Article

Entrepreneurship Education as a Strategy to Build Regional Sustainability

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Abstract: Entrepreneurship education (EE) is a means to create economic activity and is of importance in the development of rural regions. Entrepreneurship education is generally conducted by three different methods: (1) teaching students about entrepreneurial themes, (2) developing the capabilities of becoming a successful entrepreneur for enterprise and (3) developing capabilities through enterprise by which persons learn through experience and discovery. Our research question is; How does education through entrepreneurship fit as a way to meet the needs of start-ups in a rural context? We follow an entrepreneurial case programme in our study by conducting observations of and interviews with 26 persons involved in the programme. Our findings are that participants consider the programme as an important contribution to the local/regional entrepreneurial ecosystem. However, it is also described as a short-lived ecosystem, from which the participants mostly benefit while on the programme and to a lesser degree afterwards. Sustainability plays a part in attracting participants but to a lesser degree forms the educational content and evaluation parameters. Our study contributes to the discussion of how education through entrepreneurship is organised as an accelerator programme to help start-ups in a rural context.

Keywords: entrepreneurial education; education through entrepreneurship; accelerator; case study; brain drain; regional development

1. Introduction

Entrepreneurship is a central part of the development of rural regions where the need to create new opportunities is of importance [1]. The knowledge of the impact of local (or regional) entrepreneurship education programmes is in high demand, but the conceptualisation of how this knowledge should come about is unclear. Should we adopt the assessment strategies from educational and pedagogical theory and practice, where alignment between goals, content, outcomes and learning taxonomies, where choice between behaviourist or constructivist approaches to learning is key [2,3]? Another perspective is to adopt a holistic understanding of impact, where entrepreneurship ecosystems are thought of as complex systems of interaction between different local/regional stakeholders over longer periods [4,5]. Both are relevant contributions in our view. With the increasing acknowledgement of the importance of entrepreneurship and entrepreneurial behaviour for national and regional economy, industries and individual organisations [5], it is hardly unexpected that we also see ‘an increasing tendency for government policy to promote entrepreneurship for its apparent economics and benefit’ [6] (p. 546). In this picture, entrepreneurship education (EE) is a means to create economic activity. We do not set out to settle a dispute about assessment, but we do hope our contribution provides insight into specific approaches to entrepreneurship education and their impact, or lack thereof, in the rural setting.

Entrepreneurship education is generally conducted by three different methods [6–13]. For some, the objective is to teach students about entrepreneurial themes as an economic or
societal concept or phenomenon. For others, it is about developing, in their students, the capabilities of becoming a successful entrepreneur; this is for enterprise. For a third group, where our interest lies, the line between learning and doing is fuzzy; this is education through enterprise, where ideas from action-based pedagogy (for action-based pedagogy, see [14]) is applied. Although the academic community has accepted these modes of EE, there is a demand for more empirical studies into their particularities, and the through mode especially needs more consideration [7–10,13]. On this basis, we conducted an in-depth case study to get insight into how an entrepreneurial programme contributes to build resilience in a rural context. Additionally, our contribution aims to shed light on the aforementioned intersection between a specific approach to entrepreneurial education and the ecosystems in which it resides [4].

Educating people to become entrepreneurs is a difficult task. Part of this difficulty has to do with the disputed and unclear definition of entrepreneurship as an economic concept. Our view of entrepreneurship is ‘a social process involving the efforts of individuals in enterprise activity’ [6] (p. 546). This highlights aspects which we consider important. It is a social process involving loosely connected individuals and is not necessarily done in an organised manner or within an institution. This as well highlights that the social system is an important part of the context for the individuals engaging in entrepreneurship [15]. It also underlines that it is individuals doing enterprising activity, understood as a willingness to do something new, despite the risk. This is different from the theoretic concept of business activity, which is understood as the familiar concepts of maintaining, growing, improving or scaling already established economic activity [6]. This indicates entrepreneurship as something outside established business theory and market forces, building on the Schumpeterian concept of entrepreneurship through disruption and creative destruction [6,16]. Awareness of this difference is important when outlining the purpose of an entrepreneurship education programme [6]. Another difficulty is that we still know rather little about the causal link between entrepreneurship education and entrepreneurial outcome measures [17].

Whether entrepreneurship is viewed as inside (endogenous) or outside (exogenous) market forces in an established economy is crucial to what you would consider relevant content, process and method when building a learning programme which targets entrepreneurship education. If you consider entrepreneurship and its purpose as something endogenous to existing market forces (e.g., improving or scaling market performance, production, competition, sales, etc.), then you might be inclined to seek inspiration in established knowledge and more mainstream managerial courses. If you consider it exogenous to existing business and market forces (e.g., innovation or creative, disruptive or explorative topics), then you might consider otherwise [6,11,18].

Different lines of thought have emerged over time. Researchers advocate a practice-based learning strategy when the latter (exogenous) view of entrepreneurship is adopted [11]. When reality does not supply good cases or conditions for learning by doing, the trainer needs to simulate reality as much as possible; ‘... there is agreement, at least in theory but not in practice, that entrepreneurship courses should be taught differently from the traditional management courses’ and that ‘entrepreneurship education must be entrepreneurial ... ’ [19] (p. 66).

Instead of basing a programme on teaching students about past experience and successes in entrepreneurship or developing specific creative or cognitive skills in students so that they will be ready for entrepreneurship, several studies indicate that a through approach is recommendable. This means that educators, to the widest extent possible, conduct entrepreneurial education by supporting, coaching and facilitating a social process around individuals with already existing or dormant ideas and their enterprising activity [6,11,19]. This argument at least applies when the purpose of the entrepreneurship education is economic development (exogenous), or what we could call radical innovation. When the purpose is economic productivity (endogenous) or an incremental approach to innovation, classic teaching and learning approaches with traditional business and man-
agement content would be applicable. A third consideration regarding entrepreneurship is directed towards the social sector, utility or social entrepreneurship. This could also be considered exogenous to the established market context since, for example, concepts of measurable profit and growth are not necessarily prioritised over less tangible concepts of public or social utility [6,20]. In our view, this is also a relevant conceptualisation of the self-described purpose of some of our informant companies in the case programme; it is also part of the programme’s more general objectives of contributing to a more sustainable Arctic, without further definition of this term.

Whether the purpose is considered exogenous/endogenous, radical/incremental or economic development/business productivity/social entrepreneurship, it should be a central consideration when preparing and planning for entrepreneurship education or a policy aimed at regional development. Securing alignment between the intended outcomes, the choice of teaching method and the assessment criteria is important [21]. Researchers have argued for a balanced approach, concerning the programme objective, purpose and learning methods (about, for and through) [6]. Others adopt the Shumpetarian [16], exogenous, understanding of entrepreneurship and clearly advocate a through approach to entrepreneurial education [6,11,19]. In our study, we examine the through approach by asking: how does education through entrepreneurship fit as a way to meet the needs of start-ups in a rural context? Inspired by the Organisation for Economic Co-operation and Development’s (OECD) evaluation criteria [22] we operationalise the needs in a rural context into four categories: impact, relevance, effectiveness and sustainability. These criteria are based on a widely accepted general approach to evaluating interventions in different contexts [23]. Our aim is similar to this. We want to explore a specific version of an entrepreneurship education programme in a specific context. The specific entrepreneurial education programme we use as a case is organised as an accelerator programme based in northern Norway [24]. We conducted observations of and interviews with 26 persons involved in the programme. This longitudinal study is unique since it gives in-depth insight into how an entrepreneurship programme is carried out over time on a micro-level. The objective of the programme was to boost and intensify the innovation process of promising start-ups in Arctic Norway; the programme’s vision was an innovative and sustainable Arctic Norway.

Education through entrepreneurship helps persons to acquire a range of transferable skills and competencies in business understanding [25]. This way of learning is close to learning by doing, in which persons learn through experience and discovery [26,27]. Education through entrepreneurship means to learn in relationship with stakeholders from the business and not only in an instructional formal learning context [28]. Researchers highlight that education through entrepreneurship is a process where students work with their own entrepreneurial learning process [23]. This means that the through mode of entrepreneurial education is a domain with contextual focus [28].

Entrepreneurship education through practice-based programmes like pre-incubators, incubators, accelerators and business parks is a way of building and strengthening an entrepreneurial ecosystem [4,5]. These types of practice-based programmes are often a collaboration between wide ranges of different stakeholders, from an international industry level to a local government level. An accelerator is a version of practice-based entrepreneurship education in which start-up companies of a certain maturity are targeted; ‘accelerators are organisations that aim to accelerate early venture gestation by providing cohorts with formal education and mentorship connections during intensive, temporally compressed programmes that usually last three months’ [24] (p. 1). Ideally, these are start-up companies with a well-developed business idea which are almost ready for market but need finance to realise the potential. The accelerator bridges the gap between stand-alone start-up companies and relevant business investor networks through a short and intensive row of educational seminars, mentorships and pitch sessions. Furthermore, recent research and practitioner experience indicate that if the accelerator (or other versions of incubators) is to contribute to a long-lasting ecosystem of entrepreneurship, it needs to be grounded.
and anchored in specific local interests and by local enthusiastic stakeholders in what we could call a bottom-up approach [5,29].

Our findings are that the programme is considered by participants to be an important contribution to the local/regional entrepreneurial ecosystem. However, it is also described as a short-lived ecosystem from which they mostly benefit while on the programme and to a lesser degree afterwards. Sustainability plays a part in attracting participants but to a lesser degree forms the educational content and evaluation parameters. The study contributes to the research arena in three ways. First, our study contributes to the education-through-enterprise research by answering the call for more empirical studies within this type of entrepreneurship education [3–6,9]. Second, our study contributes to knowledge about how an accelerator programme, initiated and financed by the industry and not by any research or learning institution, helps start-ups in a rural context. Third, the study contributes to practical insight into how education through entrepreneurship is carried out.

The paper is structured as follows. First, the research setting and the research methods are described. The main empirical findings are then presented, analysed and discussed. Finally, the conclusions, the contribution of the study and suggestions for further research are presented.

2. Entrepreneurship in the Rural Context

There has been a growth in research about rural entrepreneurship [30], especially in Europe, in the last decades [31]. The concept of rural entrepreneurship can be understood as ‘all forms of entrepreneurship that take place in areas characterised by large open spaces and small population settlements relative to the national context’ [32] (p. 6). This shows that context is of importance for understanding entrepreneurship [31]. A rural context can be described by three components: geographical, social and economics [31,33].

It is difficult to succeed as an entrepreneur in rural areas. Rural areas have typically limited entrepreneurial activities compared to urban areas [32]. The limitation arise from well-known regional challenges like a declining population, difficult logistics conditions, challenging and changing climate patterns, sparsely populated competence and resource networks and a limited range of business fields. In the literature, there are differences between rural entrepreneurship and entrepreneurship in the rural setting. The first referred to entrepreneurial activities which leveraged local resources to reconnect place to space and therefore more unlikely to relocate, while the latter referred to profit-oriented and mobile logic to space [32]. We consider our case programme as contributing to entrepreneurship in the rural definition, because no parameter of local/rural anchoring is part of the measurable success criteria, which primarily focus on scalability or growth regardless of place. Migration of people and ideas is a well-known challenge in rural areas. In academia, this also is a well-established regional dynamic [34], sometimes referred to as a brain-drain mechanism. This is the case when the rate of young people seeking opportunity and education in core areas is greater than the rate of educated young professionals returning to their ancestral periphery origin [11]. It is not evident how this affects the specific migration of young people with entrepreneurial ambitions [12,13]. It is, however, fairly common to assume that brain drain plays a part here as well. Several stakeholders in our case refer to a pattern of young entrepreneurs drifting south towards urbanised areas with stronger competence and (capital) networks as a vital part of the legitimising argument for an intervention. Researchers support this argument specifically by considering the gap between centre and periphery on several relevant parameters, for example, the wage gap, the gap in economic activity and the gap in entrepreneurship [12–15]. They find that ‘when we allow moving between regions, the most talented entrepreneurs from the periphery might migrate to the core region. Such movements will leave only those with limited entrepreneurial abilities in the periphery, increasing the gap in profits between the regions and leading to a brain drain of talented entrepreneurs from the periphery’ [12] (p. 1354). This happens when the transaction costs (also including social costs) of migration from the periphery to the centre are low.
To prevent this, regional efforts seek to develop resilience [16–18] by engaging in a variety of activities aimed at building long-term sustainability of the region. We understand resilience as ‘an umbrella term that expresses the conceptual underpinnings that permit survival of a certain system under adverse conditions’ [19] (p. 877). Resilience plays a key role in the sustainable development in a region in the long run [1,35]. Our case is located in a rural region, as described. Building resilience is of high importance in this region, where the cost and risk of doing business is high, and the programme has been one of the initiatives to build resilience.

3. Materials and Methods

3.1. Research Setting

Given the research question, we found the suitable research design to be an exploratory single case study [33]. A case study is a research strategy characterised by an in-depth focus on one unit, or a relatively small number of units, in its naturally occurring setting [36]. In this case, the naturally occurring setting is important because the Norwegian Arctic region has a unique combination of characteristics, such as a declining population, difficult logistics conditions, challenging and changing climate patterns, sparsely populated competence and resource networks and a limited range of business fields. Our case is a specific accelerator programme in the Arctic, which started in 2016. The programme is financed by the industry and public funds for regional innovation. Apart from basing the learning content on theories of economic productivity and other topics, it is not connected to the knowledge-producing sector. The overall objective of the programme is to have an impact on sustainable growth in the Arctic region. The target groups are comprised of start-ups already included in a parallel programme run by the facilitators simultaneously (an incubator programme [24]), and completely new start-ups. The ambition of the programme is to strengthen the evaluation and early stages in the incubation process, leading to a more mature and complete business idea and business model. The main goal of the programme is to close the gap between entrepreneurs and potential investors.

The case relies to a high degree on mentorship relevance and peer-to-peer sparring as pedagogical mechanisms, both of which are contested under certain regional conditions. With limitations in the recruitment basis, the access selection parameters, which reflect a certain maturity, might be weakened by the quantitative need to fill all spots, thus weakening the effect of peer-to-peer sparring. Likewise, the need for relevant accessible mentorship capabilities within all possible fields is most likely exceeded by the actual possibilities in certain regional situations, thus weakening the relevance, at least for some participants, of mentorship support. The case also aspires to attract participants with a focus on sustainable, rural development, which is also contested by the content and evaluation parameters and the established investor network.

The programme is designed as follows: A scouting recruitment process takes place every year from 1 September to 1 November, and 30–40 of the applicants are selected for a workshop which takes place in mid-November. This workshop offers seminars about business creation and pitching business ideas. Each business case is offered support from mentors to clarify and define the business idea. At the end of the workshop, each of the business ideas will be pitched to an expert panel with experienced business developers. From 10 to 20 of the applicants are selected to join the programme. The programme spans six-months, including a start-up boot camp in December, focusing on team presentations, idea exploration, feedback from investors and the development of a business canvas model for each of the start-ups. A mid-way boot camp in March focusing on how to play as a team, how to attract the right interest partners and how to pitch in front of the other participants and mentors. The last part of the programme is the Demo Day in June, where all teams meet up for a full day of preparation, followed by a second day of business presentation (pitching) in front of a panel of real investors. In this six-month period, mentors closely follow the start-up teams. They are given individual guidance and have access to a versatile group of expert advisors who can help them develop their businesses.
3.2. Research Methods

We collected qualitative data based on the first three years of an entrepreneurial case programme which started in 2016, and the study can be defined as an extended case which follows a sequent of events over an extended period [36,37]. The research group was given extensive access to the case, which made data triangulation possible [38]. The main data sources were archival records, observations and interviews. Archival records gave us insight into applications, workshop programmes and various evaluation reports connected to the programme. Written evaluations from participants were useful as background materials because the owners have been continuously monitoring the satisfaction of participants, and a number of criteria to assess the participants’ interim progress were presented in several status reports. Observations were made by attending recruitment of companies, workshops and Demo Days. These observations provided insight into and knowledge of the organisation of the programme, as well as a good understanding of the activities of different assemblies. This enabled us to become more familiar with the context, which is of importance in an exploratory single case study. In addition, interviews provided an in-depth understanding on how the relevant actors made sense of their experiences concerning the entrepreneurial case programme.

We conducted semi-structured interviews [39] in February 2020 with project managers, the steering group, a representative of the owners and many of the teams of companies which started in each of the three years. Interviews were chosen to gain deeper insight into how participants and leaders experienced the programme. We invited 38 people from the 25 start-up companies and 11 people from the steering group, owners and project management category, but some did not reply or attend the arranged interview. We also sent out reminders. Twenty-six semi-structured interviews were conducted with key informants. Each interview lasted from 30 to 60 min. Some interviews were conducted face-to-face, while others were conducted on Skype for Business.

Prior to the interviews, one interview guide was written for the company participants (teams) and another for the steering group (including owners)/project management. The interview guide was also discussed and adjusted after consultation with the project managers and before data collection began. The interviews revealed information and views which were of great benefit to the analysis. The interviews were audio-recorded and transcribed verbatim. The informants were anonymised. In the presentation of the findings, we referred to them as either a steering group/project management category or as company informants. The quotes were translated from Norwegian to English. In addition to the interviews, we had useful dialogues with project managers in face-to-face meetings and in e-mail communications. The intention was to check the trustworthiness of our interpretations and conclusions.

3.3. Data Analysis

We designed our guide for the semi-structured interviews according to our research question. We had a thorough and calibrating discussion about what we considered relevant substance for each of the criteria to make sure our questions and topics reflected the criteria. This process of operationalising the criteria to our specific context was not only key to conducting the interviews in an aligned manner but also an important preparation for the coding and analytical process which followed.

Initially, we operationalised our data into six categories: (a) relevance, (b) effectiveness, (c) impact, (d) sustainability, (e) coherence and (f) efficiency; see Table 1. This operationalisation is inspired by the OECD’s evaluation criteria [22]. These criteria enable the determination of the merit, worth or significance of an intervention as a general method across different types of interventions [22]. Through the analysis, we discarded two of these categories, coherence and efficiency, because we consider them outside the domain of our research question. Coherence (with supplementary interventions by other regional actors) would require a wider dataset contemplating additional actors in the region. Efficiency addresses a detailed view into the economic performance of an intervention. Our interest is
focused more on the educational and regional impact of a certain method and intervention and to a lesser degree on the initiators’ economic solidity.

Table 1. Categories.

| Category      | Description                                                                 |
|---------------|-----------------------------------------------------------------------------|
| A. Relevance  | The extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor. Is the intervention doing the right things [22]? For example, the organisation of the programme and the content, such as lectures, pitch training, coaching, mentoring and real-time business development. |
| B. Effectiveness | The extent to which the intervention achieved or is expected to achieve its objectives, as well as the results of the intervention, including any differential results across groups. Is the intervention achieving its objectives [22]?
|               | We considered effectiveness as part of a short-term output estimation. Quite a lot of objectives were expressed in the material and at the stakeholder’s initial stage. Some were easily measurable, while others were less so. For the less measurable objectives, like establishing selection criteria for programme admission which would counteract the brain-drain effect, we wanted the respondent’s description, and subjective evaluation, of them. |
| C. Impact     | The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects; the transformative effects of the intervention. What difference does the intervention make [22]?
|               | We considered the respondents’ own descriptions of the effect on their businesses important and relevant. We wanted to know which skills and competences they acquired, in their own minds, through participation, along with networking and the extent to which the participants described the usability, relevance and sturdiness of the relations they built during and after the programme. |
| D. Sustainability | The extent to which the net benefits of the intervention continue or are likely to continue. Will the benefits last [22]?
|               | We considered the role of sustainability as a concept with many different definitions. In particular, we focused on two different approaches to sustainability which we registered early in the process: sustainability (1) understood as economic sustainability and (2) environmental sustainability. |

4. Results

This section is organised according to the four categories: relevance, effectiveness, impact and sustainability. In presenting the empirical findings, we first clarify that there are two different groups represented in the material, senders and receivers. The senders are the organisers, owners, the steering group, coaches, teachers, and the stakeholders from external private and public organisations. The receivers are the participants, the entrepreneurs, whom we call company informants.

4.1. Relevance

Relevance (and the right things to do) relates to the content and organisation of the programme. We considered relevance for receivers as reflecting more individual, social or business-related needs. How well did the planning, content and pedagogical framework of the programme align with the needs of the different respondents at the time of participation?

The senders all had a positive view of the organisation of the programme with its three-phase division (recruitment, screening and implementation). A representative of the
senders felt that the form of the programme was successful: 'With these three phases, with a screening phase at the beginning and when they are in the final six-month phase, my impression is that they get very good follow-up during that phase, and I was personally at several of the meetings and seminars during the programme, and things worked very well' (sender).

The senders and the company informants also stressed the value of meeting face-to-face, despite vast distances in the north, which can be illustrated with the following quote: 'Obviously, here in northern Norway, the distances we have are very challenging. We surmise that having three to four seminars over a nine-month period is what works best. And it is a big advantage to meet face-to-face and not to have them via Skype' (sender).

The content of the programme was limited to how the company informants experienced the programme at the seminars, where there was a focus on whole-group presentations, pitch training, working with a business model (Business Model Canvas) and meetings with mentors and investors. Several of them found that they learnt less from the joint activities than from personal follow-up and more network-related activities: 'Some of the seminars were disorganised, and some were good. I think one of the things which was helpful to us was the times we could sit down with an advisor and discuss a bit. And perhaps the slightly more personal follow-up . . . ' (company informant).

An important activity during the seminars was to practise selling one’s business idea by pitching. The company informants had different views about the scope and relevance of the pitching:

‘To be honest, it was not that relevant to us during the seminar, because there was a lot of work involving pitching and how to present and do a good PowerPoint, which we have worked on a lot in connection with various applications and investment rounds, so we already had experience of it.’ (Company informant)

On the other hand, several of the company informants were interested in pitching as an important skill in many contexts:

‘Yes, we learnt a lot about pitching, and it was very useful. Standing up and presenting your own idea, first to the others in the group and then in an exam on Demo Day, that was scary. I felt it was a very important threshold to cross. We really developed throughout the programme by having to present things all the time.’ (Company informant)

Business Model Canvas was used to create a visual business plan from scratch. During the seminars, the company informants were given an introduction to the model and an opportunity to develop it in collaboration with a mentor. Several company informants found this work relevant, as illustrated by this quote: ‘I think Business Model Canvas is absolutely brilliant; I loved it. And I think it is much easier to work with when you are a small start-up company’ (company informant).

Other company informants emphasised that there were large differences in maturity between the companies and that they felt they did not benefit much from Business Model Canvas:

‘Well yes, of course, some of it is good for those who are new to this and do not know how to do anything. […] A lot of people know those things, so you have to account for the fact that there are both kinds. Some people do know these things, and not all the participants are completely inexperienced and have no idea at all.’ (Company informant)

The mentoring scheme was another key aspect of the content of the programme. Each company had 40–50 h available for mentoring during or between the seminars. Company informants felt it was a valuable part of the programme. For example, a company informant stated, ‘I think they did a good job. Lots of energy, very committed and a lot of experience’ (company informant). However, views across all informants differed on how well the mentoring scheme had worked. Some company informants pointed out that it would have been of great benefit to have had even closer contact with the mentors during the seminars.
The data showed that both organisation and content were perceived as relevant. However, the major challenge was to provide suitable content in the seminars to enable all companies to gain maximum benefit regardless of the type of business and level of maturity. This is a consequence of operating an accelerator in a sparsely populated area, where participant knowledge and the maturity of the idea can vary greatly. It would appear that the companies which were most mature and those with immature ideas had challenges with the joint activities but for different reasons. In view of this, it is understandable that the company informants generally agreed that individual follow-up was most useful in the seminars, and they would have liked more time for this.

4.2. Effectiveness

Several senders were concerned with the overall objectives and reasons for the programme. All demonstrated a high level of ambition. Nevertheless, very few specific short-term goals were specified. On a general level, they wanted to contribute to economic growth, networking, sustainable development, a reduction in demographic challenges and the consolidation of a founder ecosystem. One sender addressed the broad objectives like this:

‘The purpose of the programme is to help to create growth and positive development in northern Norway; we have defined two main problems which are very much about young talent moving away and not coming back ... and the fact that it is difficult to start companies here in terms of venture capital. Less of the capital in northern Norway goes into start-up companies.’ (Sender)

Another sender underlined the challenges regarding a lack of educated and enterprising young people. They were also aware of the legitimising function of sustainability: ‘To focus on young entrepreneurs and sustainability, and secondly to use the accelerator programme to create a well-functioning network of innovative companies in the north and thirdly to find a role for the accelerator programme in relation to the ordinary incubator part’ (sender).

They wanted to fit the specific programme into the food chain of the regional, founder ecosystem. This means that they did not see the accelerator as a stand-alone effort but as part of a bigger intervention where both the incubator and a subsequent nurturing of a network/alumni effort would together strengthen the possibility of reaching the objectives. At the same time, this group of informants was keen to simplify the objective by pointing out that it was primarily about helping entrepreneurs in northern Norway to get their businesses off the ground. For example, senders stated that ‘the purpose is to get more start-up companies going in northern Norway. And as an accelerator, you should help a company progress faster and become stable; that is why it is called accelerator’ (sender).

These quotes illustrate that the senders emphasised the unique aspects of the programme compared to the more established incubator services. The main emphasis was on the fact that these start-up companies would get a quick clarification of their future prospects in the course of six months. To some of the stakeholders, the objective was not considered a coherent strategy but more similar to a patchwork of fragmented ideals. As one stated:

‘Yes, when I joined the programme last year, I found that the last part of the objectives of the programme was a bit unclear, because on the one hand, the programme was called Arctic Accelerator, and it would then be based on the Arctic industry and Arctic resources. However, at the same time, there were very clear criteria for inclusion in the programme, which did not quite fit in with the idea of basing it on the Arctic industry and Arctic resources.’ (Sender)

Company informants were less sure about the formal objectives of the programme, beyond the notion that an accelerator is supposed to kick-start a business. However, they demonstrated clear ambitions about their own possible gains from participation. Most of them expressed the immediate need for economic performance:
... it was mainly a matter of survival. I reckon that is what it is all about when you are an entrepreneur: you start off by wanting to survive in the critical phase, where you know that lots of people fall on their face and close down. So that was my only goal in the beginning: to be able to make a living from running my own company.’ (Company informant)

The data showed that both groups of informants were realistic in their expectations of what the programme could achieve in the short term. They discussed the challenges of getting a large number of companies viable and ready for investment after six months and were aware of supplemental success criteria playing a part; for example, learning, networks and early clarification are important factors which need to be highlighted in an evaluation of goal achievement. Both informant groups felt that such factors were important results of the programme.

4.3. Impact

As stated, both senders and company informants saw the long-term impact of the programme as a topic of great interest. We consider entrepreneurial education, similar to social programmes, as interventions into complex and chaotic systems of multi-layered interactions. Estimating the outcome or long-term effects is tricky. Several senders were concerned about the importance of the programme for the development of northern Norway; several others were convinced it counteracted the demographic challenge of brain drain: ‘... So it is helping to solve those problems by creating attractive jobs, which can get those who leave to study to look for jobs in the north, and so that the people who start up can actually succeed because they get competency capital’ (sender).

Another sender emphasised this view but also pointed out that the programme may not have been so important for business development in the north in general: ‘... So for the specific teams which have been involved, I’m quite sure they have benefitted hugely. However, the question is whether it will have an impact on business development and the region’ (sender).

One very central point was brought up by both target groups regarding what they experienced as a lack of risk-willing capital in the investor phase of the accelerator. One sender expressed, ‘I tried to find out a bit before I talked to you about how many of the teams have got investors, but I could not find anything on it ... ’ (sender). Essentially, most company informants found it difficult to find investors who could help entrepreneurs to develop their businesses; ‘... we have not seen any sign of any investors (company informant). Investor networks are not an easy concept to compare across different contexts or regional boundaries, but it seems overwhelming in our data that the investor network established after three years and classes was not living up to anyone’s expectations. It was also pointed out that the foundation for a good investor network had been built but was not yet in effect. One sender explained, ‘... And I think the most important thing is that the programme has formed the basis for a good investor network’ (sender).

Networking in general has been of great importance to the participants in the programme, as shown by the following quotes from the senders: ‘Firstly, you get one network which is between the companies involved, and that is often companies in different industries, who might not have met in the natural course of events’ (sender). It was considered important, but also a challenge, given the limited business diversity in peripheral regions and the steering groups own capacity:

'I think it is a challenge if [the organisation which hosted the programme] suddenly needs to develop an advanced network within the sea urchin business. That is a very special industry, and the entrepreneurs would need a network within very different lines of work, like restaurants and food production. And it might not be everything we have access to ... I think that instead of [the organisation which hosted the programme] offering a network, it is better to help them in how to build a network.’ (Sender)
The company informants agreed that establishing good networks was one of the important effects of participation in the programme. One company informant pointed out that if the persons leading the programme did not have the necessary expertise, they would still make an effort through their network to get in touch with key contacts and forward them to the entrepreneurs: ‘As for the expertise which KUPA did not necessarily have themselves, they had such a good network to draw on that if they did not know it, they could just as easily put us in touch with someone who did’ (company informant).

The senders wished to emphasise the mentoring scheme as important in the long term, including for companies which were unsuccessful the first time round: ‘... but the people who took part have now got knowledge which will enable them to start up later. So it is like the knowledge you learn that has the greatest value. You will be very lucky if you make a success of it the first time’ (sender).

The senders were also quite convinced that the programme had enhanced the knowledge and skills of participants: ‘So I definitely think it is useful; we also see that the participants learn a lot about how to start a business ...’ (sender). The company informants provided us with considerable feedback that participation in the programme had an impact on competence development, both during the programme and in developing the company after the programme: ‘It has really meant a lot; it got us going like a bullet ...’ (company informant). This quote shows that the participants continued to use the tools after the programme ended. They did not, however, experience a focused and dedicated follow-up from the organisers. These company informants saw this as an anti-climax which left them to themselves: ‘Well, it was kind of thanks and goodbye after the last seminar ...’ (company informant).

At the same time, it was expressed by the company informants that even though the follow-up was not carried out to complete satisfaction, several still experienced a positive boost to their network as an important result: ‘... So yes, I still have contact with several of them. The thing is, there are so few entrepreneurs in northern Norway, when you find like-minded people you have to hold on to them. In fact, I have contact with a surprising number’ (company informant). This shows that whether a participant wants to maintain the network established in the programme is also a matter of personal ambition and action. Once the programme is completed, it is primarily up to the companies to maintain the network and develop it further.

The findings show that most of the informants in both groups felt that the programme had an impact on the development of entrepreneurs in northern Norway but that it was difficult to find investors. The informants emphasised that networking was of great importance, although not all companies managed to maintain the network after the programme ended. The informants also stated that the programme demonstrated that it has developed on the basis of experience and lessons learnt from running it. This shows that the programme is capable of adaptation. The findings also show that the programme has provided participants with new knowledge and personal development but that there is a need for better follow-up to enable it to help build more stable and long-term networks among entrepreneurs in northern Norway. Although the informants pointed out the importance of the programme, our findings show that time comes into play in relation to survival. After three years, only 17% of the companies are active from the first class. From the second class, 66% of the companies are still active, while from the third class, nearly 79% are still active. There seems to be a tendency for fewer companies to survive over time. There is still uncertainty associated with postulating a clear relationship between programme participation and these outcomes. Some of the companies were already in an operational phase when they were recruited into the programme, which will affect the causal relationship. Another factor is the extent to which companies have made key decisions after (and independently of) the programme. Their motivation and general situation may have changed for reasons which have nothing to do with the programme but which have a huge impact on their business.
4.4. Sustainability

We have considered the role of sustainability (albeit a term with a variety of definitions) in the programme and whether the programme makes a contribution to a general improvement of sustainability, for example, according to the United Nations Sustainable Development Goals. Referring to the focus on sustainability in the programme, a sender said:

‘My experience is definitely that it has worked well for the people who have participated, but perhaps it has not worked completely in relation to the goals of sustainable development, and the concept of sustainability was perhaps not so prominent. It seems they have included a very wide range of businesses and helped them, without any … and, well, there is actually nothing negative about that.’ (Sender)

Even though senders and company informants highlighted the importance of sustainability, several of the company informants felt that there was little focus on sustainability in the programme. This quote gives insight: ‘No, I do not feel there has been any particular focus on sustainability … They had a slide in the beginning about the goals and things like that. And then it was one of the points, but not like I remember it as a specific focus on sustainability’ (company informant).

In the work of attracting investors to the companies, one sender pointed out that contacting investors must be regarded as sustainability: ‘Getting hold of investors is also sustainability … it must sort of be the bottom line of everything you do, so there should have been more about it. So maybe, they did say a bit about it, but in my experience, there was not … like no critical questions were asked about it during the programme’ (sender). The importance of the sustainability perspective among investors was also emphasised by company informants. Both senders and company informants stated that sustainability was a key aspect of the recruitment of participants during the first years of the programme, but that this had changed: ‘So the original idea was to consider young people and create something sustainable in the region. However, that part has changed, and we have seen they had a lot of trouble finding lots of Greta Thunbergs around who are good entrepreneurs’ (sender).

The company informants emphasised that sustainability was important to them as future northern Norwegian businesses. However, they also questioned whether the idea of developing a business in a sustainable way was due to the accelerator or to general developments in society: ‘Things have developed in a sustainable way, but I do not know if we can say to what extent it was due to the accelerator or to others’ (company informant).

The findings show that sustainability is a diffuse concept upon which the programme did not focus to any great extent. The informants also stated that the focus on sustainability was greatest during the first years of the programme. In other words, the focus on sustainability changed during the period of the programme. The findings also show that few investors could be defined as sustainable. Both groups of informants agreed on the principle that sustainability is important for the development of entrepreneurs in northern Norway. However, this does not indicate that the programme has clearly established what can be considered sustainable development for companies in the Arctic. We saw several cases of companies with a narrow focus on environmental sustainability who found it counterproductive when financial sustainability was sometimes in the spotlight at various stages.

5. Discussion

Our case programme is a good example of a practice-based programme [11,14,19,24,28] in which entrepreneurship education and regional efforts to build resilience are combined. This happens by a wide range of activities, including real-time business development, mentoring, coaching, lectures and the establishment of a social arena enabling knowledge sharing and reflection [19,41,42]. This collaborative effort between regional and international actors as well as private and public actors builds and maintains an entrepreneurship
ecosystem which counteracts the brain-drain effect by leveraging transaction and social costs for enterprising people [6,41] as a supplement to university training, thereby strengthening rural resilience [6–10,13,43–47].

Even though most participating actors praised the effort, our findings on the programme’s long-term impact indicate that the capacity and size of this specific programme and its Arctic context is somewhat at a limit. Our literature review indicates a need to specify the purpose of the programme [6,11,19]. The programme displays a lack of clarity concerning whether enterprising activity is seen as endogenous or exogenous to existing market forces; whether to seek development or business productivity [6]; whether to build a programme targeting rural or urban contexts [46,48,49]; whether to specify short-term objectives and learning methods [11,26]; whether to seek social and philanthropic utility, innovative development or economic growth and productivity [6,20]; and, last but not least, whether to establish selection parameters which mirror the relevant target groups, their start-up maturity and their context [6,50,51].

Our point, however, is that (depending on scale) marginalised regions might be in situations in which a lack of abundant, enterprising young people and ideas force the senders to a pragmatic compromise, waiting for anyone remotely relevant, and thereby limiting the possibility of establishing a clear purpose and objectives [21].

The seminar structure of the programme also underlines the practice-based approach [11,14,19] to entrepreneurship education. Time spent doing day-to-day work in the start-up company was relatively high, since only four seminars lasting two days required the participants’ presence during the programme (from December to June). Between seminars, they kept contact with designated mentors. This means that they spent a large proportion of the time working with their own ideas. Seminars consisted in part of company–individual mentorship and guidance and in part of whole-group lectures and pitching sessions. Even though several informants indicated that they saw the individual mentorship sparring as the most important element, they all appreciated the social opportunity provided by participation. The common whole-group or plenum activities, like the pitch sessions or external lectures (what we consider endogenous to existing business knowledge), were not considered equally important or valuable by all company informants on all occasions. A pattern we observed was that company informants at an evolved and progressed stage or with high degrees of maturity were particularly interested in the sector-specific individual sparring and to some extent the social arena. Recently established start-ups of limited maturity seemed to gain a lot from all of the elements of the seminars, including the lectures, pitch sessions, the individual sparring and the social arena.

The social contribution was important to several of the company informants. They stated that the social dynamics of the seminars were a welcome change from their day-to-day social situations [15]. The takeaways needed when considering entrepreneurship education as exogenous to existing market forces are obviously difficult to pinpoint. However, it surely has to do with creating an arena for reflective practice [15,19,42] or, as it is recommended: ‘Reflective practice gives permission to our students to take time, think and absorb the learning of their practice-based curriculum. Together our portfolio of feeling, playing, observing, creating and thinking is the entrepreneurship method and a prescription for practice’ [19] (p. 68). The general impression we got from our informants was that a social arena was established and that they gained a lot from it (socially). This means that if they were considering moving from periphery to centre, the programme surely contributed to leveraging the transaction and social costs of participants [41].

We also consider that this effect has the potential to create long-term ripples transcending the single-year classes. If forcefully imposed and systematically maintained, this could potentially function as the foundation of the local/regional entrepreneurship environment. The social arena was primarily established and maintained on the initiative of individuals and company actors, without a stringent facilitation by the senders. We consider this a lack of needed alignment between an outspoken intended outcome of establishing a network
and contributing to a regional entrepreneurship environment, without attaching obvious assessment criteria [21].

It became apparent that the senders did stray from a stringent path [50] on several occasions. For example, they did not succeed in upholding a specific logic attached to the incubator/accelerator succession [24,50–52] Some of our informants were recruited from the incubator to participate in the accelerator. Others were offered an incubator position while on the accelerator programme. If the path from incubator to accelerator and investment should follow the logic of a nurturing, linear process in which ideas are brought forth and cultivated through real-time coaching, networking, trial and error to the point of either investment or shut down, then a movement up and down, back and forth, is surely distorting the clarity of the objectives.

Another example of a lack of stringency or a lack of alignment [21] is the initial selection parameters of targeting ideas and companies at a certain maturity level. Several informants argued that the heterogeneous character of the group of participating start-ups with reference to the initial development stage and sector relevance played a negative part in their experience of relevance. This might also indicate, as mentioned before, a lack of abundant entrepreneurs to populate a diversified progression system in which entrepreneurs at different stages in their development could meet relevant peers based on a shared business/sector or entrepreneurship stage. Even though the practice-based approach to entrepreneurship education favours diversity and its subsequent potential for inspiration, creative synergy and ideas transferred across contexts [11,12,19], our informants indicated that these effects only apply to a certain level. In other words, when education through entrepreneurship uses sparring and peer-to-peer interaction/mentoring as a supportive or facilitating learning strategy [9,11,19,25], then this requires balance between an outside view which presents new angles and an inside view with relevant knowledge and experience either about sector or about the entrepreneurship process. We consider part of the lack of apparent short-term objectives, and the patchwork of long-term ideals, as a consequence (or a by-product) of the rural context, as mentioned. If you specify objectives and idealistic ambitions to a high degree, you also limit the potential target group, something the senders have seemed unwilling to risk.

Sustainability is an area which is particularly poorly defined in our case programme, rather considering a general definition, objectives or an overall purpose of the programme. Poorly definitions of sustainability may lead to difficulties in adopting sustainability practice [20]. This has led to doubts about the real function or inclusion of sustainability as a dimension in the programme. It plays an important part in attracting participating companies in the initial stage, and it plays a part when negotiating and attracting potential investors. The decision to engage in sustainability may also be an investment decision [20]. The senders did not plan for a stringent and coherent sustainability focus either in the selection process or concerning a sector-specific target group (in the initial year classes at least). Later, a wide definition of a tech industry focus entered the selection parameters. This resulted in a situation in which ideas from different companies which adopted different views on sustainability (e.g., oil industry vs. idealistic non-government organisation) were in direct opposition with the products they were evolving. These situations would reduce the motivation of both parties.

As previously mentioned, the follow-up after completion of the programme was arbitrary. Some companies had acquired good networks amongst all actors, including the senders and investors, while other companies experienced little networking and little support after the programme ended. This again indicates that the long-term responsibility of maintaining an established network falls on the shoulders of the individuals. Only a few efforts were initiated and imposed by the senders. The available investor network seemed thinly populated. This was restated several times by different informants. This holds true for social entrepreneurship and utilitarian projects as well. If the purpose of the entrepreneurship education is regional development, or mitigating brain drain, then the quest for geographically anchored, domestic, risk-willing capital is even more important.
Several of the companies in our case programme found foreign or centre-based capital and moved themselves, counteracting some of the stated objectives/ideals of the programme. Our informants stated very clearly that finding relevant investors anchored in the north is particularly challenging.

6. Conclusions

Based on the empirical findings, it is important to emphasise that the overall impression of our informants is that the programme was relevant and effective. Our findings also indicate room for improvement concerning the general impact and sustainability of the programme.

Our study contributes to the education-through-enterprise research by answering the call for more empirical studies within this type of entrepreneurship education, and we add knowledge about how an accelerator programme financed by the industry and not connected by a university helps start-ups in a rural context. As a practical implication, we recommend that the idea of an alumni effort would increase the programme’s fitness to meet the needs of the informant companies. If the differences between the companies is too big, then the transformational potential is described as a one-way exchange. Another practical implication is a more stringent approach to sustainability. This would incorporate a definition into the sub-goals and the selection process (to mitigate situations like these) and thereby fit the needs of participating start-up companies in a better way. We also recommend a structured form of follow-up, or an equivalent alumni concept, after the end of the programme. It would leverage the transaction and social cost of companies which would consider moving south. We also indicate that the need to access to investors is key to both business- and development-oriented entrepreneurship, as building a stronger risk-willing capital network is of importance for start-ups. There are two main limitations of the study. The first limitation is that it is based on a single case. This study was conducted among Norwegian start-ups in an Arctic context. It is therefore not appropriate to draw wider inferences. We encourage more case studies of education through entrepreneurship in different rural contexts to complement and challenge the findings of this study. The other limitation is that we have not been able to capture the likely future of the programme, rural region and participating companies. This limitation, however, arises from the limited scope of this study, only following a few start-up companies through three years. A future line of research could be to follow up this study by an up-scaled longitudinal study focusing on the long-term effects across different contexts.

The long-term effects or impacts of entrepreneurship education are essentially a blind spot, and we think further research is needed. Tools are currently being developed which can assess entrepreneurial behaviour and entrepreneurship education as exogenous factors to existing market forces. The OECD has contributed to this by initiating the development of EntreComp [53] and the new EPIC tool [54]. Both of these target the connection between programme content and the learning outcomes of the students. They capture and assess creativity and the mind-set of future entrepreneurs and could therefore be defined primarily as targeting education-for-entrepreneurship approaches [3]. We recommend further research and empirical attention to the long-term, local impact of education through entrepreneurship. We find it relevant to encourage future research asking whether education through entrepreneurship for the future could develop a context sensibility which is responsive to rural needs for resilience, contemplating concepts such as local anchoring, space, place and/or sustainability as purposes equal to growth and economic performance.

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