Abstract: Start-up accelerators, a relatively new and competitive type of business incubators, are nowadays considered to be a highly effective way of providing venture support. Start-ups who have been supported through accelerators have an approximately 23% higher survival rate than other new businesses. This positive effect can be explained by the highly selective process accelerators apply when deciding on which venture projects to support. It comes as no surprise that understanding this process and the respective selection criteria is at the core of accelerator/incubator literature within entrepreneurship research. Existing research is however limited to the investigation of commercial accelerators which provide support to start-ups having an economic purpose only. Hence those academic findings cannot be simply extrapolated to accelerators supporting ventures combining economic goals with social and ecological purpose. Given the growing meaning of sustainability entrepreneurship and hence the increasing number of sustainability-oriented accelerators, the above limitation seems to be an important research gap. This paper addresses the above gap by investigating the selection processes and criteria of so-called impact accelerators focusing on the support of start-ups expected to create not only economic outcomes but also positive social and/or environmental impact. Building on existing accelerator literature, we qualitatively investigate the selection processes and criteria of nine European impact accelerators. By comparing our findings with existing research, we identify important differences between the selection approach of commercial and impact accelerators thus contributing to sustainability entrepreneurship research and practice.

Keywords: accelerator; selection criteria; sustainability; impact

1. Introduction

Start-up accelerators, a relatively new and competitive type of business incubators, are nowadays considered to be a highly effective way of providing venture support. One of the most important functions of accelerators is the selection of promising business concepts and the subsequent support in transforming those concepts into real-life ventures. Start-ups that have been supported by commercial accelerators have an approximately 23% higher survival rate than other new businesses [1] Despite this important role of accelerators for start-up success, literature on selection processes of startup accelerators is very recent and hence scarce. In their 2018 study, Yin and Luo [2] made an important contribution to this field by investigating the selection criteria of commercial accelerators by showing that implicit and non-public criteria play a major role in the startup selection. The findings are highly important but cannot be translated into the increasingly important sustainability entrepreneurship context. This is because sustainability entrepreneurship goes broader than commercial entrepreneurship by combining economic, social, and ecological goals for a triple bottom line [3]. To address those complex needs of sustainability-oriented startups more effectively, a new type of accelerators has appeared in the last few years, so-called impact accelerators. Impact accelerators specifically support early-stage startups that generate a meaningful social and/or environmental impact alongside positive financial
returns [4,5]. Due to this purpose, it might be expected that impact accelerators will desire different outcomes than traditional commercial accelerators. Hence it seems logical that the applied selection criteria and selection processes will be different from those of commercial accelerators. However, as of today it is largely unknown how impact-oriented accelerators make their admissions decisions [6]. A better understanding could provide insights into the efficiency of impact accelerator support [7].

Motivated by this research gap, this study goes beyond the purely commercial context of start-ups and accelerators and aims for an in-depth understanding of the differences in the selection process and criteria between impact and commercial accelerators. We therefore pose the following research question which will guide our research:

How do selection processes and criteria of impact accelerators differ from commercial accelerators and why?

We approach this research question qualitatively by applying an interview-based, multiple-case study method building on nine interviews with leading impact accelerators in Europe, thus following the recommendation from Yang, Kher and Newbert [6] for qualitative research about non-commercial accelerator selection criteria. Our research is important due to two reasons. First, by building on and comparing with the more mature and better researched commercial accelerator literature [2,7–10] it detects important differences between commercial and impact accelerators in selection processes and criteria thus underlining the distinctiveness of impact accelerators. It therefore contributes to the general accelerator/incubator literature mentioned above and most importantly to the newly emerging impact accelerator stream [4,6].

Second, it has practical implications. Thus, sustainability entrepreneurship is becoming an increasingly important phenomenon. Worldwide a great number of early-stage sustainability startups (also called impact startups) have been launched. However, only a few have been able to overcome the “pioneer gap” and build teams, find a customer base, or raise the necessary capital [5,11]. Impact accelerators seem to be highly relevant at this early stage of firm development [4]. Therefore, a better understanding of their selection criteria is of importance as it allows practical recommendations for accelerator managers on how to optimize their startup selection process and selection criteria as well as for sustainability-oriented founders seeking support.

2. Theoretical Background

2.1. Commercial and Sustainability Entrepreneurship

Traditionally, entrepreneurship has been linked to wealth generation and economic growth [12,13]. The group of entrepreneurs emphasizing heavily on economic gains and profit can be called commercial entrepreneurs [14]. Regarding sustainability entrepreneurship, scholars have not agreed on a common definition [15]. Most researchers take all areas of sustainability into account, while some only see the combination of both environmental and social aspects as sustainable actions [16] and others either see social or ecopreneurial work as part of sustainability entrepreneurship [17]. In this research the authors accept all different sub-characterizations as sustainability entrepreneurship as described in Schaltegger and Wagner [16] including ecopreneurship with its goal to earn money by solving environmental problems, social entrepreneurship aiming at achieving foremost societal goals, sustainable entrepreneurship including business contributions solving societal and environmental problems as well as institutional entrepreneurship and its ambition to change regulatory, societal and market institutions to integrate sustainability goals. Overall, it can be concluded that sustainability entrepreneurship goes much broader than commercial entrepreneurship by combining economic, social and ecological goals. Sustainability entrepreneurs are future oriented with their efforts in working for economic prosperity, social justice and cohesion, as well as environmental protection [18]. With the broader field of interests and stakeholders, sustainability entrepreneurs face more challenges. While serving one stakeholder (e.g., beneficiaries) the entrepreneurs can get distracted from the interests of another stakeholder (e.g., external suppliers) [19]. The ri-
valry between interests can even result in the startup’s financial failure, as Tracey, Phillips and Jarvis [20] describe in their example with Aspire, a work integration organization. According to Hoogendoorn, van der Zwan and Thurik [21], sustainability entrepreneurs are more negative about barriers to the startup environment and they perceive a stronger lack of institutional support compared to commercial entrepreneurs. Furthermore, sustainability entrepreneurs are more likely to fear personal failure, since they cope with higher complexity in stakeholder relations while challenging norms, rules and regulations. Overall, it can be concluded that sustainability entrepreneurship is of a more complex nature than profit-driven entrepreneurship. Hence it is also rare.

2.2. Commercial Accelerators, Selection Processes and Criteria

Driven by developments of the digital economy a new form of business incubators has appeared recently, namely startup accelerators, whereas the 2005-established “Y Combinator” is widely considered to be the world’s first accelerator [9,22]. The accelerator, as a special type of incubator, can support the startups with early-stage funding, introduction to an investor network, product- and business advice, validation through the acceptance to the accelerator and peer support [1,9]. The key difference with business incubators is that accelerators are intense and time-constrained programs to transmit a large amount of information, knowledge and know-how [23,24] in order to improve the chances of a startup’s survival [25,26] and accelerate its growth [27,28]. Intakes into acceleration programs are often cohort-based and highly competitive to ensure participating startups are of high quality (for example: out of 1003 applications submitted to the JFDI accelerator only 40 start-up projects were finally selected for the program) [2,9]. It is commonly accepted that accelerators increase the success rate of startups [29]. According to Regmi, Ahmed and Quinn [1] ventures who have been supported by commercial accelerators have an approximately 23% higher survival rate than other new businesses. In exchange for the support services, commercial accelerators ask for shares in the supported startups (the early stage funding by commercial accelerators for US based start-ups is on average 23,000 USD for 6% of their equity [30]). Due to the taken equity of the startups, the commercial accelerator’s primary profit is from the startup’s exit in the form of an acquisition or IPO. Since the accelerator’s return comes with the startup’s exit, the commercially oriented selection of the startups is crucial for the accelerator’s success in getting return for their invested resources [2,31].

Commercial Accelerators Selection Process

The selection process of commercial incubators is well documented [25–27,32,33], but only limited research has been conducted into commercial accelerators’ selection processes [2,9]. Generally speaking, an accelerator’s selection process can be divided into three main stages. Commercial accelerators call for startup applications, evaluate them and accept the most promising ones to accelerate in their program [34,35]. However, when investigating the processes more in depth, it appears that there are also differences. Yin and Luo [2] provide a comprehensive study on the selection process of a commercial accelerator. Analyzing the case of a Singapore-based commercial accelerator they provide a nuanced view on the basic steps in the accelerator’s selection process. Accordingly, in the first stage applicants are asked to register on the accelerator’s website and provide detailed business-specific data on the endeavor, market, etc. as well as team-specific data by answering a long list of predefined questions. Based on that information the startups are profiled by the accelerator managers. In a next step, the profiles are initially screened where most candidates are rejected at this stage. Here, the selection criteria come into place for the first time. The successful projects proceed to the interview stage. Based on the interview performance further projects are eliminated based on specific selection criteria, whereas the best performing candidates are officially accepted into the acceleration program. Figure 1 shows the selection process found by Yin and Luo [2].
2.3. Commercial Accelerators Selection Criteria

Overall accelerators are silent about the selection criteria they apply when choosing candidates for their programs. It comes as no surprise that there is very limited scientific evidence on this aspect and accelerator literature is in its infancy. Most publications with a focus on accelerators concentrate on their impact on startup performance [24,36,37]. Few publications concentrate on an accelerator’s role in entrepreneurial ecosystems [38]. However, the startup selection process itself remains a black box from a scientific point of view. By today, to our best knowledge, only two studies investigating selection criteria of commercial accelerators have emerged. One of these is an empirical study on the case of a Spanish accelerator by Mariño-Garrido, García-Pérez-de-Lema and Duréndez [39]. Those authors investigate nine startup selection criteria linked to the business project as well as the skills of the entrepreneur. Table 1 gives an overview of the analyzed criteria and presents those found to be significant in the selection process.

Table 1. Selection criteria of commercial accelerators according to Mariño-Garrido, García-Pérez-de-Lema and Duréndez, pp. 62–63. [39].

| Category                      | Criterion and Description                                      | Description                                                                 |
|-------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|
| Business project related criteria | extent of innovation *                                      | scientific, technological or knowledge base supporting the entrepreneurial project, as well as the distinguishing items that increase its value |
|                               | extent of investability *                                    | Extent of investability is understood to target a market niche and business pattern, which allows the project to increase its value and offer sufficient return on the investment to potential investors. |
|                               | speed of acceleration *                                      | current extent of the project development and its capacity to execute a minimally viable product/service throughout the acceleration period |
|                               | extent of team consistency *                                 | individual skills and competences of each of the business project members, while also considering the multidisciplinary nature and degree of complementarity of the members to measure whether team balance and previous entrepreneurial and professional experience, particularly in the sector of application, enables a team to design, execute and accelerate the project. This variable also evaluates the project sponsors’ degree of commitment and dedication |
| Entreprenurial skills related criteria | Negotiation *                                                 | capacity of team members to reach profitable agreements and solutions |
|                               | Teamwork                                                     | measures the personal abilities and competences of the entrepreneurs according to the results of several exercises and group dynamics. It measures aspects like collaboration, initiative and conflict management |
|                               | Creativity *                                                 | the ability to generate new ideas leading to original solutions to develop the product/service |
|                               | Communication                                                | relates to the exchange of information about the venture |
|                               | leadership skills                                            | managerial skills of the founder that influence team attitude |

* Found to be significant. Source: Mariño-Garrido, García-Pérez-de-Lema and Duréndez (2020), pp. 62–63, [39].
All criteria were found to be significant for selection besides teamworking, communication and leadership skills of the founders. A more in-depth analysis of selection criteria is provided by Yin and Luo (2018) who created a scoreboard of thirty criteria drawing on incubation literature [2,22,25,31]. They used this scoreboard to compare startups who were selected or rejected by the Singapore-based commercial accelerator JFDI. Their analysis shows the implicit importance of 12 criteria in selecting the startups for the commercial accelerator program. The authors find that accelerator managers’ implicit selection criteria shift across the decision-making process from initial screening to the final selection stages. Due to the large number of applicants, the criteria for the initial screening are more explanatory on rejection decisions. Table 2 gives an overview of the criteria and presents those found to be significant in the selection process of the commercial accelerator analyzed in the study of Yin and Luo [2].

| Category                     | Question No | Criteria                                      | Description                                                                 |
|------------------------------|-------------|-----------------------------------------------|-----------------------------------------------------------------------------|
| Market attractiveness        | Q01         | Demand validation *                           | Is there voice-of-customer type evidence or demand validation?              |
|                              | Q02         | Customer Affordability *                      | Is there evidence that customers can afford buying the product?             |
|                              | Q03         | Market Demographics *                         | Is there market size and demographic analysis?                              |
|                              | Q04         | Benefit Understanding                         | Is there evidence that customers understand the product’s benefits?          |
|                              | Q05         | Subjective Constraint                         | Is there subjective barrier that constrains the customer?                   |
| Product feasibility          | Q06         | Concept maturity *                            | Is there evidence that the concept can be realized to a product?            |
|                              | Q07         | Sales and Distribution *                      | Is there evidence of existing sales and distribution channels?              |
|                              | Q08         | Product Maturity *                            | Is there evidence of the functional feasibility of the product?            |
|                              | Q09         | Manufacturability                             | Is there evidence of manufacturability with efficiency and low cost?        |
|                              | Q10         | Clarified Tradeoffs                           | Is there clarification of trade-offs in performance, cost, etc.?            |
|                              | Q11         | Competition validation                        | Is there validation of product’ competitiveness in the market?             |
|                              | Q12         | Value proposition *                           | Is there evidence of tangible or intangible benefits for customers?        |
|                              | Q13         | Sustainable advantage *                       | Is there evidence of advantages not easily available to the competitors?   |
|                              | Q14         | Patent strategy                               | Is there a patent strategy for existing/circumvent patents?                |
|                              | Q15         | Patent protection                             | Is there capability to maintain and protect patents?                       |
|                              | Q16         | Competitor response                           | Is there evaluation of potential competitor responses?                     |
|                              | Q17         | Competition strategy                          | Is there strategy prepared for competition?                                 |
|                              | Q18         | Marketing effort                              | Is there evidence of marketing efforts to enhance customer perception?      |
### Table 2. Cont.

| Category            | Question No | Criteria                        | Description                                                                 |
|---------------------|-------------|---------------------------------|-----------------------------------------------------------------------------|
| Team competence     | Q19         | Team size                       | Is there adequate manpower in the startup?                                  |
|                     | Q20         | Marketing/Sales Expertise       | Is there marketing/sales experience in the startup team?                    |
|                     | Q21         | Technology expertise *           | Is there product development skill set in the start-up team?                |
|                     | Q22         | Management expertise            | Is there management experience in the startup team?                         |
|                     | Q23         | Financial expertise             | Is there financial skill set in the startup team?                           |
|                     | Q24         | Prior startup experience *      | Is there prior entrepreneurship experience in the startup team?              |
|                     | Q25         | Feedback mechanism in place *   | Is there team mechanism to listen and respond to customers?                 |
| Expected return      | Q26         | Profitability                   | Is there evidence of adequate profitability?                                |
|                     | Q27         | Risk Assessment                 | Is there evidence of risk assessment?                                       |
|                     | Q28         | Risk Mitigation                 | Is there evidence of risk mitigation measures?                              |
| Growth potential    | Q29         | Growth strategy *               | Is there evidence of strategies and potential for future growth?            |
|                     | Q30         | Capital Availability            | Is there evidence of adequate capital for growth?                           |

* Found to be significant. Source: Yin and Luo [2]. p. 581.

### 2.4. Impact Accelerators (and Their Selection Process and Criteria)

As already mentioned, sustainability entrepreneurship has a more sophisticated purpose as well as a more complex business environment than commercial entrepreneurship, since it seeks to satisfy multiple stakeholders rather than only shareholders [40]. As discussed, sustainability-oriented start-ups have in common that they are aiming not only to create economic but also a positive impact on social and/or environmental issues. Sustainability entrepreneurs therefore create businesses different from commercial ventures, also called impact enterprises. Impact enterprises are defined by The Rockefeller Foundation and Monitor Deloitte [41] as organizations seeking financial viability, social impact and influence the broader system in which they operate. In this study, the terms impact startup and sustainability-oriented startup are used interchangeably.

Worldwide, a great number of impact startups have been launched, but only a few have been able to overcome the “pioneer gap” and build teams, find their customer base or raise the needed capital [5,11]. This is where impact accelerators come in. They specifically support early-stage startups that generate a meaningful social and/or environmental impact alongside positive financial returns [4,5]. This new type of accelerator has emerged to support the growing number of sustainability-oriented startups [42]. Even traditional and very successful accelerators like Y Combinator and TechStars have launched impact initiatives to support impact startups [43]. According to The Rockefeller Foundation and Monitor Deloitte [41], an impact accelerator is “any intermediary organization or platform working to scale impact enterprises by providing support for multiple impact enterprise needs”. The Rockefeller Foundation and Monitor Deloitte [41] mapped the work of more than 160 impact accelerators around the world and were among the first to describe them and their services. The offered support by the impact accelerators typically includes business model refinement for scaling, educational courses, access to networks including potential investors, customers or mentors, and direct resources to the impact venture like funding, office space or services like legal aid. Based on a multiple case study, Radzeviciute [44] shows that commercial accelerators and impact accelerators differ significantly in their networks, mentors, and specific legal aid.
Referring to social and nonprofit incubators Yin and Luo [2] indirectly suggest that impact accelerators may be less distinctive in choosing their startups since their goal is not only economic returns but also to create jobs and reduce regional disparities. Considering the above discussion and the systematic differences between commercial and sustainability entrepreneurship, it might be expected that the selection process and criteria of impact accelerators will differ from the traditional accelerators with a strict commercial/financial focus. Yang, Kher and Newbert [6] provide one of the first studies to investigate the selection criteria of impact accelerators and show that startups who received equity or philanthropic investment are more likely to be admitted to acceleration programs of social impact accelerators. Although significantly advancing the knowledge about impact accelerator’s general selection criteria this study does not provide insights on the specific selection criteria applied and how they differ from commercial accelerators.

3. Research Methodology

3.1. Research Approach: Multiple-Case Studies Method

To understand the selection approach of impact accelerators, an interview-based multiple-case study research method was chosen in line with Johnson and Stake [45]. The deep understanding of complex research fields is the strength of case study research. Some researchers see a risk in referring to case study research as a single method, as this can be misleading, counterproductive, and perplexing [46–48]. However, the multiple-case study method is a suitable approach for this research because the focus of this study is to find detailed information about how the startup selection process is done differently in impact accelerators compared to commercial accelerators.

3.2. Case Selection and Sample Overview

There are no hard rules in a multiple-case study design about how many cases are required to ensure the requirements for a high replication strategy. Yin [49] states that “typical criteria regarding sample size are irrelevant”, since the multiple-case study approach does not follow the representative sampling logic used in survey research. As a general orientation, Yin [49] suggests that six to ten cases can be sufficient. This study focuses on nine impact accelerators in Europe (seven from Germany, one from Norway and one from Switzerland). The interviews were conducted in the year 2020. The details of interest are the impact accelerator’s selection process for startups, the critical selection criteria for candidate startups to the acceleration program and additional factors influencing impact accelerators’ selection process and criteria. Although all cases meet the broad definition of impact accelerators, extreme case pairs (local vs. international oriented impact accelerators, privately vs. publicly funded) were interviewed to ensure that key aspects were not missed. In addition, multiple used sources enhance validity and reduce bias [50]. Access to the sample group was gained by personal contacts, introductory e-mails and cold calls. In total, 23 impact accelerators were contacted and asked for an interview. All surveyed impact accelerators have an impact outcome purpose of existence (Table 3), while 5 out of 9 specify a social impact. Although the impact achievements are often not distinctly separable, the clear positioning is an advantage for implementing a common startup mindset and making impact strategies more tangible. For example, the impact purpose for climate protection of IA1 is at first an environmental impact purpose, but upon closer inspection, it also has social and economic impacts. This shows the interconnection of the different sub-characterizations of sustainability entrepreneurship as described by Schaltegger and Wagner [16]. However, having one major communication focus, e.g., climate protection, gives the impact accelerator a clearly recognizable positioning for applying startups and other stakeholders.
Table 3. Sample overview and features.

| Accelerator No | Purpose          | Start Up Focus                                           | Country  |
|----------------|------------------|----------------------------------------------------------|----------|
| IA1            | Climate          |                                                          | Germany  |
| IA2            | General          | Energy, Health, Climate, Digitalization, AI              | Germany  |
| IA3            | Social           |                                                          | Germany  |
| IA4            | Circular Economy | Circular economy                                         | Switzerland|
| IA5            | General          |                                                          | Norway   |
| IA6            | Social           | Mobility and logistics                                   | Germany  |
| IA7            | Replacing Animal products | Food                                           | Germany  |
| IA8            | Social           |                                                          | Germany  |
| IA9            | Social           |                                                          | Germany  |

As can be seen in Table 3 most impact accelerators have a clear idea of their desired impact, but less than half have a detailed startup focus. Having no focus on the startup’s approach to serve the accelerator’s purpose gives more room to innovate and to find different ways of solving problems. However, the broad acceptance of very different startups does not allow specific support and therefore impact potential may not be fully realized.

3.3. Data Collection

Three distinct data sources were used for this study, which enhances the data credibility [51], validity [50] and may increase reliability as well as helping to build stronger substantiation of propositions and theories [52]. Data were collected through nine interviews with impact accelerator managers involved in the startup selection process. The questionnaire entailed both a semi-structured part on the selection process to enhance information acquisition as well as a more structured part concerning the application of specific selection criteria to allow for between-case comparison.

Interviewee selection required that the interview partner must be responsible, or in a position of responsibility, for the startup selection in their accelerator program. In the following, we refer to the interview participants as impact accelerator managers (or short: managers). The gathered information was enriched by data collection through the analysis of website content of the participating impact accelerators. Additional direct observations were noted during a demo day event of an impact accelerator in December 2019. These data were primarily used to improve and triangulate the findings concerning the selection process and criteria. The questionnaire was pre-tested before conducting the interviews to ensure comprehensibility. After each interview with the impact accelerator manager, the results were transcribed, and data quality was analyzed before the next interview was conducted (following the constant comparative method [53] iterative questions were added to improve understanding whereas the questionnaire remained unchanged). The nine interviews were conducted in March and April 2020 via video call (no personal meeting was possible due to the Covid-19 contact restrictions in Europe). The average interview lasted approximately 46 min. During the interview, the impact accelerator managers were asked 41 pre-set questions about their accelerator’s selection process, the importance of specific critical selection criteria and additional factors influencing the selection process and criteria. The work of Yin and Luo [2], on commercial accelerator selection criteria, served as a basis to develop the questionnaire which is due to two important reasons. First, compared to Mariño-Garrido, García-Pérez-de-Lema and Duránez [39] the list of the criteria developed by Yin and Luo [2] is theoretically more grounded as it was developed based on a thorough analysis of related incubation literature. Second, the detail degree of selection criteria suggested by Yin and Luo [2] allows for an in-depth analysis of selection criteria.
Thus, within Questions 10–39 the study participants were asked to evaluate all thirty selection criteria from Yin and Luo [2] and rate them from their impact accelerators perspective as “Yes” for critical criteria in the startup selection process or “No” for non-critical criteria (for exact definition of the criteria see Section 2.2). A critical criterion is defined as a criterion that can solely decide the startup’s admission or rejection: if no data about the critical criterion is given or the data is not satisfying for the decision-makers, the startup will not be accepted to the accelerator program. For each selection criterion as suggested by Yin and Luo [2], the impact accelerator managers could mention impact modifications. Table 4 gives an overview of the question type and purpose. The first type is the closed questions with the possible responses of “yes”, “no” or “I don’t know”. The second type is the open questions for explorative and open answers. The questions in the questionnaire served different purposes as shown in Table 4. The questionnaire can be found in Appendix A.

Table 4. Questionnaire’s Question Types and Purposes.

| Question Nr. | Type | Question Purpose |
|--------------|------|------------------|
| Q1, Q2       | c, o | Validate the interview partner and accelerator match to the research questions |
| Q3, Q4, Q5   | c, o, o | Gain data for analysis perspectives & propositions |
| Q6, Q7       | o    | Exploratory question to gain deeper insight |
| Q8, Q9       | c    | Gain data for analysis perspectives & propositions |
| Q10–Q39     | c    | Closed question: Gain data for the comparison to commercial accelerators’ selection criteria based on Yin and Luo [2] |
|              | o    | Open Question: exploratory questions to gain insight into potential impact modifications of the criteria |
| Q40, Q41     | o, o | Exploratory question to gain deeper insight |

Question Type: c = closed question, o = open question.

3.4. Data Analysis

This multiple-case study research aims for high validity and credibility, therefore a basic foundation was constructed with clear research questions, provided literature findings, appropriate multi-case research design purposeful and systematic sampling strategy, and correct data analysis according to Eisenhardt [54]. Multiple perspectives were collected, and the potential for misleading socially desirable responses in interviews was therefore reduced [55]. Typical multiple case-study validity according to Yin [56] is given. This research is based on existing literature and is therefore supported by existing models, concepts and theories, which leads to a high construct validity. In addition, multiple sources of evidence were used to maintain a chain of evidence [56]. The internal validity was increased by the multi-cases approach and cross-case analysis. External validity is not given, since the results are not generalizable, as this research focuses on an in-depth understanding of the different cases rather than finding general results. Research about impact accelerators is relatively new and the accelerators are still finding their specialization within the field of incubators. However, this work can serve as a starting point for future research. Having this in mind, the reliability is highly dependent on the unique case studies and the time when it was conducted due to a changing market. The data analysis methods of Eisenhardt [54], with its two aspects of within-case analysis and cross-case analysis, were used. The interviews were continuously analyzed by the author by note-taking, coding and tabulation. Not all questions were asked in the interviews; some answers were taken from the open answers transcriptions or researched from the accelerator website after the interview. All interviews were audio-recorded and transcribed with for data analysis.

3.4.1. Within-Case Data Analysis

The within-case analysis involves a transcription for each case study interview with the impact accelerator managers. The questionnaire helped the author to gain insight by
summarizing the high volume of data [57,58]. The questionnaire notes were written in a comprehensive form, due to the importance of insight into the context and the phenomenon of selection process, criteria, and additional factors [54]. The within-case analysis structure followed three steps. First, the questionnaire was completed by the author during the interviews with the accelerator managers. Second, each interview was transcribed, special passages were highlighted, the answers of the questionnaires were double-checked with the transcriptions. Third, the answers were coded and tabulated.

3.4.2. Cross-Case Data Analysis

The cross-case analysis built the second step of the data analysis. It aims to search for patterns. Each interview case had the acceleration focus and impact orientation in common and therefore allowed cross-case comparison. The author of this study is aware that people are poor processors of information [54]. Researchers reach premature or false conclusions because of their information biases. A recommended general tactic to analyze the data is to look at it from many divergent perspectives [54] and to focus on predefined propositions. Following this advice, literature findings were noted beforehand. These findings were supported or rejected by the data of this research. Furthermore, new propositions were formed. Combining both literature findings and propositions, patterns were identified. Lastly, explanations and recommendations were developed by analyzing the tabulated data and challenged in the discussion.

4. Results

Comparing the critical criteria from commercial accelerators [2] to those of impact accelerators, there are three relevant combinations:

(i) Critical criterion for both: The criterion is critical for commercial accelerators and impact accelerators.

(ii) Critical criterion only for commercial accelerators: The criterion is critical for commercial accelerators, but not for impact accelerators.

(iii) Critical criterion only for impact accelerators: The criterion is critical for impact accelerators, but not for commercial accelerators.

For commercial accelerators, a criterion is marked as critical if it was found to be important by Yin and Luo [2]. In the case of impact accelerators, a criterion is marked critical if at least 2/3 (6 out of 9 impact accelerators) mentioned it as important. As shown in Figure 2 and detailed in Table 5, six criteria are critical for both commercial and impact accelerators, six criteria are critical only for commercial accelerators, and two criteria are critical only for impact accelerators.

![Figure 2. Results of Critical Criteria of Commercial Accelerators, Impact Accelerators and Both.](image-url)
Table 5. Comparison of Critical Criteria between Commercial and Impact Accelerators.

| Criteria                        | Commercial Accelerator Evaluation by Impact Accelerator (n = 9) | Critical for |
|---------------------------------|---------------------------------------------------------------|--------------|
|                                 | Critical | Critical | Not Critical | Tendency (If 6 or More Mentioning) |
| Demand Validation               | Yes      | 6        | 3           | Yes Both                          |
| Customers Affordability         | Yes      | 4        | 5           | No Commercial                     |
| Market Demographics             | Yes      | 6        | 3           | Yes Both                          |
| Benefit Understanding           | No       | 6        | 3           | Yes Impact                        |
| Subjective Constraint           | No       | 2        | 7           | No                                |
| Concept Maturity                | Yes      | 8        | 1           | Yes Both                          |
| Sales & Distribution            | Yes      | 5        | 4           | No Commercial                     |
| Product Maturity                | Yes      | 3        | 6           | No Commercial                     |
| Manufacturability               | No       | 4        | 5           | No                                |
| Clarified Tradeoffs             | No       | 1        | 8           | No                                |
| Competition Validation          | No       | 4        | 5           | No                                |
| Value Proposition               | Yes      | 6        | 3           | Yes Both                          |
| Sustainable Advantage           | Yes      | 4        | 5           | No Commercial                     |
| Patent Strategy                 | No       | 1        | 8           | No                                |
| Patent Protection               | No       | 1        | 8           | No                                |
| Competitor Response             | No       | 3        | 6           | No                                |
| Competition Strategy            | No       | 3        | 6           | No                                |
| Marketing Effort                | No       | 1        | 8           | No                                |
| Team Size                       | No       | 7        | 2           | Yes Impact                        |
| Marketing/Sales Expertise       | No       | 2        | 7           | No                                |
| Technology Expertise            | Yes      | 7        | 2           | Yes Both                          |
| Management Expertise            | No       | 3        | 6           | No                                |
| Financial Expertise             | No       | 2        | 7           | No                                |
| Prior Startup Expertise         | Yes      | 0        | 9           | No Commercial                     |
| Feedback Mechanism              | Yes      | 1        | 8           | No Commercial                     |
| Profitability                   | No       | 5        | 4           | No                                |
| Risk Assessment                 | No       | 2        | 7           | No                                |
| Risk Mitigation                 | No       | 1        | 8           | No                                |
| Growth Strategy                 | Yes      | 8        | 1           | Yes Both                          |
| Capital Availability            | No       | 4        | 5           | No                                |

Source: Yin and Luo, 2018, Own study

The interview and literature data show that the six critical criteria for both commercial and impact accelerators are:

(1) Demand Validation (Is there voice-of-customer type evidence or demand validation?)
(2) Market Demographics (Is there market size and demographic analysis?)
(3) Concept Maturity (Is there evidence that the concept can be realized to a product?)
(4) Value Proposition (Is there evidence of tangible or intangible benefits for customers?)
(5) Technology Expertise (Is there product development skill set in the startup team?)
(6) Growth Strategy (Is there evidence of strategies and potential for future growth?)

In addition, the six critical criteria only for commercial accelerators are:
(1) Customer Affordability (Is there evidence that customers can afford to buy the product?)
(2) Product Maturity (Is there evidence of the functional feasibility of the product?)
(3) Prior Startup Expertise (Is there prior entrepreneurship expertise in the startup team?)
(4) Feedback Mechanism (Is there a team mechanism to listen and respond to customers?)
(5) Sales and Distribution (Is there evidence of existing sales and distribution channels?)

Furthermore, two critical criteria only relevant for impact accelerators are:
(1) Team Size (Is there adequate manpower in the startup?)
(2) Benefit understanding (Is there evidence that customers understand the product's benefits?)

5. Discussion

The basic finding of this research is that there is a significant difference in the type and number of criteria applied by commercial and impact accelerators when making selection decisions.

First, commercial accelerators consider a higher number of criteria when selecting startups (twelve in total) compared to eight criteria considered by impact accelerators. Second, only six criteria are common for both types of accelerators. Third, only two criteria are considered solely by impact accelerators.

The fact that impact accelerators are using a significantly smaller number of criteria to select their startups is in line with the assumption of Yin and Luo [2] that profit-focused accelerators are more selective (this assumption was made as a side note and was referring to nonprofit incubators which are distinct from impact accelerators).

The above findings are rather general in nature and will be investigated more in-depth by applying a criteria-specific analysis which aims at providing arguments why certain criteria are more or less important for impact accelerators as well as a context-specific analysis aiming at explaining the effect of context factors on an impact accelerator selectiveness.

5.1. Criteria-Specific Analysis

To investigate the differences between the selection criteria applied by commercial and impact accelerators we build on Yin and Luo’s [2] categorization of selection criteria (compare Table 2 in Section 2.2). Accordingly, we distinguish six broad criteria which include market attractiveness, product feasibility, product advantage, team competence, expected return and growth potential. At the end of this section, we report criteria mentioned by the managers which do not correspond to any of the Yin and Luo [2] criteria.

5.1.1. Market Attractiveness Criteria

Impact accelerators seem to have a strong focus on the market attractiveness category when evaluating their candidates. With demand validation (Is there voice-of-customer type evidence or demand validation?), market demographics (Is there market size and demographic analysis?) and benefit understanding (Is there evidence that customers understand the product’s benefits?) three out of eight criteria—relevant from an impact accelerators perspective—belong to this category. This shows that market aspects including market size and product-market fit play an important role when selecting candidates. Interestingly, the pricing aspect (customer affordability), although still seen as important, is not to be decisive which contrasts with commercial accelerators. An explanation to this is delivered in the following quote:

So, [the] price is very critical. But I mean, products in the plant-based space are usually a bit higher priced. So, we are accepting products that come as a markup to the normal product in the market

Manager IA7

Another explanation for the minor role of pricing is that sustainability-oriented startups are often coming with sophisticated business models (e.g., subsidized models) in which the
end consumer is not necessarily the person paying for the product. This can be deducted from the following quote:

\[
\ldots\text{ in many cases, the target group doesn’t actually pay for the product or service. But somebody else pays }\ldots
\]

Manager IA3

Therefore, pricing aspects seem to be less critical than in the case of fully commercial business models being at the focus of commercial accelerators. Impact accelerators rather see their startup’s product affordability in the context of their own impact market rules and hence assume a higher willingness to pay. Accordingly, impact accelerators see the importance of informing the customer about the product features including impact aspects. One manager states:

\[
\ldots\text{ often we also use the impact angle as the sales argument towards customers. If we believe [that] the customers actually care about [the impact aspect], we would build that impact angle into the sales pitch.}
\]

Manager IA5

It comes as no surprise that the criterion Benefit understanding is at the core of an impact accelerator’s selection process. Impact accelerators want to make sure that a product’s value-added in the form of a positive impact is easily understandable from a customer perspective. This clearly distinguishes impact accelerators from commercial accelerators which do not emphasize on this criterion.

5.1.2. Product Feasibility Criteria

When it comes to the product feasibility category it appears that impact accelerators are less strict than commercial accelerators by considering only concept maturity (Is there evidence that the concept can be realized to a product?) as a critical selection criterion and neglecting criteria like product maturity (Is there evidence of the functional feasibility of the product?) and sales and distribution (Is there evidence of existing sales and distribution channels?). According to the following quote the latter is 

\[
\ldots\text{ No critical criterion. If [the startup] could show [existing sales and distribution channels], then the jury might make a }\ldots\text{ recommendation to work on the impact side of things, but it’s good that you could also already develop something that gets you going economically.}
\]

Manager IA9

The above finding is interesting for two reasons. First, it provides some evidence on the development stages of the applying start-ups are. Concept maturity can be considered as an aspect which is of relevance when a start-up is in its early stages. Product maturity as well as sales and distribution, which according to our findings are somehow neglected by impact accelerators, can be classified as an aspect playing a larger role at later stages of start-up development.

Second, impact accelerators seem to deal with more applications that are still in conceptualization rather than commercialization stages. This might be due to a general lack of candidates or a different target group focus (e.g., students). Another explanation is that from an impact accelerator’s perspective the business and impact conceptualization stage (the stage in which the business model is still in development) is more critical than the later stages of actual commercialization. This might be due to the more complex nature of sustainability-oriented businesses coming with complex business models which have to be thoroughly conceptualized first before putting into life.

5.1.3. Product Advantage

Impact accelerators seem to pay less attention to criteria related to competition and competitive advantage. Out of eight criteria listed in the Product Advantage category of Yin and Luo, [2], only value proposition (Is there evidence of tangible or intangible benefits
for customers?) appeared to be of relevance to impact accelerators. Sustainable advantage (is there evidence of advantages not easily available to the competitors?), stressed as important by commercial accelerators, was mentioned only by four out of nine impact accelerators. The analysis of the interviews reveals some interesting insights on the competition understanding by impact accelerators.

( ... ) the social aspect is more important ( ... ). It will add to make it [product or service] more competitive in another way, [since] you’re targeting a different market. [Competition Validation] is not an aspect because it has a different consideration when you judge on the product competitiveness for a social startup.

Manager IA8

Yes [it is a critical criterion], if we do not phrase it as competitors, but as collaborators.

Manager IA6

Yes [it is a critical criterion] in the impact modification. Is there a strategy prepared for fitting into the current ecosystem of their social impact sphere, which might be collaboration or competition or a mix of both. But it’s more about the how do I blend into the ecosystem than how do I compete against others.

Manager IA3

Two findings can be concluded from the above quotes. First, impact accelerators see the sources of competitive advantage not as traditional strategy scholars suggest [59] in price or differentiation advantages but rather in the creation of a non-economic value for the customer. Second, it can be concluded that impact accelerators consider firms from the same industry more as collaborators and equal parts of the ecosystem rather than competitors which must be outperformed. It therefore is not surprising that a competition-related criterion like Sustainable Advantage is not considered to be crucial by impact accelerators.

5.1.4. Team Competence

This category also reveals highly interesting findings. First, impact accelerators seem to put more focus on the size of the teams than traditional commercial accelerators. This can be again explained by the fact that due to its multidimensional focus sustainability entrepreneurship requires not only business expertise, but also skills from other fields including natural and environmental sciences, engineering, or social sciences. With an increasing team size, the complementarity of skills is expected to be higher. This notion is further confirmed by the important role of technology expertise (also mentioned by commercial accelerators as an important criterion).

At the same time, a highly interesting observation is that although commercial accelerators pay a lot of attention to prior start-up experience, this criterion was not mentioned by any of the impact accelerator managers as a critical criterion. This might be again a sign that impact accelerators are more open to applications from less experienced but intrinsically motivated persons (e.g., students).

5.1.5. Expected Return and Growth Potential

Interestingly neither commercial accelerators nor impact accelerators mention aspects of risk and return as critical for their selection. This might be explained by the fact that startup investments are generally characterized by a high risk. Hence there is a higher acceptance level for risk from an accelerator’s perspective. Similarly, profitability aspects do not play an important role in the early stages of startup development as profits are sacrificed for short-term growth. It might be expected that this mechanism is even stronger in the case of impact accelerators as impact aspects are playing an additional role as the following quote shows:

[We] are talking about the social need for a startup ( ... ) not talking about that [it] will generate money when you start the startup.

Manager IA8
The important role of growth is underlined by the fact that both accelerator types have mentioned it as a critical criterion. This seems not surprising since, as discussed above, growth and scalability potential are traditionally regarded as factors distinguishing startups from SMEs. The following quotes highlight the importance of growth as a selection criterion:

Yes. Critical. Even if it doesn’t have to be like super-fast. It can also be very slow and organic, but it needs to be there.

Manager IA9

[Growth is necessary] because social impact can only be created if growth in the company is created. Jobs are created. Funds are raised too.

Manager IA6

5.1.6. Additional Criteria

Besides evaluating the selection criteria predefined by Yin and Luo [2], respondents were asked to mention additional criteria they apply for selection in case they were not part of the Yin and Luo [2] list. Overall, most of the managers (six out of nine) did not mention any additional criteria. This finding generally speaks in favour of the Yin and Luo [2] criteria list as it shows that it can be seen as a highly exhaustive framework which can be used in an impact context too. Only three managers mentioned criteria which can be classified as new. Thus, two highlighted the role of a startup’s CO2 footprint.

I think I would like to integrate even more like the impact measurements and CO2 footprint potential. How much will this startup on a local or global level contribute to environmental or climate change mitigation?

Manager IA4

One manager stresses the role of purpose by stating that the accelerator is looking

... whether they [the founders] have a clear purpose behind their business model, whether they can sustain that purpose even under big pressure.

Manager IA6

Two conclusions can be drawn from the above discussion. First and most surprisingly impact accelerators mostly apply established criteria and do not come with a distinct list of impact-related criteria. The few mentioned impact criteria are related to CO2 footprint and purpose, which can be classified as rather bold criteria. Overall, it seems that accelerator managers are still looking for suitable criteria and that this aspect of an impact accelerator’s activity is still in its early development as the following quote shows:

... I can imagine that we will use not only things like potential for CO2 reduction as our criteria for selection in the future, but we’re also going to be looking at potential for systems, impact hub systems, innovation and system thinking. So, we’re going to be looking for some system entrepreneurs. So that means entrepreneurs who see themselves as a part of a bigger system and consider all the stakeholders in their own systems.

Manager IA1

5.2. Context-Specific Analysis

To provide an explanation on the general observation that less criteria are applied by impact accelerators when selecting startups into their programs, it is necessary to consider the context factors. According to Klofsten, Bank and Bienkowska [60] the selection criteria of impact incubators depend on their traction and the number of startup applications they receive. Since sustainability entrepreneurship is per definition of a more complex nature than commercial entrepreneurship, the supply of potential candidates for impact acceleration is expected to be naturally limited. As a rule, it might be assumed that, when too few impact startup applications are received, some impact accelerators might apply selection criteria more generously to utilize their available resources and fulfill
their KPIs. Although all impact accelerators from our sample claim to receive enough applications for an impact-driven selection of participants, in the interviews it appears that the number of applications is a highly relevant topic. As can be seen from the following quotes the number of applications varies strongly (between 30 and 2000) among the surveyed impact accelerators.

... But the last time we had nearly thirty applications for our accelerator and we hope it will go on like this.

Manager IA2

I use the last batch as an example where we started with two thousand candidates from all over the world and we ended up with 12 companies that we selected for the accelerator program that we invest in through the fund. Of the two thousand candidates about half of them apply proactively through our website and the other half we actually find

Manager IA5

Thereby the location of an impact accelerator seems to play an important role for the number of applications an accelerator is receiving.

So, we had five application rounds and normally it was around fifteen applications. Because we are not located in the big city.

Manager IA2

This location aspect seems to be considered already by commercial accelerators as they are most often established in “leading acceleration regions” [9] including big metropolis as Berlin, London and Paris coming with a sufficient number of local startups. However, impact accelerators following social and/or environmental goals are more often located in less densely populated areas which come with a lower startup density but with more societal and/or environmental challenges to be tackled by startups. Furthermore, due to their non-commercial nature impact accelerators are often run by public institutions (e.g., universities and are therefore assigned to a certain place. e.g., the location of a university) which is not necessarily coming with a sufficient amount of potential entrepreneurs. The role of the accelerator’s location is interesting as it has not been discussed by literature, yet. Overall, it might be concluded that the location (e.g., rural vs. agglomeration) can have an effect on the attractiveness of an accelerator and hence on the selection process. However, it is not only the size of an agglomeration that plays a role but also the local culture and mindset as represented by this quote:

If we have fresh new labs, then it wouldn’t be that easy to have access to startups that want to be part of it. And another part of it is the entrepreneurial and social entrepreneurial tensions in this city. So, in Berlin you always have enough applicants. But if we are talking about Munich or some other parts of Germany, you might don’t have this mentality of that, so not many people who are thinking about social entrepreneurship, social startups.

Manager IA8

Accordingly, the fit between a founder’s mindset and the cultural surrounding of a location might play a bigger role for individuals applying to impact accelerators than for commercially oriented entrepreneurs. An explanation might be that individuals aiming at having positive social or environmental impact are expected to be particularly sensitive to location-specific social and cultural aspects which make a cultural fit between a location and the individual’s mindset even more complicated. It can be furthermore observed that the number of applications is highly dynamic over time and that overall, the competition between impact accelerators for high-quality impact startups is getting stronger.

I have been part of three cohorts and it’s changing. So, in the beginning, it was quite easy for us to get a lot of applications, also good quality applications. I think one reason could be because there were not as many accelerators focused on this out there in the market, but it’s a quite dynamic field. So, more and more programs are popping up everywhere
around the world that also cater to this specific industry of plant based alternative proteins. And so, I could see that in the second batch there were fewer applications. ( . . . ) there’s not a ton of good quality startups out there.

Manager IA7

Those developments obviously put pressure on impact accelerators to invest in their activities, to build additional capacities (e.g., hiring new staff) and to improve their offering (e.g., by offering funding) in order to increase the amount of applications. Two representative quotes put this notion in place:

*And then in the third batch, we had a lot of applications again, [because] our conditions changed again. A) we offered funding now and B) we had much more marketing because our team grew, and we had a marketing manager in the team. There was a lot of pushing from our side ( . . . ).*

Manager IA7

*So, we hire summer interns who basically scrape the internet to find good impact tech startups. And then we contact them, and we ask them to apply to the program.*

Manager IA5

The limited number of applications on the one hand and the increasing competition for high-quality startups on the other might be an additional explanation why impact accelerators are applying less criteria when selecting candidates. Another interesting circumstance found in this research and potentially having impact on the selection process is that the majority of the studied impact accelerators are not participating in their startup’s potential successes. According to our sample, only 1 out of 9 impact accelerators is holding shares in the startups it supports. One quote seems to be representative of this perspective and provides an explanation why impact accelerators are hesitant in taking shares in the startups they support:

*Do you get equity or something in return [for the support of the startups]? No, because we do not believe that this helps our purpose. The only purpose of our program is to help social businesses scale and thereby scale our social impact as IA6. And we do not do that by classic CSR, but we try to do that by helping those that are experts in this field. So, taking equity would somewhat contradict this idea of helping out.*

Manager IA6

This altruistic approach is strongly contradicting the traditional accelerator business model which is based on the simple mechanism: shares in exchange for an accelerator’s time and money. This might be problematic as this mechanism creates a strong incentive to be highly effective when selecting candidates. In turn, it might be expected that impact accelerators not having this mechanism in place will be less strict when selecting candidates. Thus, only one privately funded impact accelerator from Norway takes equity for their investment and does not see it as contradicting its impact purpose:

*Yes, we are pure impact, but we also want to create all the highest possible returns for our investors. So, we’re not doing this as any type of a charity. We want to both create above market returns and create impact. In fact, we believe that there doesn’t have to be a compromise between the two. We actually believe that these impact startups that we find also we generate superior returns and that’s also what we know for our investors.*

Manager IA5

However, seven out of nine impact accelerators do not provide any funding for their startups which again limits the attractiveness of an acceleration program and therefore the number of applications which makes the process less competitive and hence less selective.
6. Conclusions

6.1. Key Findings and Contribution

In response to the research call from Drover et al. [7] into obtaining more insights into accelerators’ selection decisions, and Yang, Kher and Newbert’s [6] recommendation for qualitative research designs, this study aims for an in-depth understanding of the differences in the selection process and criteria between impact accelerators and commercial accelerators. To develop an understanding of the selection approach of impact accelerators, an interview-based multiple-case studies research method was chosen focusing on nine impact accelerators in Europe in the year 2020.

In this research, the thirty selection criteria of commercial accelerators from Yin and Luo [2] were used as a model for the questionnaire. Applying an inductive research approach, it was found that impact accelerators are less selective when the number of selection criteria is considered. The explanation for this finding lies in the criteria themselves as shown in the criteria-specific analysis. Thus, criteria traditionally applied by commercial accelerators are sometimes less relevant for impact accelerators (e.g., product maturity, sales and distribution) and sometimes there is a different understanding of basic concepts behind the criteria, such as competition or profitability. What both accelerator types have in common is the clear focus on growth and scalability aspects (market size) which are defining elements of any type of startup, either impact or commercially-driven. Surprisingly, impact accelerators mostly apply established criteria and do not come with an own list of impact criteria as might have been expected.

Besides criteria-specific aspects, the context of an impact accelerator also seems to play a role. Thus, impact accelerators struggle to find a sufficient number of applicants to ensure a competitive selection process comparable to that of commercial accelerators. Furthermore, in contrast to commercial accelerators which usually take shares in their startups, the majority of impact accelerators do not participate in a startup’s development which might limit the incentive to effectively search for the next elite of impact startups. This again leads to the question of whether impact accelerators can be as successful in supporting startups as commercial accelerators as found by Regmi, Ahmed and Quinn [1].

By showing the distinctiveness of impact accelerators we add to the recent but growing stream of acceleration literature [2,7–10] and its emerging impact accelerator stream [4,6]. Our research creates knowledge about the criteria which are considered to be important when selecting startups into impact accelerators. From this, we can derive practical implications for both impact accelerator managers as well as startups aiming at being admitted to an acceleration program. The impact accelerator managers can use this study to benchmark, critically question and potentially readjust their selection criteria to reach an optimal outcome of their selection process. Startup candidates can learn from this study on which business aspects they should put emphasis on when applying to an impact accelerator.
6.2. Limitations and Future Research

The multi-case-study method is well justified for this research’s questions. However, generalizations are limited as the research’s goal is to investigate the nine impact accelerators’ cases rather than finding general results. Having this in mind, the reliability is highly dependent on the unique case studies and the time when it was conducted due to a changing market.

The only commercial accelerator source for implicit criteria was the research by Yin and Luo [2] conducted on one commercial accelerator case. More implicit data from commercial accelerators would be required for a more adequate comparison with the impact accelerators’ interview data. The comparison of commercial accelerators and impact accelerators could be studied further, on a quantitative basis which would help to overcome the limitations of both Yin and Luo’s [2] on commercial accelerators and our research on impact accelerators.

This study is limited to the investigation of the selection process into acceleration programs, but it neglects the potential relationship between being admitted to an impact accelerator and future startup success. Overall, there has been little research into the effects of impact accelerators on startup success. The following important questions therefore remain open for future research: Do impact accelerators increase startup survival, accelerate their growth and increase their impact as found for commercial accelerators?

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### Appendix A

**Interview Partner’s Name and Company:**

**Date:**

**Legend:**
- [ ] Closed Answers (Yes, No, I don’t know (!))
- [ ] Open Answers

| General Questions | Time Start: | Time End: |
|-------------------|-------------|-----------|
| Q01 Are you a decision maker in the startup selection process of your accelerator? | Yes | No |
| Q02 What makes your accelerator impact driven? | Yes | No |
| Q03 Is there a sector specific startup focus of your accelerator (e.g., social, technological, environmental)? | Yes | No |
| Q04 How is your accelerator financed? | Yes | No |
| Q05 What are your most important stakeholders? | Yes | No |
| Q06 How do you select the startups? | Yes | No |
| Q07 Do you have specific selection criteria? | Yes | No |
| Q08 Do you have specific selection criteria regarding your impact? | Yes | No |
| Q09 Do you get enough applications for the impact driven selection of startups? | Yes | No |

Are the following 30 criteria critical in your selection process? Are there modifications regarding your impact topic?

| Categories | Nr | Criteria | Detailed Questions | Critical Criteria? | Impact Modifications? |
|------------|----|----------|--------------------|-------------------|-----------------------|
| Market Attractiveness | Q10 | Demand Validation | Is there voice-of-customer type evidence or demand validation? | Yes | No |
| | Q11 | Customers Affordability | Is there evidence that customers can afford buying the product? | Yes | No |
| | Q12 | Market Demographics | Is there market size and demographic analysis? | Yes | No |
| | Q13 | Benefit Understanding | Is there evidence that customers understand the product’s benefits? | Yes | No |
| | Q14 | Subjective Constraint | Is there subjective barrier that constrains the customer? | Yes | No |
| Product Feasibility | Q15 | Concept Maturity | Is there evidence that the concept can be realized to a product? | Yes | No |
| | Q16 | Sales & Distribution | Is there evidence of existing sales and distribution channels? | Yes | No |
| | Q17 | Product Maturity | Is there evidence of the functional feasibility of the product? | Yes | No |
| | Q18 | Manufacturing | Is there evidence of manufacturability with efficiency and low cost? | Yes | No |
| | Q19 | Clarified Tradeoffs | Is there clarification of trade-offs in performance, cost, etc.? | Yes | No |
| Product Advantage | Q20 | Competition Validation | Is there validation of product competitiveness in the market? | Yes | No |
| | Q21 | Value Proposition | Is there evidence of tangible or intangible benefits for customers? | Yes | No |
| | Q22 | Sustainable Advantage | Is there evidence of advantages not easily available to the competitors? | Yes | No |
| | Q23 | Prior Strategy | Is there a patent strategy for existing/circuit patent? | Yes | No |
| | Q24 | Patent Protection | Is there capability to maintain and protect patents? | Yes | No |
| | Q25 | Competitor Response | Is there evaluation of potential competitor responses? | Yes | No |
| | Q26 | Competition Strategy | Is there strategy prepared for competition? | Yes | No |
| | Q27 | Marketing Effort | Is there evidence of marketing efforts to enhance customer perception? | Yes | No |
| Team Competence | Q28 | Team Size | Is there adequate manpower in the startup? | Yes | No |
| | Q29 | Marketing/Sales Expertise | Is there marketing/sales experience in the startup team? | Yes | No |
| | Q30 | Technology Expertise | Is there product development skill set in the startup team? | Yes | No |
| | Q31 | Management Expertise | Is there management experience in the startup team? | Yes | No |
| | Q32 | Financial Expertise | Is there financial skill set in the startup team? | Yes | No |
| | Q33 | Prior Startup Expertise | Is there prior entrepreneurship expertise in the startup team? | Yes | No |
| | Q34 | Feedback Mechanism | Is there team mechanism to listen and respond to customers? | Yes | No |
| Expected Return | Q35 | Profitability | Is there evidence of adequate profitability? | Yes | No |
| | Q36 | Risk Assessment | Is there evidence of risk assessment? | Yes | No |
| | Q37 | Risk Mitigation | Is there evidence of risk mitigation measures? | Yes | No |
| Growth Potential | Q38 | Growth Strategy | Is there evidence of strategies and potential for future growth? | Yes | No |
| | Q39 | Capital Availability | Is there evidence of adequate capital for growth? | Yes | No |

Q40 Are there any other critical criteria you would like to consider in future’s selection process?  
Q41 Are those impact driven?

Thank you for your support!

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