, and attract new talent (Kohler, 2016). Furthermore, by nesting the startup with the corporate cultures, entrepreneurship within the parent can be encouraged and the startup can help to create an image of innovation and agility.

It also provides a broader market overview and gives an early warning and better understanding of products that might disrupt the market. If large taxi firms had worked with app developers to create their own local digital market, the Uber penetration would have been considerably less and most probably the quality of local taxi firms would have been increased. Also, CAPs can help to identify and close market gaps, through collaborating with the startup, that develops a product or service that can then be constructed and marketed through the parent corporation (Dempwolf et al, 2014; Kanbach, 2016; Kohler, 2016).

2.3. Categorization of corporate accelerator programs

The Objectives of a program determine the model of corporate accelerator chosen for which Kanbach (2016) offers a categorization that identifies four types of CAP. One is focused more

closely towards the financial dimension, the others towards the strategic. The strategic models are called *the listening post*, *the value chain investor* and *the test laboratory*.

The *listening post* is a mean of investigating market trends and developments. The startup provides access to information “out there” and is seen as a device that can be used to identify and screen technologies, not only that can benefit the corporation, but also those that have the potential to disrupt its activities. It does not prioritise financial goals in the near future.

The *value chain investor* demands an equity investment, because the purpose is to identify, develop and integrate products into the corporate value chain.

Equity investment is also required in the *test laboratory* model, where the function is to create an environment that is innovative, which can assist in developing both external and internal innovations but with the advantage of working in connection with the corporation, but “outside it” (Kanbach, 2016).

The only financial corporate accelerator model identified by Kanbach (2016) is the *unicorn hunter*. In this example, the firm makes multiple investments in startup ventures with the intention of determining, which of these are financially profitable and to increase their value through the input they provide. This is both, directly financial, as equity and as loans, but also retains a strategic dimension, through mentorship and access to professional development programs shared with the parent corporation. The unicorn is the financial premium to be gained when a successful venture has been promoted. Thus, Kanbach ’s (2016) model sub-divides CAPs into those that are strategically focused and those that are financially oriented. This categorization will be continued into the primary research and each group will be investigated separately.¹

2.4. The Resource-Based View

The resource-based perspective or view (RBV) argues that companies can attain and retain competitive advantage by the intelligent use of their strategic resources, whether these are tangible as material or intangible as personnel, skills and potential. The value of supporting startups that offer the opportunity to identify and leverage resources is evident. Resources are

In style of Ostertag (2017) the financial focused programs will be referred to as investment vehicles instead.

inputs (tangible and intangible) that can be transformed into products and services that will result in an economic rent (Black & Boal, 1994). The mere existence of resources is not sufficient, they must be used intelligently and strategically (Penrose, 1959) and they also encompass trade contracts, brand names, capital, technological know-how and the skill of employees (Wernerfeld, 1987).

Competitive advantage is achieved (Porter, 2008) when a corporation institutes value creating actions or exploits existing value by creating resources, which their competitors cannot match. Sustainable competitive advantage is achieved when competitors are unable to match those resources and secure adequate value and market parity. Barney (1991) argues that secured competitive advantage needs to be heterogeneous. This implies that the materials or skilled workforce are in short supply and cannot be replicated (Peteraf, 1991). Imperfectly mobile resources are those, that cannot be relocated except at uneconomic cost or cannot be substituted except by accruing heavy development costs. As defined by Barney, where resources are valuable, and they are manipulated strategically and intelligently, a corporation can achieve competitive advantage.

The value of the corporate accelerator within the RBV model is that it is constantly seeking out innovations, new products, new processes and harnessing enthusiasm and skill through multiple startup businesses which it supports and mentors. It provides the dynamic capability by which the firm can leverage innovation to enhance its internal and external capabilities to achieve competitive advantage (Eisenhardt & Martin, 2000). In addition to the value that accrues from the absorption of the successful startup, enhancing the skills of corporation mentors can also add value to the next cohort of ventures.

The RBV is the appropriate framework to analyse the CAP, because of its structural approach, which focuses on unique resources, and demands the continual examination and development of processes, that deliver cost efficiencies and greater value (Miller & Ross, 2003).

In order to exemplify the relevance of the RBV to this argument, the following questions must be addressed:

1. Is a given resource or capability valuable?
2. Is it heterogeneously distributed across competing firms?
3. Is it imperfectly mobile?

Barney (1991), working from within the RBV framework, argues that sustained competitive advantage is achieved, when each of these questions can be affirmed. The process through which this matter is determined and the impact of these towards a competitive advantage, both temporary and sustained are demonstrated by *Figure 2*.

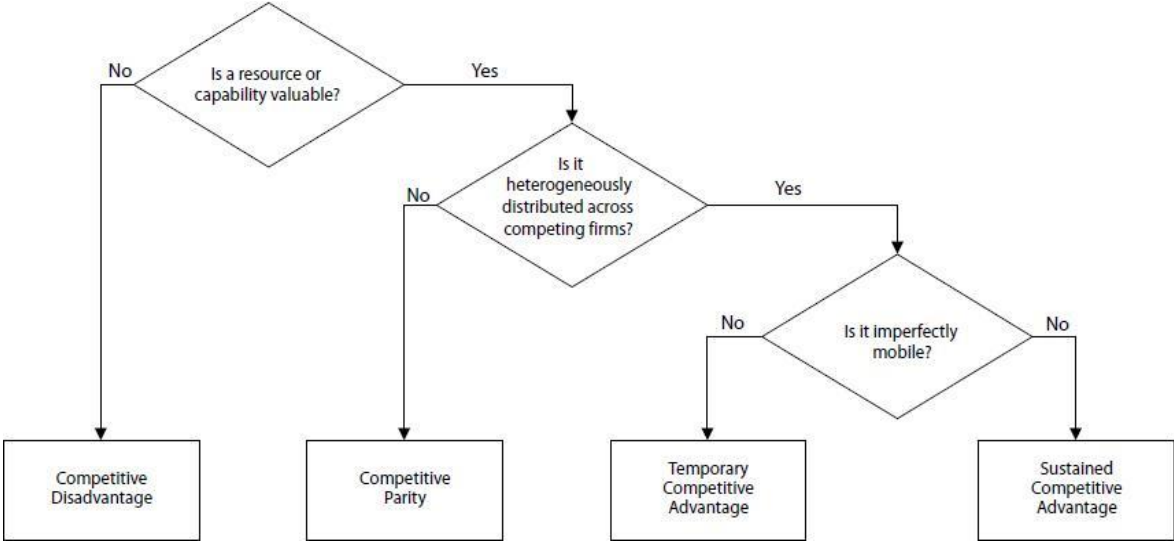


Figure 2: Adapted from Mata et. al. 1995

The value of innovation is also a way of extending market with the goal to achieve sustained competitive advantage (Urbancová, 2013). Startups may be able to indicate, like the *listening post*, *value chain investor* and even the *test laboratory* (Kanbach, 2016) that innovation can create a competitive advantage by showing new market opportunities, which have been ignored before (Porter, 2008). Corporate accelerators invite participating startups and entrepreneurs to collaborate with the corporation and to benefit from its equity investment and/or services, that startups are lacking but need for its success. This engagement would under other circumstances, due to the high cost and risk, not be undertaken at this early stage (Hochberg, 2016).

The startup, monitored and assisted by the CAP, is assessed for its innovation and its capability to impact the value chain, whether this is through new processes, new products or new customers. The benefit a CAP can bring to a corporation and the accompanying investment in it can be justified by its role as a part of a corporate strategy. That incorporates the purpose of enhancing its value chain and economic rents, its ROI and technological developments (Valente et al, 2015). From within the RBV perspective CAP’s earn their value by indicating which paths the incumbent company should be travelling to achieve sustainable competitive advantage and which paths should be rejected, due to the risk of losing market share (Cohen, 2013).

2.5. Success factors of corporate accelerator programs in current literature

In scientific research it is widely discussed and still remains unclear, if appropriate selection criteria are essential in deciding which startups should be incorporated within a CAP cohort (Radojevich-Kelley & Hoffman, 2012; Bauer, 2016; Kohler, 2016; Kanbach, 2017). The use of strategic objectives obviously aligns the startup more closely towards the corporation, since otherwise promising startups may be excluded from the CAP simply because they do not offer added value to the corporation's core business, while they might do to another.

Firstly, the CAP must deliver real value towards the startups, thus the startup can benefit from the program. If this is not given the program will be short-term and will not attract promising startups (Kanbach, 2016; Weiblen 2015).

Additionally, clear objectives and deliverables are required to prevent the loss of sight of the CAP's goal and lastly, agreed and transparent procedures must be in place by which the process can be monitored and evaluated (Kohler, 2016).

Kohler (2016) also stresses the importance of the relationship between the startup and the CAP in achieving success, not only in terms of the provision of resources, but in the interaction and interplay of people, culture and ideas. How transparent is the corporation and the startup? Success demands that both parties derive mutual benefit from the interaction and that their goals are congruent. The key component, as far as Kohler (2016) is concerned, is the availability of expert advice, whether this is provided from within the corporation or from external sources.

Appropriate and effective mentorship, able to access expert opinion and the transparencies of both CAP and startup to authentic exchange information of relevant market and business knowledge is also very important (Kanbach, 2016). As part of this process, the direct startup experience and expertise about entrepreneurship of the CAP management team is key to success. The more startup experience the (corporate) management team has, the greater is the CAP managers' learning, and utilising this knowledge internally in the corporation, the more likely is an increased success in the future. Success in previous projects leads to more success, as managers gain in experience and confidence. These strengths will be passed on to the startups (Wise & Valliere, 2014).

The CAP, and therefore also the startup ventures that it nurtures and supports, requires total commitment from senior management. The CAP needs to be seen as an integral investment in extending core capabilities and not as an indulgence that can be discharged when there is an economic downturn (Dempwolf et al, 2014). Short-term horizons that have queried the value of investment in research and development (R&D) when facing an economic downturn invariably have decayed the opportunity to achieve or maintain competitive advantage. The growth of CAPs since the recession of 2008 owes a great deal to the need for finite cost and time limited prototypes, where companies can decide within a few months whether the idea is worth pursuing or not (Cohen, 2013).

A final benefit to be gained from startup participation in CAPs is the opportunity to cross-foster ideas and models through networking, both from within the corporation and with other startup ventures participating in this CAP cohort or beyond, such as previous participants. It is using informal and quasi-social constructs and networks to accumulate knowledge, inform and advertise and to create synergy through the cross-foster of ideas. But to be fully effective this must extend to all participants including startups, mentors and the CAP management so that: *“the active involvement within the startup ecosystem of all members of the accelerator team is considered an important responsibility”* (Kanach, 2016, p. 1773).

Table 1 provides a tabular typology of success factors and related research papers, offering a comprehensive survey of the research and citing each of the identified success criteria.

Success Factor	Explanation	Source
<i>Selection Criteria</i>	Clear determination of the selection criteria for the startups in the selection process. Tailor-made selection criteria based on strategic objectives of the company lead to higher success rates.	Radojevich-Kelley & Hoffman, 2012; Kohler, 2016
<i>Value proposition</i>	Clear value proposition of the company towards the startup. The companies need to recognize the value they can bring to a startup, who alternatively have access to independent VC's and Incubators.	Weiblein & Chesbrough, 2015; Kanbach & Stubner, 2016
<i>Target definition</i>	A clear definition of the expected output and objectives of the program the company wants to achieve through their engagement with startups. An unclear definition might lead to diffuse activities and an unclear value proposition.	Weiblein & Chesbrough, 2015; Kanbach & Stubner, 2016
<i>Implementation capability</i>	The capability to implement the procedures to assure the creation and the development of innovation throughout and after the program and its integration into the core business.	Weiblein & Chesbrough, 2015
<i>Mutual value</i>	The relationship between the corporation and startups and the consequential interplay between processes, people and the place. This collaboration needs to combine the interest of the startups and the corporation to create mutual value.	Kohler, 2016
<i>Mentor selection</i>	The right choice of expert involved to mentor the startups to combine business knowledge with fresh startup perspectives. The team of experts should consist of internal and external experts with mixed work experience, different business perspectives and understanding of the startup ecosystem.	Kohler, 2016; Kanbach & Stubner, 2016
<i>Prior knowledge</i>	The level of direct startup experience of the accelerator manager-team has a significant impact on the success of an accelerator program and consequentially on the participating startups.	Wise & Vallierie, 2014
<i>Top management support</i>	Support and commitment of the top management team to ensure the sustainability and the effectiveness of the program as well as supporting the acceptance and credibility of the program across the company.	Kanbach & Stubner, 2016
<i>Networking</i>	Networking at events or conferences and an active involvement into the startup ecosystem to attract promising startups and skilled founders.	Kanbach & Stubner, 2016

Table 1: Success Factors for the incumbent company identified in current literature

2.6. Conclusion

What becomes evident from the literature is the complexity of factors that impact the success of the corporate accelerator programs, while not all of these are relevant for both types of programs (Kanbach, 2016). To date the level of importance of each success factor remains

unclear. The aim of this work therefore is to identify and confirm the success factors and create a ranking of their importance based on experts' opinions. Additionally, it will be investigated how and if the importance of success factors is different between the two types of programs (strategic vs. financial). Depending on these results it will be evaluated where current programs should increase their efforts (resource input) to achieve a sustained competitive advantage for the incumbent firm (Porter, 2008). These targets translate into following research question:

On which success factors should corporate accelerator programs focus to achieve sustained competitive advantage for its incumbent company?

3. Methodology

3.1. Research Approach

As already explained in the Introduction, this is a recent topic of research, what might be anticipated from the relative newness of the CAP model and the superiority in numbers and presence of for-profit accelerators, which are less ready to publish reports about their activities creating a lack of primary evidence. The absence of pre-existing academic research justifies an inductive approach by which multiple modes of investigation, such as small-case-studies, can generate data from which propositions can be developed for further research (Dawson, 2009).

The multiple case study approach is most adequate when the phenomenon being investigated is not yet fully formulated and the boundary between the subject of study and the context within which it operates remains unclear and permeable (Yin, 2014). Such an empirical research is capable of developing the necessary “how” and “why” questions through which new theories ultimately are developed to explain the mechanisms of its operation and potential outcomes (Eisenhardt, 1989).

The primary research is intended to build upon and extend the insights acquired through the literature review, which has provided the direction of research. Disparities in success levels between CAPs is widely acknowledged (Bauer, 2016; Kohler, 2016; Hochberg, 2016).

The importance of the RBV concept has been underlined (Wernerfeld, 1984; Barney, 1991). CAP's are to leverage the startups they are supporting and secure and maintain competitive advantage. The CAP, particularly the strategic, offers the opportunity to enact RBV activities and develop value enhancing strategies and secure competitive advantage (Wernerfelt, 1984; Barney, 1991; Porter, 2008).

3.2. Explanation of Research Approach

Following from the literature review the initial data gathering exercise was conducted through an unstructured ground clearing interview with a business expert of the Volkswagen AG in order to assure a corporation's motives in establishing a CAP, reconfirming the practical relevance of the research topic and to create a holistic overview about CAP in general. In addition to the interview an unstructured interview with a project manager of Banco Santander

InnoVentures in London, UK was performed to confirm the relevance of the research question by a second source.

After that, secondary data was studied on the corporate accelerator database www.corporate-accelerator.net (Heinemann, 2016) upon which a broad range of CAPs, their objectives and the respective websites are listed. Diving deeper into the programs on this list in the public domain, the CAP's websites and presentations, annual reports of the parent companies and other business information about the programs (e.g. Crunchbase) were synthesized for data triangulation, which "*entails using more than one method or source of data in the study of social phenomena*" (Bryman, 2012, p. 392), to end up with a list of possible CAPs for inclusion into the dataset.

The areas of research included corporation objectives, the relevance of CAPs to the resource-based view on competitive advantage (Barney, 1991) and success factors. Using the secondary data just mentioned and the discussed literature a filter was constructed to provide inclusion/exclusion criteria to assure comparability of the programs for a robust analysis. Only CAP's that fulfilled the following criteria were considered for further analysis through case studies. These validation criteria were following:

1. The CAP had been established to assist the corporation's main function and not solely as a vehicle for launching startup ventures,
2. the program was cohort based,
3. it was brief and finite,
4. it lasted 10-14 weeks and ended in a Demo Day,
5. it had to incorporate startups that were capable of supporting at least one full time employee,
6. host corporation resources, such as mentorship and infrastructure (e.g. office space), were made available for the startups.

The shortened or filtered list now consisted of all CAPs that were comparable and suitable to answer the research question. This list represents a possible portfolio for case study analysis. Eisenhardt (1989) argues that once the case study portfolio has been constructed the next stage is an iterative one, in which commonalities and groupings are arrived at.

As identified in literature (Ostertag, 2017) and confirmed in the exploratory study with a representative of the Volkswagen AG it can be distinguished between two CAP orientations: the "investment vehicle", identifying those ventures into which the corporation might invest

with the expectation, that it would deliver a financial premium in form of an enhanced ROI, and the “strategic vehicle” with the objective to identify and foster high potential products and services of startups with a projected outcome leading to the extension of the corporation’s product and services portfolio. To provide a clear definition for this thesis every program that requires the startup to give up a stake of equity in order to participate (upfront) will be categorized as an investment vehicle, in line with (Kanbach 2016; Weiblen 2015; Ostertag 2017). The remainder will be considered strategic.

According to Hoffman & Radojevich-Kelley (2012) the number to deliver reliable and valid outcomes would be three interviews for each segment. In this thesis four case studies were selected for in-depth analysis for each of the two segments to answer the research question (Eisenhardt, 1989; Yin, 2014).

3.3. Data Collection

The interviewee respondents were identified through social- and business networking by the snowball technique (Goodman, 2011). This method enables the researcher to access respondents capable of providing valuable and specific insights, rather than delivering redundancy through generalisation and to go straight to a person whom their colleagues had already defined as being a key potential contributor to the research (Arber, 2001). The division of CAPs, through the findings from the secondary research, into “investment vehicles” and “strategic vehicles” demanded the pursuit of potential correspondents in differing fields. The decision was taken to select more than 4 persons from each group in order to allow for no-shows and short-term cancellations by the interviewees. The final number of interviews was 8, four in each group. It was felt important that the two facets of CAPs should be equally represented. *Table 2* presents the sample of corporate accelerator and its parent corporation that fulfilled the criteria and who agreed to be interviewed. In the cases, where the interviewee chose the option to give the answers anonymously, only the industry where the parent corporation is operating, the location, the year of the program’s foundation and program type is mentioned.

Parent Company	Corporate Accelerator	Location	Founded	Funding/Equity	Program Type / vehicle
N/A Banking	Confidential powered by Plug & Play	San Francisco, USA	2014	Yes	Investment
Viessmann GmbH & Co. KG	Innovation Boiler	Berlin, Germany	2016	Yes	Investment
Telefónica, S.A	Wayra	Madrid, Spain	2011	Yes	Investment
BSH Haushaltsgeräte GmbH (sub. of Robert Bosch GmbH)	BSH Future Home Accelerator powered by TechStars	Munich, Germany	2018	Yes	Investment
N/A Automotive	Confidential	Saxony, Germany	2015	No	Strategic
SAP SE	SAP:iO	New York, USA	2017	No	Strategic
DBS Bank	DBS Accelerator powered by Nest	Hong Kong, China	2015	No	Strategic
José de Mello Group	Grow connect & accelerate	Lisbon, Portugal	2017	No	Strategic

Table 2: Sample of corporate accelerators in the data set (eight CAP's)

Each respondent was approached by e-mail or the social network “LinkedIn” and has been explained the purpose of the interview. This was followed by a telephone call during which the personal fit and the appropriateness for interview was established. All respondents were top managers and, in the position, to develop and lead the CAP and due to this circumstance able to give an oversight of the program’s startup cohort. The interviews lasted from 30 – 50 minutes and were undertaken by telephone, google hangouts or skype, and recorded with the respondent’s permission.

The semi-structured interview format consisted of questions and discussion points and was provided to the respondents several days before the interview to allow time for reflection and for respondents to discuss these reflections with colleagues, thus deepening the insights that were communicated in the interviews. Respondents were assured of the right to confidentiality and anonymity (Bulmer, 2001). The questionnaire used in the process can be seen in *Appendix 2* and *Appendix 3*.

3.4. Data Analysis

The transcripts were read multiple times to identify and consider the various possible meanings inherent in the text. In order to identify key points and similarities the transcripts were coded by applying the open coding practice, which can be described as: “*the process of breaking down, examining, comparing, conceptualizing and categorizing data*” (Bryman, 2012, p. 569).

Initially, each case was first analysed individually, which is referred to as within-case analysis (Simmons, 2009), to gain familiarity with the data and to investigate, as unbiased as possible, what each respondent identified as factors to his CAP's success.

In this process the frequency of statements that described such a success factor, out of the expert's point of view, was used as a proxy for the interviewee's perception of importance regarding this factor. So, if for example an interview partner only mentioned networking as a success factor for CAPs ten times this factor would receive 100%, but if he mentioned *networking* twice, the *selection criteria* for startups to include five times and that it's important for startup and corporate to have a *mutual value* from the CAP three times the factors would be valued at 20%, 50% and 30% respectively, thus reflecting the importance of each success factor out of the expert's point of view. This practise is based on the assumption, that: "*On the one hand a code is relevant the more often it is mentioned within a single information source. On the other hand, a code is important the more information sources contain the respective code.*" (Keller, 2017, p.1102).

After these independent analyses, a ranking of the success factors for each category of CAPs was created by using the individual ranking values for each factor and calculating the weighted mean for each. This follows the purpose to give the statements of interviewees whose programs are successful higher importance than those whose CAPs are performing less prosperously. The weight used for this calculation depends on the success ratio of the CAP that was mentioned by the expert's in the interviews. For this purpose, a quadratic scale was chosen as weight. It is displayed in *Table 3*. The weighted average importance for each success factor *sf* was then calculated as:

$$wavg_{sf} = \frac{\sum_{i=1}^n v_{sf,i} * weight_i}{\sum_{i=1}^n weight_i}$$

Where

$v_{sf,i}$ is the relative frequency of *sf* for CAP *i* (through the methodology mentioned in the paragraph before) and

$weight_i$ is the score depending on the CAP's success ratio according to *Table 4*.

The sum is calculated over all CAP's in each group with $n = 4$, both for strategic and financial vehicles. The results of this method are two lists of success factors, ranked by experts' opinions, who are determinants of running an effective CAP.

Success Ratio Interval	[0%, 25%]]25%, 50%]]50%, 75%]]75%, 100%]
Weight	1	2	4	8

Table 3: Weights applied depending on 25% intervals of success ratio

These lists were used as inputs for the resource-based view analysis, in order to evaluate whether these factors also mean a sustained competitive advantage, a temporary competitive advantage, no advantage or maybe even a disadvantage to the corporation. A firm's resources in this context are defined as "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness" (Barney, 1991, p. 101). There is no doubt that the success factors identified in literature and through the interviews are resources according to this definition. Therefore, each factor in this study is discussed regarding its fulfilment of the following three criteria:

1. Is the resource or capability valuable?
2. Is it heterogeneously distributed across competing firms (is it rare)?
3. Is it imperfectly mobile (inimitable)?

Barney explains that a resource is valuable if it exploits opportunities and/or neutralizes threats in a firm's environment, that a resource is rare if it is not present in a corporation's current and potential competitors and that a resource is inimitable if it can either be imperfectly copied by the competition or substituted by other resources that are of equal strategical value and can be imitated (Barney, 1991).

Having investigated this, the ranked list of success factors will be reduced by those, which do not lead to a sustained competitive advantage, leaving a ranked list of success factors that do so. This will allow to answer the research question and furthermore point out implications.

For simplicity a summarizing overview of the research methodology applied in this thesis is provided though *Figure 3*.

Research Methodology Overview

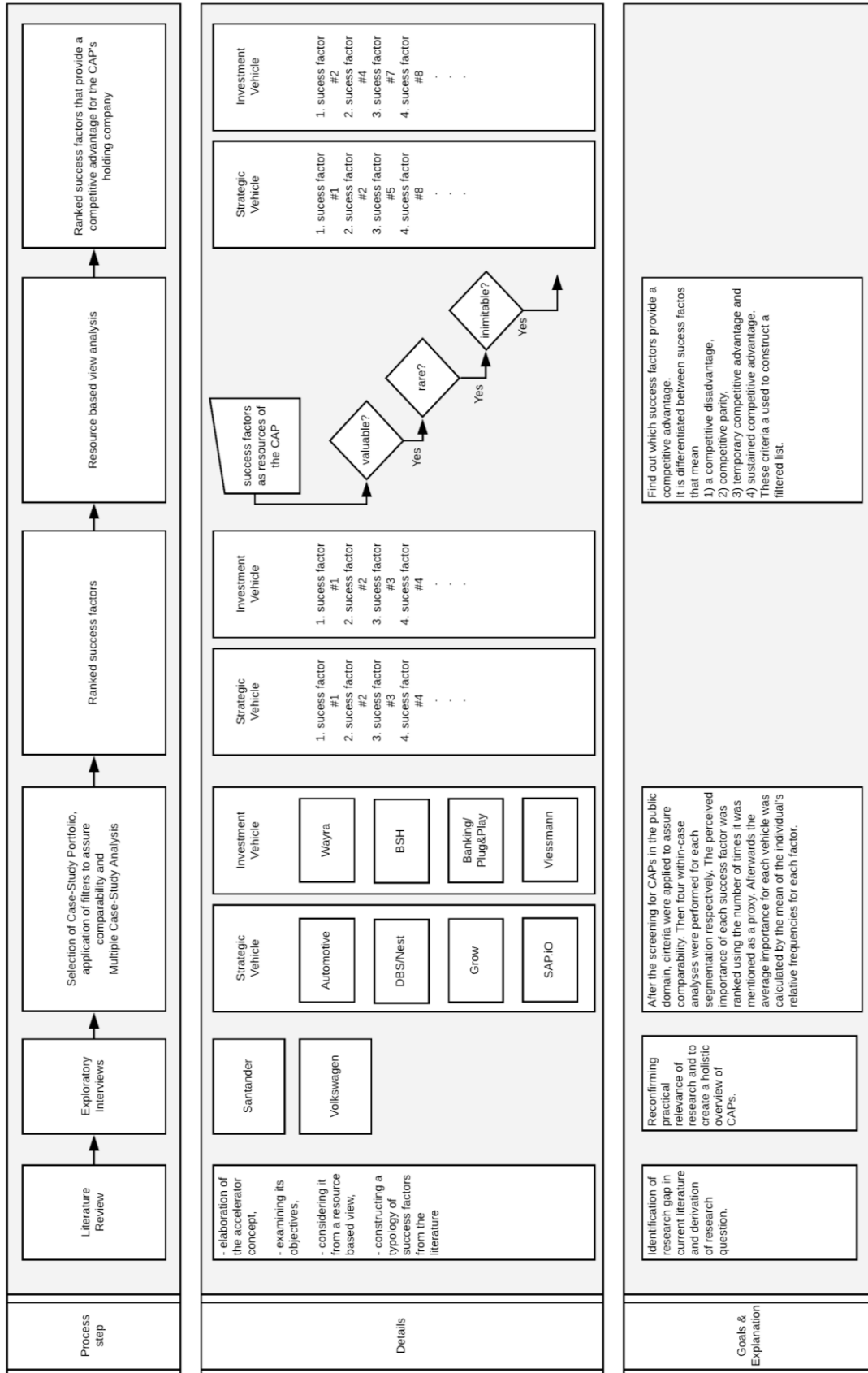


Figure 3: Overview of the applied research methodology.

4. Results

In this section the results of the described methodology will be displayed and explained. Furthermore, interesting observations are pointed out. The results will be addressed in the following discussion section.

4.1. Individual case studies, importance and ranking of success factors

The relative frequencies are displayed in percent for each case study and were grouped after their type. Each success factor identified in literature (cf. *Table 2*) is represented and two new success factors, *reputation* and *local proximity*, were identified in the interviews. *Reputation* of a CAP describes its ability to attract relevant startups to apply for the program by either active (i.e. searching and contacting) or passive engagement (i.e. advertisement and/or reputation). As the experts put it:

“Of course, the configuration of the CAP has to be good, but the most important part is to find the right startups which can add value.” (Wayra)

“Yeah and then obviously have top notch startups. Be seen by all of the stakeholders [...] Really get the word out [...]” (SAP.iO)

“The better our reputation is, the better startups we will attract and the greater BSH's success will be.” (BSH)

This was also mentioned by Wayra, Viessmann, Plug & Play and SAP.iO in the final, open question of the interview. They stated that an essential part of their job as CAP manager consisted in finding and winning the right startup candidates for their program.

Local proximity was mentioned by several respondents in the same open question which, in their opinion, had a significant impact on success of a CAP (Viessmann, Banking/Plug&Play). It describes how geographically close the startup is to the next location of the corporation that is open to collaborate with it:

“The geographic location of the startup ecosystem plays a major point in success”.
(Viessmann)

“[...] if you have a corporate accelerator you need to take into account where these companies (are) coming from, since it is really hard for corporations to work with startups

who are based [...] in Silicon Valley. [...] We wanted to find startups locally.”

(Banking/Plug&Play)

The results of the open-coding scheme, which incorporates statements like these from all individual interviews, can be seen in *Table 4*. Due to limitations in the size of this thesis and to assure a more convenient reading flow not all are explained individually.

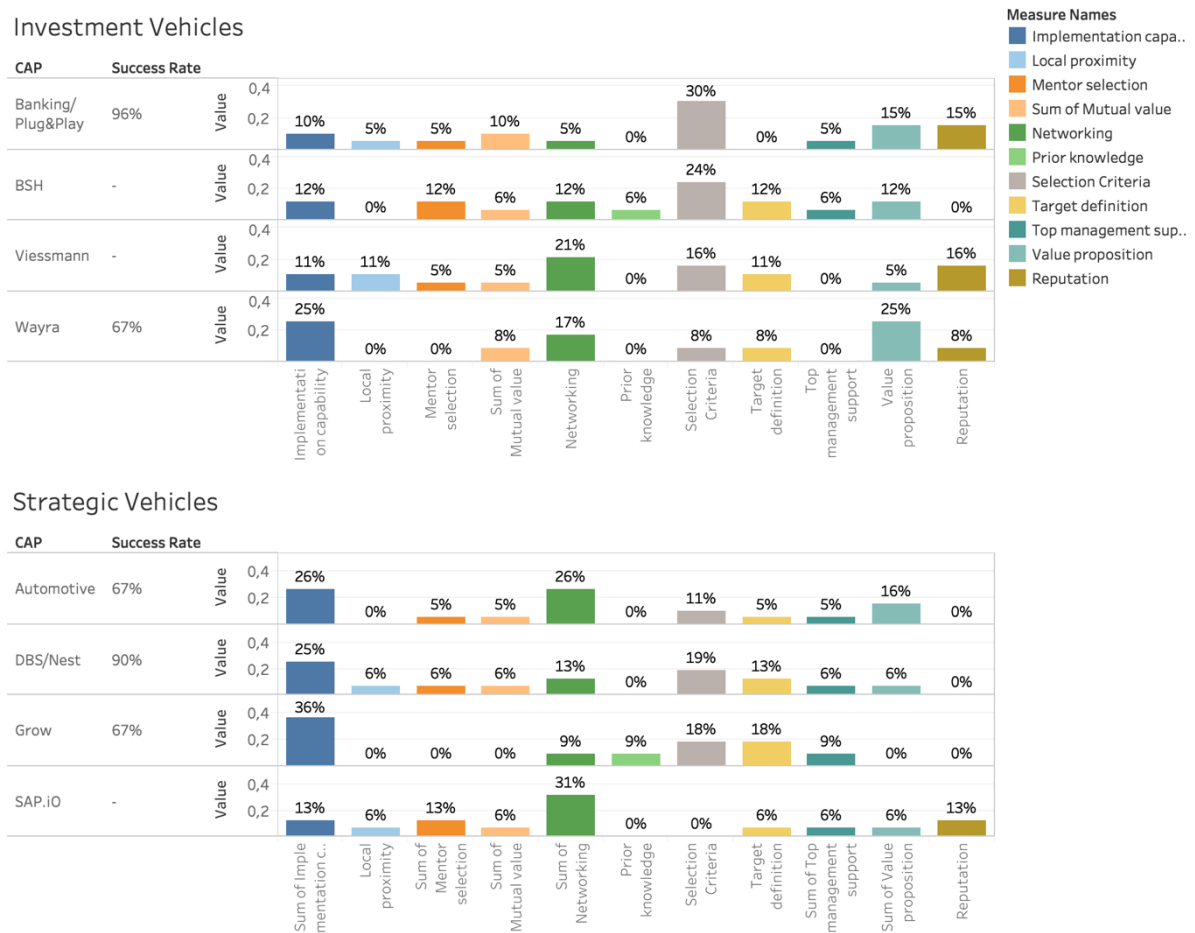


Table 4: Results of the individual case study analyses showing relative frequencies of the times a success factor was mentioned in an interview separated by CAP-type. Each CAP's success rate as mentioned by the experts is displayed as well.

The results of the individual-case analyses show that different experts, even within the same CAP-vehicle, show differences in their perception about which factors are most important, judging by the times they mentioned them in the interviews. Since all programs were selected to fulfil the set of criteria mentioned in section 3.2 this variation cannot be attributed to the programs' configurations. Differences between the programs are the goals they seek to achieve (cf. *Appendix 1*) with the CAP as well as how good they achieve these goals, measured by the success rate (*Table 4*). Success rate in this context was defined by the ratio of startups who were

either successfully integrated into the corporation, whose innovation was integrated into the corporation’s value chain or whose shares could be sold at a premium in an exit. All three criteria had to happen not later than two years after the startups had left the CAP.

Obviously, the characteristics of less successful programmes are less desirable, whereas those of successful programmes are more desirable. The differences in the characteristics thus allow conclusions to be drawn as to what the characteristics of a successful programme should look like. The methodology in section 3.4 takes this into account. The results of the weighted success factors are therefore able to convey a clearer pattern and to better distinguish between the two types of programs. The result of this method is displayed in *Table 5*.

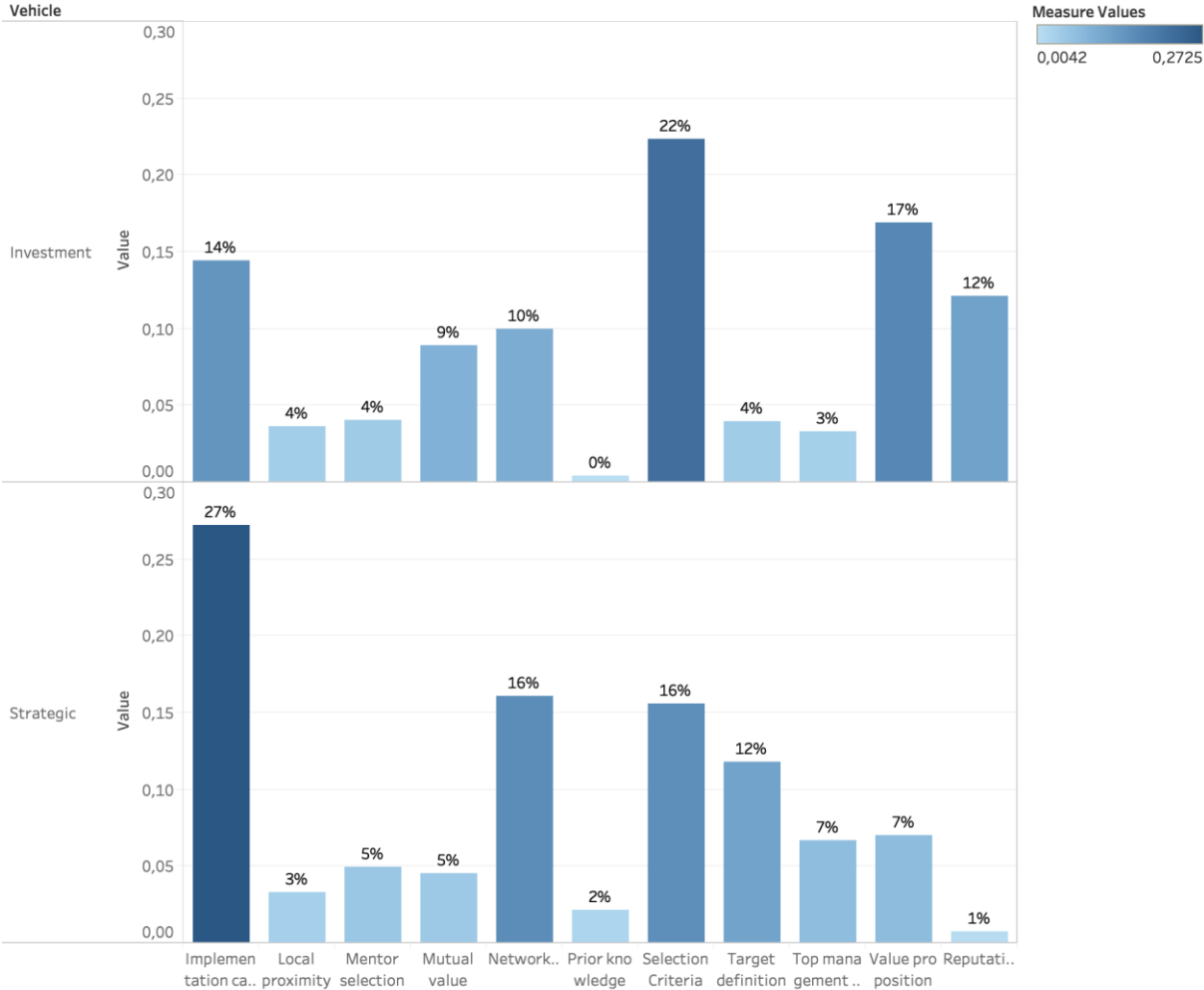


Table 5: Each success factor’s importance by CAP-type calculated as quadratic weighted average depending on the CAP’s success rate.

The results can be explained by noting that Banking and Wayra had a stronger influence than BSH and Viessmann for the investment vehicle cluster. This is the case since the BSH program

is running its first cohort and has no data on success rate yet, while Viessmann's program was founded in 2016 but did not disclose this information. Banking put most importance on *selection criteria* followed by *value proposition* and *reputation* while Wayra puts its focus on the *value proposition* of the program, the *implementation capability* and *networking* (cf. *Table 4*). This difference in terms of success ratio cannot directly be attributed to the distribution of importance over the success factors, as the programs' aims differ. Banking seeks insights in emerging technologies with a focus on economic returns while Wayra seeks partnerships with startups through equity investment (cf. *Appendix 1*) However, this is compensated somewhat as Banking is weighted twice as strongly as is Wayra, thus the results presented in *Table 5* for investment vehicles still represent this CAP type well. For strategic vehicles the results mostly consist of DBS/Nest, Automotive and Grow, while SAP.iO was weighted only lightly since its first cohort just launched this year. The first three programs all attributed a large importance to the *implementation capability* followed by *selection criteria* for DBS/Nest and Grow while Automotive sees *networking* as the second most important factor (cf. *Table 4*). In this cluster all three programs have the same goal which lies in collaboration with the startups to innovate and improve the corporation's business. Hence, the difference in terms of success ratio is directly attributable to the distribution of importance over the success factors in this case.

In consequence the results displayed in *Table 5* now incorporate the information about which prioritization of success factors/resources lead to more success. When comparing the two types of programs a clear difference becomes obvious. The three largest deltas between the two vehicles can be found in *implementation capability* (-13%), *reputation* (11%) and *value proposition* (10%). The top three most important success factors for investment vehicles are *selection criteria*, *value proposition* and *implementation capability* and *implementation capability*, *networking* and *selection criteria* for strategic vehicles. These results are summarized in *Table 6*.

Strategic Vehicle:			Investment Vehicle:			Delta (investment - strategic):		
Success factor	Importance	Rank	Success factor	Importance	Rank	Success factor	Delta	Rank
Implementation capability	27%	1	Seclection Criteria	22%	1	Implementation capability	13%	1
Networking	16%	2	Value proposition	17%	2	Visibility	11%	2
Seclection Criteria	16%	3	Implementation capability	14%	3	Value proposition	10%	3
Target definition	12%	4	Visibility	12%	4	Target definition	8%	4
Value proposition	7%	5	Networking	10%	5	Seclection Criteria	7%	5
Top management support	7%	6	Mutual value	9%	6	Networking	6%	6
Mentor selection	5%	7	Mentor selection	4%	7	Mutual value	4%	7
Mutual value	5%	8	Target definition	4%	8	Top management support	3%	8
Local proximity	3%	9	Local proximity	4%	9	Prior knowledge	2%	9
Prior knowledge	2%	10	Top management support	3%	10	Mentor selection	1%	10
Visibility	1%	11	Prior knowledge	0%	11	Local proximity	0%	11

Table 6: Ranked success factors according to their weighted average importance.

4.2. Resource Based View analysis

Factors that have an influence on the success of CAPs were identified through literature review in chapter 2.5 and briefly explained and summarised in *Table 1*. Now each success factor is analysed in accordance to the RBV definition in order to investigate its impact on competitiveness as explained in section 3.4.

Since the resources under study were identified as success factors and published in peer reviewed journals it is obvious that each one is valuable in accordance to Barney's definition. Hence, this criterion was only checked for the two factors that were identified though the case studies performed by the author of this work. The remaining criteria (rareness & inimitability) are checked for each success factor by using logic, quotes from expert interviews and references from literature. Afterwards the results are summarized.

Selection criteria

Rareness: This can certainly be confirmed in case of selection criteria for a) strategic- and b) investment vehicles. While this might seem counterintuitive at first sight, as all CAPs have selection criteria to choose startups for their programs. However, rareness is surely the case as all programs under study use individual criteria which differ substantially (both in content and number) from their competitors, as the interviews revealed. Additionally, the success of the CAP depends on the ability to recruit and select startups that have a good fit with the

corporation. Detecting these startups requires specific skills and knowledge, which are rare, since it imperatively presupposes specific contextual knowledge about the corporation and the strategic intents. Some examples of the interviews confirm the individual processes and criteria:

“Well then, we do have a pretty rigorous selection process, so, it starts off with a written application explaining the value proposition. This must include: the differentiating factors and also the legibility of the technology behind it.” (DBS/Nest)

“[...] we select those startups according to the technical interests and the challenges our corporate Partners have. [...] We always look what they need, and, on those criteria, we choose the startups. Because of this, our failure ratio is very low.” (Banking)

“We select startups through 33 selection criteria to assure they fit thematically.”
(Automotive)

Inimitability: During the individual case interviews it became obvious that each CAP is very protective regarding its specific selection criteria. Only the respondent of Automotive stated the number of criteria they check (33) before making a decision regarding a startup’s participation in the program. For obvious reasons the exact criteria or their number are neither published to the competition nor the startups. Reed & DeFillipp argue that *“the tacitness, complexity, and specificity in a firm’s skills and resources can generate causal ambiguity in competency-based advantage, and thus raise barriers to imitation”* (Reed & DeFillippi, 1990, p.1). Therefore, inimitability of this resource can be confirmed.

All in all, appropriate selection criteria for a CAP are certainly able to deliver a temporary competitive advantage and, while the information is safe in the firm, a sustained one as well.

Value proposition

Rareness: According to Kohler the *value proposition* covers the strategic intent of the CAP, the way of aligning the corporation’s goals with the startups intentions, the maturity of the targeted startups (early- mid-, or late stage), the decision to take equity or not and the scope of the innovation challenge (only narrow problem or broader innovation opportunities as well) (Kohler, 2016). When looking at *Appendix 1* it becomes obvious that the main goals are identical for strategic vehicles and very similar for investment vehicles as has been explained in section 4.1, thus not being rare. Equity participation is also not rare amongst competitors since all investment vehicles do so while all strategic vehicles don’t. Furthermore, during the

interviews it was noted that the maturity of the targeted startups is mostly focused on mid- to late stage:

“What I see, the main challenge is that we try to bring later stage startups, because those are the startups that banks or corporations want to work with [...].” (Banking/Plug&Play)

“We have mostly more mature startups. [...] But we are a more compact CAP, which means we also accept really very early phase startups. From the idea in principle up to a first MVP.” (Automotive)

All in all, three of Kohler’s five parameters that define the value proposition of a CAP, namely strategic intent, the startup’s maturity and the equity participation, are not rare. It is therefore concluded that the resource *value proposition* does not provide a competitive advantage.

Target definition

Rareness: This would be observed if amongst CAP’s competitors having a clear target definition would be rare. On one hand it seems hard to imagine that a corporation would start a CAP without knowing what they seek to get out of it. On the other hand, CAP’s have seen growth recently and might have become trendy, which is supported by following expert who didn’t want to get cited on this statement:

“You also have to see how the (CAP) model develops. That's quite a hype at the moment. I could imagine that we are at the peak of this hype.” (Censored)

Although, it seems possible that some corporations will seem pressured into launching a CAP as a result of a hype, these programs will not be able to last without a clear target definition as this is one of the main success factors (Kohler, 2016). Kohler explains that a lack of it will lead to diffused activities. This cannot lead to a competitive advantage. Hence rareness is not given.

Implementation capability

Rareness: The integration of a startup’s innovation into the corporation is a highly critical point in a CAP (Weiblen, 2015). Even amongst directly competing corporations the value chains will be different, and as a result the process necessary to implement specific technologies or procedures into the value chain will be individual as well. This is the case since the accelerator improves the startup’s solution *“mainly by leveraging the competencies, resources, and networks of the parent company and potential external experts.”* (Kanbach, 2016) which are rare resources.

Inimitable: A competitor that notices his rival's success and attributes it to his capability to implement outside-in innovations through his CAP surely wants to imitate this process. However, this task results in a complex transfer-task due to the substantial differences between the two corporations and their non-transparency. The organizational structure alone will be impossible to understand from a competitor's point of view since it is not published in such detail. This difficulty is expressed by following statement:

“If you want to take a startup into the CAP you need support from many departments to make it a reality.” (Automotive)

It underlines, that the CAPs are already struggling to implement the innovation because they face resistance from departments in their own corporation. The competitor will most certainly already struggle with finding this department, not to mention the process of implementation. Hence, inimitability is given.

In conclusion it can be said, that the resource *implementation capability* leads to a sustained competitive advantage for both vehicles.

Mentor selection

Rareness: Since mentors have a large influence on success of a CAP it is obvious that every corporation selects them on a best effort basis. In that case mentors will be experts in their field, whether internal or external to the corporation and show an understanding of the startup ecosystem (Kohler, 2016). As this is a very selective job profile it is safe to assume skilled mentors are rare amongst competitors, especially since the previous experiences from startup activities are unique by nature.

“Our team is made up of former entrepreneurs, who have already started their own businesses and coaches of internal teams to build new business models.” (BSH)

Inimitability: The selection of the right mentors should however be relatively easy to copy due to pragmatic reasons. Nowadays all people who aspire a career maintain a profile on social media platforms such as LinkedIn. If a company identifies its CAP is less successful due to worse mentoring it should be easy to compare the differences between the mentors and to draw conclusions about what good mentors should know and have experience of. This is only valid under the premise that there are enough skilled workers available on the market to have one

with the required set of skills readily available. However, recall that there are about 100 CAPs in existence today, which is why this argument should remain valid.

In conclusion the resource of a CAP in selecting the right mentor leads to competitive parity for both vehicles and to a temporary competitive advantage at best.

Top management support

Rareness: Against expectation, this resource turned out to be scarce since the interviews revealed, that many CAPs see their program as CSR or R&D and not as part of the corporate strategy (Santander). It has been stated, that the program of his company would be the first department to be closed when budget problems would arise, which has been specifically warned of (Kanbach, 2016). Extrapolating from the data set of this study it is assumed that top management support is rare amongst CAPs.

Inimitability: If a competitor is successful because of top management support it seems plausible that the competing firm's top management would recognize this and take measures. These would mean supporting their own CAP more, which after having realized its benefit though the competitor's advantage, could be achieved quickly. Therefore, inimitability is not present for this resource.

All in all, a CAP's resource of having top management's support leads to a temporary competitive advantage but will in the long run, when every CAP has top management support, lead to competitive parity for both vehicles.

Networking

Rareness: Networking activities are broadly established and performed by every CAP. It must be pointed out however, that every firm and every program has its own, individual network to VC's, Angel Investors, Customers, Suppliers and other Stakeholders. While this is a soft indication for scarcity of this resource the interviews revealed that for a) strategic vehicles networking between the company's departments and branches plays a major role in a CAP's capability to implement the innovation from startups (Automotive, SAP.iO). For b) investment vehicles this argument is invalid since an exit is the favoured outcome. Since startups are unique by definition and consequently require unique contacts as well, it is argued that an investment vehicle's network is rare since it is not present in the same configuration in competing CAPs.

Inimitability: Picking up on the last argument made it can be concluded, that the possibility to imitate a CAP's unique networking capabilities is very low. Not only would it require to know which contacts would be the right ones for the startup, but also entail having established a good relationship beforehand of needing to rely on it. Furthermore, networks are a dynamic process that is subject to constant change. It seems impossible to copy a resource with such characteristics. On top of that, the networking efforts of a CAP depend on the startups maturity. Hence the network has to be in the right form at the right time in order to be of value for the startup. A competitor who would try to copy a CAP's network would always lag behind and probably not be able to catch up. This logic applies to both types of vehicles and results in affirmation of inimitability for this resource.

In conclusion superior networking capabilities of a CAP deliver a temporary competitive advantage and most probably, if the competition is unable to build a suitable network, a sustainable competitive advantage as well, for both vehicles.

Reputation

Value: The value of this resource lies in the exploitation of the opportunity to optimize the fit between CAP and the startup cohort. The more startups apply as a result of higher reputation, the better can the CAP select. This should furthermore result in a better alignment of interests between CAP and cohort, which in turn leads to a more efficient usage of the CAP's resources since synergies will be maximized. This is underlined by the trend of CAPs to attract startups with free offerings (Weiblen, 2015).

Rareness: This would be given if it would be rare amongst competitors to have a good reputation, meaning it would be rare to attract relevant startups. However, this can be negated since excess demand for accelerator programs can be observed, which is reflected in the low acceptance rate of these programs which on average is about 3% (Miller & Bound, 2011). The fact that a competitor has a good reputation does not mean that another competitor can't build up a good reputation as well, especially since given this excess demand he will have many chances to do so.

All in all, the reputation of a CAP does not lead to a competitive advantage.

Local proximity

Value: An opportunity that comes from local proximity is the concentration of startups and helps to increase synergies (Viessmann, Banking/Plug&Play). Additionally, many companies

want to keep things local and shy away from distant startups (e.g. Japanese companies and startups from the valley) (Banking/Plug&Play). A company with the resource local proximity can engage in more relationships with startups. This directly reduces the threat of missing out on interesting startups for the program. This argument holds true for both CAP-vehicles.

Rareness: How rare this resource is, obviously depends on the location. While many CAP's have an office in Palo Alto or other startup hubs like Berlin, offices in Kassel for example are rarer. In the first case the benefit of a high startup concentration should be somewhat compensated through the high concentration of competitors, while this won't be the case in Kassel. Rareness for this resource therefore depends on the location and is not given for the major startup hubs and the CAP's interviewed in this study.

Inimitability: If rareness is given in any chance a competitor can easily decide to adapt by opening an office at the desired location, too. Therefore, inimitability is to be denied for this resource.

All in all, the resource of local proximity leads to competitive parity and in rare cases to a temporary competitive advantage.

Applying the results of this analysis to the ranked success factors identified in the previous section in accordance to the methodology (cf. *Figure 3*, p. 21) the success factors can now be filtered after their ability to generate a sustained or temporary competitive advantage. Note, that the factors *mutual value* and *prior knowledge* were not assessed in this section since the expert interviews didn't reveal if these resources were rare or not. To assure robust results in this work the conservative assumption was made that they are not. The results are summarized in *Table 7*. It stands out that only three of the eleven factors under study are capable of providing a sustained competitive advantage while two more provide a temporary one. These findings are quite in line with the expert's valuation regarding their importance.

Strategic vehicle						Investment vehicle					
Rank	Importance	Success factor	valuable?	rare?	inimitable?	Rank	Importance	Success factor	valuable?	rare?	inimitable?
1	27%	Implementation capability	✓	✓	✓	1	22%	Selection Criteria	✓	✓	✓
2	16%	Networking	✓	✓	✓	3	14%	Implementation capability	✓	✓	✓
3	16%	Selection Criteria	✓	✓	✓	5	10%	Networking	✓	✓	✓
6	7%	Top management support	✓	✓	✗	7	4%	Mentor selection	✓	✓	✗
7	5%	Mentor selection	✓	✓	✗	10	3%	Top management support	✓	✓	✗
4	12%	Target definition	✓	✗	✗	2	17%	Value proposition	✓	✗	✗
5	7%	Value proposition	✓	✗	✗	4	12%	Reputation	✓	✗	✗
8	5%	Mutual value	✓	✗	✗	6	9%	Mutual value	✓	✗	✗
9	3%	Local proximity	✓	✗	✗	8	4%	Target definition	✓	✗	✗
10	2%	Prior knowledge	✓	✗	✗	9	4%	Local proximity	✓	✗	✗
11	1%	Reputation	✓	✗	✗	11	0%	Prior knowledge	✓	✗	✗

Table 7: Summary of the RBV-analysis' results segmented by category.

The findings show that it matters whether the CAPs goal is strategic or financial as this will have implication on the resources that managers perceive as supporting the success of the program. Taking a look at *Table 6* it is interesting to verify and try to make plausible why the rankings show their respective order, especially after recalling that the sequence incorporates the level of success. In case of strategic vehicles *implementation capability* and *networking* are the first two of three critical factors. This finding is aligned with Kanbach (2016) arguments of what are the main strategic objectives of a CAP. A good example for the importance of the first factor is:

“How we measure success is the ability to integrate the startup into SAP, so, innovation and integration opportunities, customer interaction, customer pilot and the general awareness around their program.” (SAP.iO)

The second, *networking*, is plausible since its value is mainly attributed to the exploitation of various opportunities which range from advice to collaboration up to the formation of business relationships (e.g. customers). In words of the experts:

*“In a nutshell, the success for investments in promising startups lies in networking.”
(Automotive)*

“The network of entrepreneurs is essential, and its creation is one of the CAP’s main goals.”

(Wayra)

Selection criteria are the third most relevant factor. This is plausible since the ability to efficiently select the input of the process directly translates into the efficiency of the program’s output after taking the implementation capability into account (Kohler, 2016).

In case of investment vehicles, the critical factors are identical to those of strategic vehicles, but in different order. *Selection criteria* are most important followed by *implementation capability* and *networking* (cf. Table 7).

The second main finding relates to the differences between the two types of programs. The deviation regarding the *implementation capability* was expected to be larger between the two types of programs, since it is the main goal for strategic vehicles while they were assumed to be insignificant for investment vehicles. This was concluded since latter’s goal is exploitation rather than exploration (Kanbach, 2016). However, the programs in the sample of investment vehicles are not entirely focused on ROI but also on strategic aspects, which require a certain level of the resource *implementation capability*. This explains why the delta (cf. Table 6) is not as large as expected. The second largest difference lies in *reputation* (11%) which was given little importance by strategic vehicles (ranked #11 with 1%) and lots of importance for investment vehicles (ranked #4 with 12%).

Surprisingly, the ranking of the *value proposition* is very low for strategic vehicles which resulted in the third largest delta compared to investment vehicles (cf. Table 6). The comment of a responded who didn’t want to get mentioned might offer a clue:

“And it almost seems to me that there are some startups on the market who say that if they can't get any further with one accelerator, then they just go to the next.” (Censored)

In this case a startup could participate in programs of strategic CAPs many times and benefit from free resources, mentoring and networking, which is not be possible for investment vehicles due to an increasing loss of shares. In consequence when choosing an investment vehicle’s program startups have an incentive to carefully select the program (by assessing its value proposition) as they are paying for it (equity) while this is not the case when choosing a strategic vehicle’s program. This lack of alignment of interests between startups and the corporation’s interests in CAPs of strategic vehicles has not been mentioned in literature before. However, this seems to be within the bounds of human behaviour, as abuse of free resources can be

observed in many cases and across all social classes (Feinberg, 1996). This should be subject to further research.

The third main finding relates to the results of the RBV-analysis. In *Table 6* it is shown that the top five criteria, which lead to a sustained- or temporary competitive advantage, represent 71% and 53% cumulative importance by the experts for strategic and investment vehicles, respectively. Success factors that lead to a temporary competitive advantage account for 12% and 7% while 30% and 46% of the answers for strategic and investment vehicles fall on factors which lead to no competitive advantage.² This distribution seems optimizable when thinking about efficient usage of resources in accordance with the pareto principle (Harvey, 2018).

5. Discussion und conclusion

This study focused on assessing success factors for corporate accelerators and how they should be prioritized, since some will be more likely to lead to a competitive advantage of the incumbent firm than others. In the following section the meaning of the findings is discussed, and the research question answered. Theoretical implications of the findings are highlighted, and managerial implications derived.

5.1. On which success factors should corporate accelerator programs focus to achieve sustained competitive advantage for its incumbent company?

Barney states that a competitive advantage can be achieved if the firm possesses valuable resources that are rare amongst competitors and that can't be imitated (Barney 1991). These resources have been identified in chapter 4 of this work using expert input. However, the question remains how these resources should be harnessed to best help the company who runs a corporate accelerator to achieve its goals. For strategic vehicles the three main goals are understanding current market developments and technology, integration of the products into the value chain and evaluation of disruptive innovation (Kanbach, 2016). To achieve this, the results of this work suggest focusing on the capability to implement the startups innovation, to create and maintain a strong network and to define and apply specific selection criteria. While this is already recognized by experts it is surprising that a large amount (30%) of importance is

² Note that sums may not add up to 100 due to rounding.

attributed to factors which don't lead to a competitive advantage. It could be possible that corporate accelerators might still be experimenting in finding the right configuration of their program. This hypothesis is supported by the fact that 50% of all programs interviewed are less than two years old and reported to still be testing the concept (BSH, Viessmann, SAP.iO). Considering that the results of this work incorporate the success ratio of the programs it can be concluded that the programs should rather focus on the factors that lead to a competitive advantage rather than waste resources on those that don't. While this is easy to say in theory the question remains how these resources should be distributed in the real world. Obviously, the success factors under study are a complex, intertwined system. The eleven factors are not mutually exclusive and probably neither collectively exhaustive. Therefore, it wouldn't be reasonable to only focus on the top three criteria mentioned in the beginning and ignore the rest (e.g. defining a clear target or value proposition). A logical system needs to be created which allows the allocation of resources in such a way that the capacity of those which lead to a sustainable competitive advantage will be maximized while the those that don't will be reduced to the necessary minimum. To suggest a more sensible way of distributing the resources amongst the eleven success factors, an analogy to the ABC-analysis, which is based on the pareto principle, is drawn. It is proposed that Group A, the top 3 success factors, would receive 70% of the resources, group B (top 4 & 5) would receive 20% of the resources and lastly group C (the rest) would receive 10% of the resources (Ng, 2007). This would translate into following ranking when distributing evenly amongst factors of a category:

Success factor	Category	Suggested importance	
Implementation capability	A	70%	23,3%
Networking	A		23,3%
Selection Criteria	A		23,3%
Top management support	B	20%	10%
Mentor selection	B		10%
Target definition	C	10%	1,7%
Value proposition	C		1,7%
Mutual value	C		1,7%
Local proximity	C		1,7%
Prior knowledge	C		1,7%
Reputation	C		1,7%

Table 8: Proposed allocation of importance to the success factors, in imitation of the ABC-analysis. The set of factors is divided into three groups depending on their ability to deliver a sustainable competitive advantage (A), a temporary competitive advantage (B) or competitive parity (C). Then 70% of all capacity is allocated amongst category A, 20% amongst category B and 10% amongst category C.

While this high-level allocation of resource capacity seems of little practical use, it should still be a guideline for managers who are trying to design a program that will lead to a competitive advantage. The results revealed that successful CAPs which are strategic vehicles currently distribute their resources on a 71-12-30 (A-B-C) basis.³ While this implies that the resources that lead to sustainable competitive advantage already receive enough importance (e.g. through budget, time or effort) CAP managers don't yet differentiate between group B and C. According to the results of this work a shift of resource intensity from group C to group B should improve the competitiveness temporarily. More tangible recommendations will be made in section 5.3.

For investment vehicles the main goal lies in the generation of financial returns by investing in a startup and subsequently increasing its value through the participation in the program (Kanbach, 2016). The results of this work suggest that CAPs of this type should focus on the criteria they apply in order to select startups into the program, their capability to implement the startup's innovation and the creation and maintenance of their professional network. However, these results should be taken somewhat cautiously. Due to the selection of CAPs in the sample, which are not purely financially motivated, that were clustered under "investment vehicles" the results might be a bit biased towards the strategic segment. This seems to be the case for the ability to implement a startup's solution which has very little contribution to the generation of financial returns. A more homogenous selection of programs that fully claim to have no other intent than maximal ROI would have shown a different result. However, the increased importance of the ability to select the right startups for the program makes sense. A program that's most interested in financial returns obviously has to select more rigorously than a program whose main intent is outside-in innovation. Regarding a better allocation of resources to reach a competitive advantage the same procedure is suggested that was proposed for strategic vehicles (cf. *Table 8*). Currently the distribution is 53-7-46 (A-B-C) which shows that both, class A and B resources are underrepresented which constitutes larger optimization potential for investment than for strategic vehicles. However, these results have to be processed somewhat cautiously as the CAPs of the sample also had strategic intentions and the difference in success factors' perceived importance might be attributed to a certain extent to the differing goals of the programs. Still, some recommendations are subsequently made in section 5.3.

³ The sum does not equal 100 due to rounding.

5.2. Theoretical implications

First it should be noted that this thesis contributes to the body of literature by confirming that the factors which have already been identified in prior studies are of utmost importance for the success of a CAP, as validated through expert interviews in this thesis.

Secondly, this work expands the body of literature by the identification of two not previously mentioned success factors (reputation and local proximity), that were identified through individual case study analysis.

Thirdly, this thesis furthermore contributes to research on corporate accelerator programs by converting the success factors from a nominal scale to an ordinal scale for both types of programs. In this work a ranking has been established, based on the importance of the success factors grounded on expert's opinion as well as the actual success rates of the programs.

Fourthly, the thesis recognized, which of the success factors should be prioritized when trying to achieve a competitive advantage for a program's incumbent company by examining them through a resource-based view (Barney, 1991).

Lastly, this work identified optimization potential for both types of programs and portrays managerial implications of the findings giving advice on how to optimize a corporate accelerator program on a high level as well as with specific, non-exhaustive examples to act upon.

5.3. Managerial implications

Optimization potential for strategic vehicles was identified by pulling investments from the factors from group C (*reputation, value proposition, mutual value, target definition, local proximity* and *prior knowledge*) and instead investing them in resources from group A and B that lead to a competitive advantage (cf. *Table 8*).

Furthermore, to give some specific examples and initial inspiration on how the five identified success factors that lead to competitive advantage should be incorporated into the program's

design a schematic representation of the phase of a general process⁴, in which these success factors are to be taken into account, is presented in *Figure 4*. The resources which lead to a sustained competitive advantage are highlighted in blue. *Implementation capability* can be leveraged by efficient means of communication between the startup cohort and the CAP-manager as well as change management of stakeholders in the corporation. From the interviews it became obvious that change management is of utter importance to achieve cooperation from business units of the corporation who feel threatened or insulted by a startups solution. *Selection criteria* are essential. Alpha errors will lead to missed opportunities and beta errors will lead to sunk costs. It is recommended to define a clear KPI that describes the fit of a startup with the intentions of the corporation.

Furthermore, the valuation process of each startup should be made as objectively as possible to eliminate human biases. It is consequently recommended to have a strict, structured process implemented to value each startup objectively.

Networking is essential and should be implemented into every step of the program. This is already widely recognized. Some recommended measures are to anticipate networking needs of each startup from the start, to implement the capability to provide the needed networking contacts to the startup into the selection process and to use the contacts to the successfully accelerated startups to attract new promising startup candidates. Of course, many more recommendations can be thought of that result from specific situations. A one-fits-all solution is not applicable for CAPs. It is suggested, that the results of this thesis are used by managers to reflect upon their resource configuration and to find inspiration on how to possibly optimize their own program with the information provided.

⁴ This process can be used for both, strategic- and investment vehicles depending on the deal's structure. It can entail a money-for-equity agreement, a resources-for-equity agreement, a convertible loan agreement, or a non-equity model (Goldstein 2014).

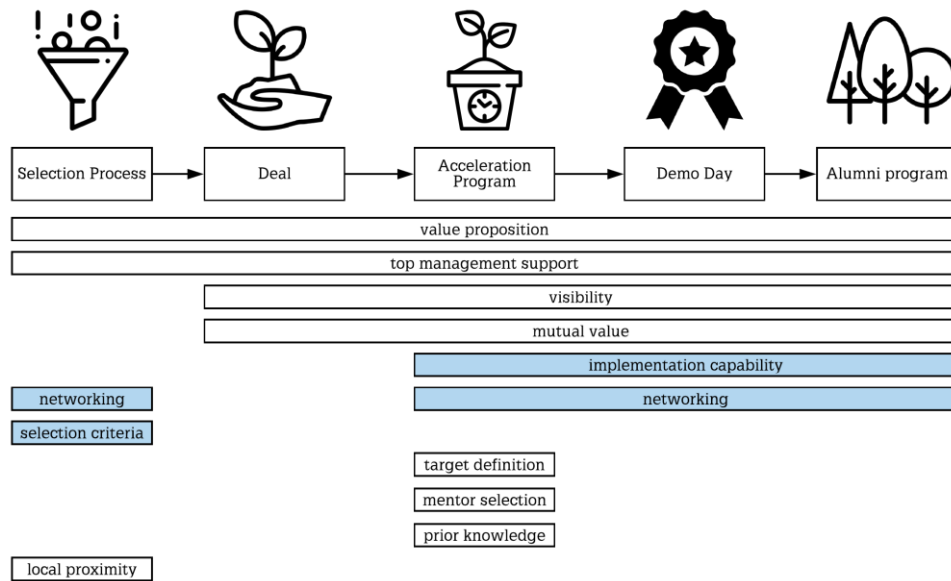


Figure 4: General CAP-process with success factors that lead to a sustained competitive advantage highlighted in blue. The bar indicates to which step of the process this factor is related to.

6. Limitation and future research

Although the findings of this thesis have been produced on a best effort basis, they still should be treated with caution because of following limitations.

The data collection involved considerable time and effort given the relatively new emergence of the phenomena, there is only a very limited number of CAPs existent worldwide fulfilling the definition (Heinemann, 2016; Ostertag, 2017). In addition, this is reinforced by the fact, that the few programs that have established themselves on the market, are rather reluctant when it comes to the public dissemination of valuable information like success factors and thus the recipe for their success. This led to the relatively small number of only 8 CAP programs in the sample, which results in problems of generalizability and thus must be extended in future research. Moreover, the success factors can only serve as a basis for future research and a quantitative analysis is strongly recommended as soon as this will be possible through a higher number of accelerator programs and more consistent data availability. Furthermore, the study sample contains programs from 3 different continents and 5 countries, which on the one hand portrays the global footprint of CAPs, but on the other hand limits the study, due to the fact, that even in times of globalisation, perceptions of success factors of respondents' in the different geographical areas might differ strongly from each other due to cultural differences and thus might bias the results of this study.

Further limitations are the missing quotes of interviewees for the success factors, which did not contribute to a sustainable competitive advantage. This has been done consciously to guarantee a practical length of this thesis.

The emerging trend of corporate accelerators offer space for future research. The RBV, which has been applied in this study should be extended by the concept of dynamic capabilities (DC), to further investigate the CAP's capability of integrating internal and external factors and reconfiguring resources (Teece et al., 1997).

Furthermore, research needs were identified regarding the abuse of strategic CAPs by startups only for the purpose of obtaining free resources, as insinuated by an interviewed expert. The extent of this abuse should be quantified and the reasons for it investigated. Consequently, protective measures of CAPs should be derived that go beyond charging equity.

Appendix

Parent Company (if N/A) Industry of operation	Revenue of Parent Company	Corporate Accelerator	Location	Founded	Main goal of incumbent company	Funding /Equity	Program Type / vehicle
N/A Banking	Confidential	Confidential powered by Plug & Play	San Francisco, USA	2014	To gain insights into emerging technologies and to achieve economic returns.	Yes	Investment
Vicssmann GmbH & Co. KG	2,7 billion \$	Innovation Boiler	Berlin, Germany	2016	Insights into disruptive and forefront solutions to incorporate products and services into the value chain.	Yes	Investment
Telefónica, S.A	59,81 billion \$	Wayra	Madrid, Spain	2011	Partner with promising startups that prove a strategic fit with a close focus towards Telefónica's customers.	Yes	Investment
BSH Haushaltsgeräte GmbH (sub. of Robert Bosch GmbH)	15,70 billion \$	BSH Future Home Accelerator powered by TechStars	Munich, Germany	2018	Collaborate with innovative startups that bring pioneering technologies for the heart of the future home – the connected kitchen.	Yes	Investment
N/A Automotive	>100 billion \$	Confidential	Saxony, Germany	2015	To gain insights into emerging technologies, collaborate with startups to solve specific business problems and to start pilot projects.	No	Strategic
SAP SE	26,68 billion \$	SAP.iO	New York, USA	2017	Collaborate with very early-stage software startups to expand the SAP ecosystem	No	Strategic
DBS Bank	10,28 billion \$	DBS Accelerator powered by Nest	Hong Kong, China	2015	Collaborate with FinTech startups to engage and interact with costumers and to foster digital innovation in banking	No	Strategic
José de Mello Group	770 million \$	Grow connect & accelerate	Lisbon, Portugal	2017	To promote the creation of potentially disruptive and scalable businesses	No	Strategic

Appendix 1: Overview of corporate accelerator programs in the sample of interviews conducted with detailed information about each.

Interview guide – Semi-Structured Interview Questionnaire

INTERVIEW GUIDE

Date: __/__/__

INTRODUCTION (5 Minutes)

- Provide background of researcher
- Identify the purpose of the research: Understand how corporate accelerators design programs to meet its goals.
- Describe research involvement:
 - Interview (30 minutes)
 - Follow-up emails or phone conversations (if needed)
 - Applicable internal reports or documents
- Ask permission to begin recording the interview and have informant agreeing to participate in the study.
- Outline the flow of the interview. The interview has three sections and uses both open and closed-ended questions.

SECTION ONE

Context for setting an accelerator

1. Of the start-ups within your CAP, what is usually the estimated ratio of success/failure? Do you have any threshold ratio?
2. When selecting a candidate, what are the qualities your company is looking for? And what is the outcome? (for instance, is it technological (hard) innovation that can be developed within the company, or a cultural change (soft), or perhaps developing a culture of innovation?)

SECTION TWO

Answer the research question

1. Can you tell me about how your company designed the CAP? What models, including those of other companies, did you consider when developing the CAP?
2. As well as the value of the start-ups themselves, what are the mechanisms within your company that you consider are essential for success? How are these harnessed? How is synergy created?

Appendix 2: Interview guide used to conduct the interviews (Page 1/2).

3. How can the mechanisms within your CAP be fine-tuned to deliver better outcomes for the company's competitive advantage?
4. What still needs to be done to achieve optimal ROI in your CAP?
5. For investment CAP respondents: How do you calculate potential ROI on start-ups you will continue to support once the programme has ended? At what point and for what reasons might the company subsequently withdraw support? Has the company ever taken this step?
6. For strategic CAP respondents: When selecting which start-ups to continue supporting, what mechanisms does the company have for absorbing them? Is the criteria based on organizational and structural matters or more cultural matters? Can you give me any examples?

SECTION THREE

Follow up questions

1. Do you have any more insights or comments upon any issues not covered in these questions that might help on my research?
2. Please return to or elaborate further on any of the questions you consider particularly relevant.

Thank you very much for your participation

Appendix 3: Interview guide used to conduct the interviews (Page 2/2).

7. References

- Arber, S. (2001) 'Designing Samples' in Gilbert, N. (ed.) *Researching Social Life*, 2nd ed. Thousand Islands, CA, Sage.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*. <https://doi.org/10.1177/014920639101700108>
- Barney, J.B. (2001). "Is the Resource-Based "View" a Useful Perspective for Strategic Management Research?". *Academy of Management Review*. 26 (1): 101. doi:10.5465/AMR.2001.4011938.
- Bauer, S., Obwegeser, N., & Avdagic, Z. (2016). Corporate accelerators: transferring technology innovation to incumbent companies. *Technovation*.
- Brass, D. J., Galaskiewicz, J., Greve, H. R. & Tsai, W. (2004). Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47(6), 795-817.
- Black, J. and Boal, K. (1994), "Strategic resources: Traits, configurations and paths to sustainable competitive advantage", *Strategic Management Journal*, Summer Special Issue.15, pp.131-148.
- Bulmer, M. (2001) 'The Ethics of Social Research' in Gilbert, N. (ed). *Researching Social Life*, 2nd ed. Thousand Islands, CA, Sage.
- Bryman, A. (2012). Social Research Methods. *Oxford University Press*.
- Chesbrough, H. W. (2003). Open innovation: The new imperative for creating and profiting from technology. Boston, MA: *Harvard Business School Press*.
- Cohen, S. (2013). What Do Accelerators Do? Insights from Incubators and Angels. *Innovations: Technology, Governance, Globalization*, 8(3-4), 19-25. https://doi.org/10.1162/INOV_a_00184
- Cohen, S., & Hochberg, Y. V. (2014). Accelerating Startups: The Seed Accelerator Phenomenon.
- Cooper, D.R. & Schindler, P.S. (2006) *Business Research Methods*, 12th ed. New York, NY, McGraw Hill.

- Cresswell, J.W. (2014) *A Concise Introduction to Mixed Methods Research*. Thousand Islands, CA; Sage
- Dawson, C. (2009) *Introduction to Research Methods*, 4th ed. Oxford, How to Books.
- Davis, S. J., J. C. Haltiwanger, and S. Schuh. 1998. *Job Creation and Destruction*. Cambridge, MA: MIT Press.
- De Bono, E. (1970) *Lateral Thinking: A Textbook of Creativity*. London; Penguin
- Dempwolf, C. S., Auer, J. and D'Ippolito, M. (2014). *Innovation Accelerators: Defining characteristics among Startup Assistance Organizations. Small business Administration*
- Donate, M.J., & Sánchez de Pablo, J.D., The role of knowledge-oriented leadership in knowledge management practices and innovation, *Journal of Business Research* (2014), <http://dx.doi.org/10.1016/j.jbusres.2014.06.022>
- Eisenhardt, K.M. (1989) Building theories from case study research. *The Academy of Management Review*. 14 (4), 532-550
- Eisenhardt, K.M. & Martin, J. A. (2000) Dynamic capabilities: What are they? *Strategic Management Journal*, 21, 1105-1121
- Feinberg, J. (1996). *Psychological egoism*. Belmont, CA: Wadsworth Publishing Company
- Fehder, D. C., & Hochberg, Y. V. (2014). Accelerators and the Regional Supply of Venture Capital Investment. *SSRN*. <https://doi.org/10.2139/ssrn.2518668>
- Fishback, B., Gulbrahanson, C., Litan, R., Mitchell, L & Porzig, M. (2007) '*Finding Business Idols*': *A new model to accelerate startups*. Ewing Marion Kauffman Foundation, Kansa City, MO
- Frimodig, L. and Torkkeli, M. (2013). '*Success Factors of Accelerators in New Venture Creation*.' In *ISPIM Conference Proceedings*. The International Society for Professional Innovation Management (ISPIM).
- Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative Research. *TQR The Qualitative Report*.

- Goldstein, A. (2014). Design principles for building a successful Corporate Accelerator. Deloitte Digital
- Goodman, L.A. (2011) Comment: On respondent-driven sampling and snowball sampling in hard-to-reach populations and snowball sampling not hard-to-reach populations. *Sociological Methodology*, <https://doi.org/10.1111/j.1467-9531.2011.01242.x>
- Haltiwanger, J., Ron S. J., Miranda. 2013. "Who Creates Jobs? Small versus Large versus Young." *Review of Economics and Statistics* 95 (2): 347– 61.
- Harvey, H. B., & Sotardi, S. T. (2018). The Pareto Principle. *Journal of the American College of Radiology*. <http://doi.org/10.1016/j.jacr.2018.02.026>
- Hochberg, Y. V. (2016). Accelerating Entrepreneurs and Ecosystems: The Seed Accelerator Model. *Innovation Policy and the Economy*. <https://doi.org/10.1086/684985>
- Kanbach, D. K., & Stubner, S. (2016). Corporate accelerators as recent form of startup engagement: The what, the why, and the how. *Journal of Applied Business Research*. <https://doi.org/10.19030/jabr.v32i6.9822>
- Keller, A. (2017): How to Gauge the Relevance of Codes in Qualitative Data Analysis? - A Technique Based on Information Retrieval, in Leimeister, J.M.; Brenner, W. (Hrsg.): Proceedings der 13. Internationalen Tagung Wirtschaftsinformatik (WI 2017), St. Gallen, S. 1096-1110
- Kim, J.-H. and Wagman, L. (2014). 'Portfolio size and information disclosure: An analysis of startup accelerators.' *Journal of Corporate Finance*, 29, 520–534.
- Kohler, T. (2016). Corporate accelerators: Building bridges between corporations and startups. *Business Horizons*, 59(3), 347-357.
- Kupp M., Marval M., Borchers P.Ac, (2017) "Corporate accelerators: fostering innovation while bringing together startups and large firms", *Journal of Business Strategy*, Vol. 38 Issue: 6, pp.47-53

- Mata, F. J., Fuerst, W. L. and Barney, J. B. (1995), "Information technology and sustained competitive advantage: A resource-based analysis", *MIS Quarterly*, December, pp. 487-505.
- Miller, S.R. & Ross, A.D. (2003). An exploratory analysis of resource utilization across organizational units: Understanding the resource-based view. *International Journal of Operations and Production Management*, 23(9), 1062-1084.
- Miller, P. & Bound, K. (2011). The Startup Factories: The rise of accelerator programmes to support new technology ventures. *NESTA*.
- Ng WL. (2007). A simple classifier for multiple criteria ABC analysis. *European Journal of Operational Research* 2007; 177:344–53.
- Ostertag, V.B. (2017). Corporate Accelerator Programs: Supporting Startup Success by Fostering Entrepreneurial Networking (Master Dissertation). Retrieved from <http://hdl.handle.net/10400.14/22746>
- Oviatt, B. M., & McDougall, P. P. (2004). The internationalization of entrepreneurship. *Journal of International Business Studies*, 36(1), 2–8. doi:10.1057/palgrave.jibs.8400119
- Penrose, ET (1959). *The Theory of the Growth of the Firm*. Oxford, UK: Blackwell.
- Peteraf, MA (1993) The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal* 14(3): 179–191.
- Porter, M. E. (2008). The five competitive forces that shape strategy. *Harvard Business Review*. <http://doi.org/Article> <http://doi.org/Article>
- Porter, M. E. (2003). Competitive Advantage by Michael Porter. *Strategy*. <http://doi.org/10.1177/0890334410371211>
- Porter, M.E. (1990) The competitive advantage of nations. *Harvard Business Review*, March – April, 1990 *Qualitative Report*, 8(4), 597-606
- Radojevich-Kelley N., Hoffmann, D (2012). Analysis of Accelerator Companies: An Exploratory Case Study of Their Programs, Processes, and Early Results. *Small business institute journal*, 8(2), 54-70.

- Reed, R., & DeFillippi, R. J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of management review*, 15(1), 88-102.
- Simmons, H. (2009) *Case Study Research in Practice*. Thousand Islands, CSA, SageSSRN. <https://doi.org/10.2139/ssrn.2418000>
- Teece, D. J., Pisano, G., Shuen, A. and others (1997). 'Dynamic capabilities and strategic management.' *Strategic Management Journal*, 18 (7), 509–533.
- Urbancová, H. (2013). Competitive Advantage Achievement through Innovation and Knowledge. *Journal of Competitiveness*. Vol. 5, Issue 1, pp. 82-96, DOI: 10.7441/joc.2013.01.06.
- Tohidi, H., and Jabbari, M. M. (2012). Innovation as a Success Key for Organizations. *Procedia Technology: Inside 2011*, 1, 560-564. Doi 10.1016/j.protcy.2012.02.122
- Valente, P., Aveiro, D. & Nunes, N. (2015) Improving software design decisions towards enhanced Return of Investment. *Proceedings of the 17th International Conference on Enterprise Information Systems*, 388-394
- Weiblen, T., & Chesbrough, H. W. (2015). Engaging with Startups to Enhance Corporate Innovation. *California Management Review*, 57(2), 66–90.
- Wernerfelt, B (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180.
- Wiklund, J., Davidsson, P., Audretsch, D., Karlsson, C., (2011). The future of entrepreneurship research. *Entrepreneurship Theory And Practice*, 35(1), pp. 1-9.
- Yin, R. K. (2014). *Case study Research: Design and methods* (5. ed.). *Sage Publications*.
- Zervas, G., Proserpio., D, Byers J. (2017). The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry. *Journal of Marketing Research*: Vol. 54, No. 5, pp. 687-705.