

Handbook of Research on Reinventing Economies and Organizations Following a Global Health Crisis

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Chapter 3

Implementing Acceleration Programs: Reflections for Academic Business Incubators Through a Portuguese Case Study


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ABSTRACT

In a complex business world, startups need to quickly test their value propositions and go to business development as soon as possible with the best strategic fit to the market. Startups that start their journey at academic business incubators are mostly knowledge based or technology based and need adaptable acceleration programmes that allow them to improve their management capabilities at the same time as they achieve market fit and technology development until revenue. This chapter aims to explore some frameworks for acceleration programmes adjustable to academic business incubators and their incubatees, attending best practices already published. In addition, it draws some possible strategies and reflections for a framework as a proposal for acceleration programme at academic business incubators.

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INTRODUCTION

European Union (EU) strategies for regional development have been consolidating a position to stimulate open innovation and knowledge transfer (DGRIEC, 2014), pointing out that Higher Education Institutions (HEI) play a central role and need to be more entrepreneurial and catalyse the interactions between HEI, industry, government, civil society, and the environment (Etzkowitz & Leydesdorff, 2000; Carayannis et al., 2018).

For that matter, HEIs have been implementing all kinds of interactions with their regional stakeholders such as being part of regional associations, developing research and action projects alongside with industry and integrating processes of technology transfer (e.g. patent licence). Those are some traditional interactions that most of HEIs integrate in their missions. To go further and have a more direct impact in the creation of new and innovative ventures, HEIs have also been implementing their own incubators and acceleration programmes, recruiting their teachers, students, graduates, and researchers for those entrepreneurial based activities.

The efficiency of academic business incubators and academic acceleration programmes are yet to be proven, as there is insufficient data for analysis, but there are already some studies that consider academic business incubators as an important instrument of economic dynamism. Some conclusions address the creation of spin-offs, technology and knowledge transfer for companies' development, advancement of market growth and entrepreneurial culture (Mian, 1996; Lalkaka, 2001; CSES, 2002; Grimaldi & Grandi, 2005; Van Burg et al., 2008; Somsuk & Laosirihongthong, 2014; Carvalho & Galina, 2015; Stal et al., 2016). There are also some studies that concluded that incubated firms outperform non-incubated firms in both sales' growth and employment. When it comes to acceleration programmes, some authors state that there's evidence of systematic short-term growth advantages for startups that participate in accelerators compared to those that do not (Roberts & Lall, 2019).

But from the point of view of HEIs, especially the ones that already have academic business incubators implemented, and want to start an acceleration programme, there are some questions that need to have clear answers:

- How can HEIs boost entrepreneurial creation by using their own incubation structures?
- How can HEIs enrol their regional stakeholders, especially industry, in this entrepreneurial support process?
- Will entrepreneurs that are involved in these acceleration programmes be successful?
- Will their companies succeed after leaving their parent institution?
- Will these companies have a great impact on regional and national development?
- Will the methodologies used before the 2020 pandemic crisis need to be adjusted to the after crisis?

These are very important questions, and their answers are of the utmost importance. HEIs need to look for these answers before implementing their own acceleration programmes. This chapter looks for the features that these kinds of programmes integrate and presents some reasons for their implementation, both from HEIs and incubators' side and from participants' side. Adaptability of methodologies due to the 2020 pandemic crisis needs to be addressed, but it might take a few years before research has a clear evidence about its effects on the actual procedures that incubators and accelerators implement. Short term

implementations were seen around the world, with conferences, seminars and summits changing from physical to online, but we still have not had the time to really understand the effects on future changes.

This chapter relies on an empirical study, based on the case of a Portuguese HEI that has been developing an entrepreneurial support structure under the concept of Academic Business Incubator (ABI) and aims to implement an acceleration programme under the ABI, after the recovering from the 2020 pandemic.

As a contribution to the topic, the purpose of this chapter is to present a literature review about acceleration programmes, with a focus on academic ones, and to present some reflections that can be of importance for ABIs that want to implement their own programmes.

Firstly, this chapter includes a brief literature review about ABI and acceleration programmes definition as well as the reasons behind their implementation. The second part describes the research methodology, and the ABI framework and description. The last two parts present best practices and the reflections for implementation strategy, conclusions, limitations, and directions for future research.

The methodology relies on an empirical and exploratory case study, including a mix of qualitative and quantitative approaches, to explore the ABI designated as IPStartUp and its main structure.

LITERATURE REVIEW

Concepts for Business Incubators (BI), Academic Business Incubators (ABI) and Their Best Practices

While this chapter focuses on accelerators and acceleration programmes, often these concepts are linked with incubators and some incubators are related to HEI. The case study presented in this chapter is related to a model for an accelerator inside a HEI. For that matter, some brief concepts about incubators are presented in the literature review.

Academic Business Incubators (ABI) or University Business Incubators (UBI) – that for the propose of this chapter are considered similar concepts – were created around the broader concept of Business Incubator (BI) and are managed by HEIs. Both (BI and ABI) were designed as tools to boost new business creation, by providing support and resources to entrepreneurs and helping them in the establishment and development of their projects, most of the times from the very beginning of their idea, and helping them to launch and marke their products and services (Pinto, Ossmane & Carvalho, 2020). Sometimes they also enter in the promotion and commercialization of innovative ideas (Theodoraki, Messeghem & Rice, 2017).

By labelling BIs, literature review tends to find many distinctive denominations and structures such as: traditional incubators; business centres; technological and innovation centres or the latest “new economy incubators”. From the first generation that provided basic services such as business development support and access to networks (Bruneel et al., 2012), they evolved and extended their value proposition and got to a third generation which also provides more complex services. As they grow and get more mature, management strategies adopt the interests of their institutional logic, stakeholders’ goals, and strategic focus (Nicholls-Nixon et al., 2018).

On the other hand, ABIs have been considered by many authors as relevant actors when it comes to:

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- Support academic entrepreneurship (Mian, 1996; Lalkaka, 2001; CSES, 2002; Grimaldi & Grandi, 2005; Van Burg et al., 2008; Somsuk & Laosirihongthong, 2014; Stal et al., 2016);
- Promote regional development (Grimaldi & Grandi, 2005);
- Promote innovation and entrepreneurship among the internal and external environments, through education in entrepreneurship and support for new ventures at different lifecycle stages (Grimaldi & Grandi, 2005; Nicholls-Nixon et al., 2018);
- Have impact on commercializing intellectual property which originates in their academic labs (Grimaldi & Grandi, 2005; Nicholls-Nixon et al., 2018);
- Have a structure that promotes and support innovations across all HEI departments, including social sciences, humanities, and liberal arts (Nicholls-Nixon et al., 2018);
- Put emphasis on knowledge sharing and scientific transfer to society (CSES, 2002; Grimaldi & Grandi, 2005);
- Complement support with continuous access to specific academic infrastructures such as laboratories and other facilities (Grimaldi & Grandi, 2005; McAdam & McAdam, 2008; Aaboen, 2009);
- Provide access to academic networking (Grimaldi & Grandi, 2005; McAdam & McAdam, 2008; Aaboen, 2009);
- Direct knowledge from HEI to incubated companies and trigger knowledge exchange, resources and business process that enhance mutual value creation (Rothaermel & Thursby, 2005).

Despite the relevance of ABIs, its creation involves a lot of resources, senior management commitment, vision and organizational infrastructures and is also subject to local and regional contexts as well as to the institutional will to support such a venture (Pinto et al., 2020). The decision to implement ABIs is also affected by the existence of other resources, such as venture capital, social capital, or public investments in R&D, and, according to Fini et al (2011), HEIs should invest in their own support mechanisms if there are not available resources at local or regional level.

The decision of implementing an ABI encompasses a lot of choices. Arguing that there is not a “best practice” that fits all, the management team or director must identify the incubating model that fits it best (Grimaldi & Grandi, 2005; Nicholls-Nixon et al., 2018) as well as its path to growth and adjustments. As business incubators are learning organizations and grow as start-ups themselves (Carvalho & Galina, 2015; Carvalho, Backx & Galina, 2019; Carvalho, Backx & Mine, 2020), adjusting processes and procedures and improving results are part of the day-to-day jobs to be done.

Concepts for Accelerators

Overall Remarks

Accelerators have emerged over the last decade and have been growing rapidly since the first one, Y Combinator, was founded in 2005 and established itself in Silicon Valley (Wright, 2018).

There's limited research on the accelerator phenomenon, mainly due to its newness and limited data availability (Hochberg, 2016). For these reasons, accelerators definition remains discordant (Hochberg, 2016; Crisan, et al., 2019).

At some point, concept of accelerator may be confused with the incubator concept or with an innovation intermediary (Crisan, et al., 2019). Despite that, there are some proposed definitions that evidence

a clear distinction (while some interconnections) illustrated in table 1, that can shed some light over the concept definition of accelerators.

Table 1. Accelerator concept: literature review concept proposes

Concept definition	Authors
<i>"[...] a late-stage incubation programme, assisting entrepreneurial firms that are more mature and ready for external financing or a facility that houses a modified business incubation programme designed for incubator graduates as they ease into the market."</i>	Lewis et al (2011, p. 17)
<i>"A fixed-term, cohort-based programme, including mentorship and educational components, that culminates in a public pitch event or demo-day".</i>	Cohen & Hochberg (2014, p.4)
A deal aggregator which builds the growth venture ecosystem, promoting this growth within a short-term period.	Cohen & Hochberg (2014)
<i>"[...] organizations which provide support for startups in order to accelerate their development through one or more processes: learning, validation, access & growth, and innovation."</i>	Crisan et al. (2019, p.19)
<i>"[...] a unique mechanism of entrepreneurship support provided by the new organizational form called the accelerator"</i>	Shankar & Clausen (2020, p.2)

Source: own elaboration, based on literature review

Continuing the conceptual domain, Shankar and Clausen (2020) propose an approach that puts the focus on the “acceleration” process, aiming to bring conceptual distinctiveness and clarity to the concept of acceleration, instead of the accelerator. They identify at least three key functions that make it unique:

- Accelerate startups that have achieved product-market fit;
- Provide time-compressed scaling;
- Enable aggressive scalability testing.

As it seems, in the last years, accelerators have become important players in the early-stage entrepreneurial ecosystem (Hochberg, 2016, Pauwels 2016). According to Miller and Bound (2011) these accelerators’ evolution depends on three market trends which have promoted the appearance of a new kind of startups (agile, talented, technology-based teams able to quickly iterate a product or service) that accelerators have grown up to serve:

- Easier direct monetization;
- Cheaper technology costs;
- Easier routes to customer acquisition.

So, accelerators have certain similarities to incubators, but they are not the same. Accelerators have limited-duration programmes (Cohen, 2014; Cohen & Hochberg, 2014; Pauwels, 2016) and provide services to enable rapid progress as monitoring, education, and continued networking opportunities, offering, typically, pre-seed investment (Cohen, 2014; Pauwels, 2016). Accelerators can or cannot be linked to one or more incubators and for that matter Goswami et al. (2017), have seen commonalities between the accelerator expertise that they propose and the relational connections, interactive processes, and normative alignment that occur in incubators.

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For Pauwels et al. (2016) the specific accelerators' key design parameters, such as programme package, strategic focus, selection process, funding structure and alumni relations, could define accelerators as a new generation incubation model.

Furthermore, differences exist not only between incubators and accelerators but between different types of accelerators, depending on the organizational context in which they operate and their specific strategies and goals (e.g. corporate *versus* university accelerators) (Kanbach, 2016; Pauwels et al., 2016; Wright, 2018; Crisan, et al., 2019). Based on this perspective, there is a third identified accelerator theme, the “welfare stimulator” accelerator, which is typically sited up by government agencies as a main stakeholder with the focus on fostering economic growth, within a specific region or a specific technological domain. Additionally, hybrid accelerators can also be a possibility, under specific objectives of the shareholders (Pauwels et al., 2016).

Accelerators as part of the Entrepreneurial Ecosystem Context

Entrepreneurial ecosystems involve multi-level processes and stakeholders, multiple actors, and multiple contexts and as there's different contexts, also different and linked approaches must be considered, rather than trying to copy other entrepreneurial ecosystems (Isenberg, 2010). The existing clusters have already competitive advantages, based on economic specific dynamics and local resources, and stakeholders should pave the way for young ventures that are aligned with the market, otherwise it can lead to perverse outcomes (Isenberg, 2010). Entrepreneur's ability to discover and develop opportunities and to access key resources depends on the geographical proximity to stakeholders (Acs et al., 2016).

The nature and quality of entrepreneurial activities, either as acceleration programmes or startup creation, depend on their entrepreneurial ecosystem and on the types of organizational forms that they validate and accept, and not only on the opportunity identification. Thus, accelerators' operation depends on a variety of stakeholders which must be involved (Wright et al., 2017; Wright, 2018). Besides HEI objectives and strategies relating to academic entrepreneurship, which affect student entrepreneurship, university contexts (scale, scope, research quality, history and culture, location and local networks, resources, and capabilities) are often predictors of the entrepreneurship support mechanisms. For instance, while land-grant universities, with a strong economic development mission tend to enhance academic entrepreneurship and student entrepreneurship, that is typically not seen at private universities (Wright et al., 2017).

The relationship that universities historically nurture within their regions influences the ability to reach-out to the local community to participate in the ecosystem building (Wright et al., 2017). This approach corroborates with Ricci et al. (2019), who argue that to avoid being ineffective or even counter-productive, entrepreneurship and technology transfer strategies must consider the region characteristics (e.g. the level of employment and innovativeness of regional industry) as well as their organizational resources. They also argue that it might be risky focusing on research commercialization in a not “ready” ecosystem.

While on one hand entrepreneurship may be considered as a transforming and positive attitude, Wright et al. (2017) suggest that entrepreneurship may also have a negative connotation for many academics and students on campus. This embedded culture is something that HEI governance must evaluate, although this is possible to change, preferably with the promotion of bottom-up activities to empower academic entrepreneurship (Isenberg, 2010; Wright et al., 2017).

How do Accelerators Work?

Some accelerators are affiliated with other organizations such as venture capital firms, angel groups, corporations, universities, local governments or non-governmental organizations (Barrehag et al., 2012; Cohen, 2014; Cohen and Hochberg, 2014; Wright, 2018).

There are also different kinds of acceleration programmes: some are for-profit, and others are not, and they may vary in the amount of remuneration, the size of the equity stake taken, the mentorship and educational programme, the industry vertical focus and the availability of facilities.

Strategy and Target Focus

Overall, accelerators seem to focus on certain themes rather than being generic and to choose between being local *versus* international (Hallen, Bingham, and Cohen, 2014; Pauwels et al., 2016; Wright, 2018; GAN, 2019). However, there are many generalist accelerators across industries (Hochberg, 2016).

Hochberg (2016) states that the admission criteria vary among accelerators. Some admission criteria are based on the accelerator's founders' preferences; some consider themselves generalists and select the ideas with the most potential and others select early-stage firms that represent the industry mix in their region. The most notable trend over the last five to six years has been the movement towards vertically specialized accelerators, not just software-focused (Barrehag et al., 2012; GAN, 2019), but also focused on hardware or other physical product. This may put some different challenges on these programmes' success, since they need to provide higher capital, while the timeline for this kind of startups is longer (Hochberg, 2016).

Some accelerators focus on new venture scaling rather than new venture birthing, being complementary to other support mechanisms like incubation. Despite some trends in focusing on late-stage startups (GAN, 2019) these accelerators often look for new earlier-stage ventures that have at least a working business model with initial customers, that have raised some investment or hired employees (Shankar and Clausen, 2020). In fact, some authors emphasize the importance to support high potential startups to prevent money waste, corroborating these strategies (Shane, 2009; Acs et al., 2016).

Hallen, Bingham, and Cohen (2014) argue that university accelerators' programmes typically require applicants to have some affiliation with the educational institution. This would have the goal to foster educational opportunities rather than future profitability potential for the businesses. Overall, they are usually agnostic when it comes to technology focus (Dempwolf et al., 2014).

Selection process

New ventures enter and exit the acceleration programmes in groups, known as cohorts or batches, within a competitive selection process and at an early stage (Cohen, 2014; Cohen & Hochberg, 2014). The selection process is based on a multi-staged and rigorous process, usually an online software platform, often with a high number of applicants and sometimes with a previous scouting process (Barrehag et al., 2012; Cohen & Hochberg, 2014). Cohort model promotes the development of strong relationships, bonds and communal identity between founders of different ventures in the same accelerator cohort and make accelerator's processes more organized and efficient, outreaching around key dates (Cohen & Hochberg, 2014).

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Then, different types of stakeholders (mentors, investors, alumni) are asked to participate in a standardized and personal screening process, where startups are invited to present their ideas. However, teams are the main selection factor (Barrehag et al., 2012; Pauwels et al., 2016). In some accelerators, individual entrepreneurs are helped to find and form the team, according to specific skills they are missing (e.g. Le Camping's event "Adopt a CTO"). Some accelerators have the requirement that at least one team member must possess technical skills (Barrehag et al., 2012). In other accelerators, there are in-house entrepreneurs, paid or not, who can join entrepreneurial teams and work closely together with them (Pauwels et al., 2016).

In the specific case of welfare stimulators, selection may be shaped by the vision of welfare creation and in a very early stage, most of the times without a clear business model in place (Pauwels et al., 2016).

Duration / Timeline

Acceleration involves speed and direction (Shankar & Clausen, 2020), during established timelines (3 months in average) and strict graduation, forcing startups to face the selection mechanisms that operate in the market (Barrehag et al., 2012; Cohen & Hochberg, 2014), speeding out the exit of the venture, either by success or failure, and promote "growth" under time-compressed goals (Shankar and Clausen, 2020). University accelerators' programmes usually run these programmes during the summer months (Hallen, Bingham, and Cohen, 2014).

Establishing time-lines forces founders to work hardly to rapidly achieve the milestones. Accelerator directors spend more time dedicated to help and influence ventures, encouraging them to learn and adapt. Since the programme is short, it is easier to gather mentors, guest speakers, and other resources, that are more likely to be committed. Thus, startups often quickly grow or fail, which may mean moving on to a higher value opportunity for their founders and other organizations in the market (Cohen, 2014; Cohen & Hochberg, 2014)

Mentoring

Although mentorship varies substantially among programmes, ventures are often guided by accelerators directors on the learning process within mentor meetings, seminars, and other activities (Cohen, 2014; Cohen & Hochberg 2014). Mentors are considered key stakeholders in the entrepreneurial ecosystem, not only for guiding startups in their journey but also for increasing startups human capital through their own network (Barrehag et al., 2012).

Pauwels et al. (2016) argue that there are well-elaborated and planned mentoring services, in which mentors are evaluated and matched with each venture, helping ventures to define their business model and to connect with other stakeholders like customers and investors. This connection opportunities are often promoted under demo days or investor days where customers and/or investors visit the accelerator and attend portfolio companies' presentations, with formal and informal network opportunities. These intense mentorship and extensive education bring the possibility of meeting with many mentors, which provides opportunities for ventures to build their social network and learn about alternate strategies (Cohen & Hochberg, 2014).

In the case of welfare accelerators, because of their specific vision, education programmes are more developed in comparison with corporates or university accelerators. The mentors, usually consultants

or business developers, are deeply close to ventures, guiding and advising them on their development (Pauwels et al., 2016).

Educational programmes

At accelerators, educational programmes are based on intense mentorship and extensive education, including seminars on a wide range of entrepreneurship topics (Barrehag et al., 2012; Cohen & Hochberg 2014; Pauwels et al., 2016; Wright, 2018). Furthermore, the programmes include frequent (weekly) counselling services, based on business assistance and progress monitoring, provided by the accelerator management team. Besides, a shared office space is often offered, encouraging collaboration and peer-to-peer learning (Barrehag et al., 2012; Pauwels et al., 2016).

Alumni relations

Accelerators usually nurture alumni relations, inviting them to participate in the programmes and share their knowledge. Their companies are usually a reference to ventures in the process and are actively involved in the mentoring activities and sometimes on startups' investment (Pauwels et al., 2016).

Funding and Investment

Most accelerators are privately owned (Cohen & Hochberg 2014; GAN, 2019) but shareholders can also be public authorities (Miller & Bound, 2011; Barrehag et al., 2012). Despite this, most accelerators complement these sources with revenues, such as investments in the startups they support, events, workshops or registration fees for training courses (Miller & Bound, 2011; Pauwels et al., 2016).

Many accelerator programmes provide a small seed investment to their startups and receive an equity stake in the portfolio company in return, which varies from programme to programme (Miller & Bound; 2011; Barrehag et al., 2012; Hochberg, 2016; Pauwels et al., 2016; GAN, 2019). Some also offer a larger, guaranteed investment in the startup, in the form of a convertible note, upon graduation (Hochberg, 2016), while others have a clause that turns the investment into a soft loan which is returned if certain conditions are met (Miller & Bound, 2011).

One of the last trends observed on accelerators is their vertical integration into Seed Funds, as accelerator directors can take advantage of information gathered on startups during the accelerator programme (Hochberg, 2016).

Even if accelerators survival depends on their investment strategy and its success, some of the accelerator programmes' investors are not for-profit investors. The return is sometimes a broader economic benefit and not only a financial return (Miller & Bound, 2011). Dempwolf et al. (2014) identified that University accelerators throughout the United States are educational non-profits, aiming to accelerate entrepreneurial competencies development among students and faculties and promote innovation at universities.

Unlike many other accelerators (GAN, 2019), venture capital firms (VCs) are usually not the most popular funding source for students' startups, especially those which do not have intellectual property assets, because usually there is no matching between the capital amount provided by these investors and the needs of the startups. Many of the university's accelerators' programmes include prizes under business plans and pitching competitions, where funders may be the university but also corporate and

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other philanthropic sponsors. Some universities have established seed capital funds to support students' early-stage ventures (Wright et al., 2017) and overcome their early funding struggles.

Because of the interest that accelerators directors or stakeholders have on the accelerator, ventures usually have a faster growth compared with incubators tenants (Cohen & Hochberg, 2014).

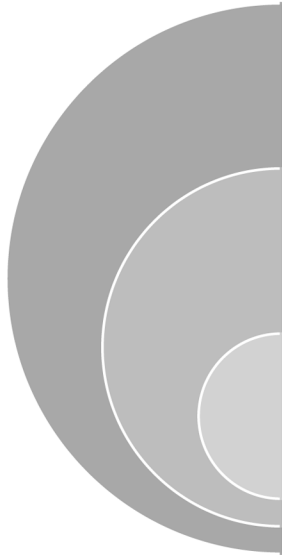
Expected Outcomes After Acceleration Activities

Specific goals in different contexts (government, corporate, community or university) seem to define what accelerators do (Barrehag et al., 2012; Kanbach, 2016; Pauwels et al., 2016; Wright, 2018; Crisan et al., 2019) and condition their lengths of interventions and different types of outcomes (Crisan et al., 2019).

Crişan et al (2019) aimed to provide a holistic understanding of the acceleration *modus operandi*, addressing the context in which accelerators operate, their practices and services, as well as the outcomes they achieve. They identified a set of mechanisms that define accelerators' *modus operandi* and make accelerators what they are. They also explain their impact, proposing a framework and identifying examples of best practices that can be transferred across contexts.

Table 2 resumes the three basic mechanisms and their respective expected outcomes.

Table 2. Accelerators *modus operandi* and outcomes



Learning/validating	<ul style="list-style-type: none"> • Acquiring new/relevant information • Business and technological knowledge • Social capital • Self-confidence • Market success
Access and growth	<ul style="list-style-type: none"> • Access to investors • Product development and launch • Higher survival rates and profit
Access Innovation	<ul style="list-style-type: none"> • Technologies with high impact on the market • Qualified employment • Different technological paradigm for an industry

Source: own elaboration, based on Crisan et al (2019)

Learning and validation are often combined. These are basic activities on acceleration process for startups and may be the trigger for launching a business (i.e., a precursor to access and growth). According to Crisan *et al* (2019) these are common mechanisms at the university context accelerators and lead mainly to “soft” outcomes.

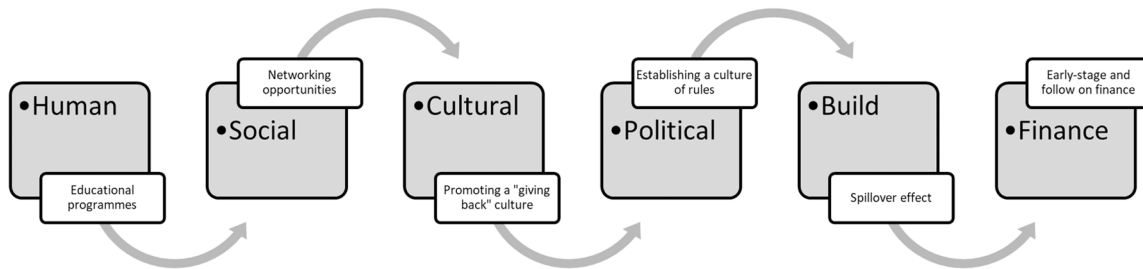
Access and growth emphasize market success, and according to Crisan et al (2019), this is the most common mechanism observed. Activities that can be seen here are mentoring; coaching; boot-camp training; preparation to pitch investors during the demo-day and networking.

Innovation was the last and second most observed mechanism. Although all accelerators have an innovation focus, these innovation accelerators support more complex innovation processes, requiring extended interventions such as research support, post-programme support, and longer interventions that often need to accompany efforts to develop and launch new products. These authors also argue that these mechanisms are truly what defines how accelerators operate.

Even when having into account specific contexts, the way in which accelerators operate seems to be explained by the connection between interventions and outcomes, rather than by the organizational context in which they are embedded.

Bliemel et al. (2019) tried to explain how accelerators can play a meaningful role at the cluster level by providing and enhancing Community Capital. In figure 1, some of these activities and related outcomes are presented.

Figure 1. Types of Community Capital enhanced by accelerators' activities
 Source: own elaboration, based on Bliemel et al. (2019)



Reasons Behind the Establishment of an Accelerator

Accelerators' benefits have been referred to in many studies and there are different reasons to establish one according to its link to different kinds of entities such as incubators, corporates, or venture capitals.

Creating an entrepreneurial ecosystem, by encouraging startups in the community, is one of the main reasons pointed by Christiansen (2009) to start a seed accelerator programme. The expected long-term employment from those companies has the potential to build a strong influence in their community (Christiansen, 2009).

Although it is possible to produce 'high-potential' ventures without participating in acceleration processes (Bliemel et al. 2019), some authors state that there is evidence of systematic short-term growth advantages for startups that participate in accelerators compared to those that do not (Roberts & Lall, 2019).

In the university scope, Miles et al. (2017) suggest that accelerators can facilitate entrepreneurship learning among students through the startup experience, which may be this kind of accelerators' main reason of existence. Through their experience on accelerators programmes, nascent entrepreneurs have

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the opportunity for an authentic self-assessment of their mastery of critical entrepreneurial competencies, reducing the risk on new venture creation.

That lack of expertise, knowledge, and resources, which are needed to bring research results to market, often makes ventures fall in the “Valley of Death”, resulting in a tremendous net loss to society, both in innovation as in job creation (Byrd et al., 2017).

Thus, accelerators can provide participants the skills and means to enable the technology transfer from university bench or mature corporates to the market throughout the new ventures.

Besides the value for startup founders, most of accelerator stakeholders take benefits from these programmes. Accelerators create new deal-flow for investors, facilitating the networking with young founders and companies, which otherwise would not have any contact with the world of investment (Miller & Bound, 2011).

By scouting new talent, filtering down to only the highest quality, and concentrating them on a focal point, investors can have easier access to them, spending less time and resources (Miller and Bound, 2011; Barrehag et al., 2012; Cohen, 2014; Hochberg, 2016; Wright, 2018). Moreover, while being involved in the process, investors, often as mentors, get more information on startups progress and potential, establish relationships at an early phase and can make more informed decisions about companies to invest in the future, being more aware about future trends in technology (Miller & Bound, 2011; Hochberg, 2016).

Furthermore, accelerators are also a target for investors, since they use them to fund their activities from their capital and accelerators are a source of deals that facilitate the ventures funding due diligence process (Barrehag et al., 2012; Hochberg, 2016).

Corporations, especially large technology firms, often engage in these programmes, because on one hand they see business opportunities when new startups can use their technology (Miller and Bound, 2011), on the other hand they promote innovation and value which can be added to their own business processes (Miller & Bound, 2011; Wright et al., 2017; Wright, 2018).

When it comes to set up their own accelerator programme, corporations may have other goals. They may want to use it as a deal-flow maker; to enter as investors and startups shareholders; to create an ecosystem of costumers and other stakeholders in the community; to have access to knowledge and innovation opportunities; to integrate new products and services into their value chain; to promote an entrepreneurship culture within the organization or to create a good image on the market (Kanbach, 2016; Pauwels et al., 2016).

Reasons to Apply to an Accelerator

Startup founders apply for acceleration programmes for many reasons, as they find a pool of means and resources concentrated in one place, which would be individually costly for an entrepreneur to find and obtain (Hochberg, 2016).

That concentration of means and the focus it brings to focus on their startup’s development on a full-time dedication, is another important reason (Miller & Bound, 2011).

Even though accelerators are complements and not substitutes to more experienced and connected founders (Hallen, Bingham, & Cohen, 2014), through mentoring or events, accelerators provide access to investors, business experts and senior entrepreneurs, allowing startup founders to get opportunities and feedback on their products (Christiansen, 2009; Miller and Bound, 2011).

Validation and credibility are other reasons: accelerators tend to give some labels as “promising startups”, fostering visibility and future opportunities (Christiansen, 2009; Miller & Bound, 2011; Wright, 2018).

The pressure and discipline that characterize acceleration programmes, with deadlines and basic framework to achieve milestones, were also mentioned as helpful, since startups have some difficulty to do it themselves at the beginning of their path (Miller and Bound, 2011). Accelerator programmes' structure leads to thinking and working habits and practices, which promotes startups focus and organization, helping them to move from their chaotic and informal structure (Wright, 2018).

In their study upon transnational entrepreneurs, Brown et al. (2019) suggest that accelerators open and shared nature, access to human capital, tacit knowledge and entrepreneurial culture, offer high potential for their peers and can be more valuable than other transactional services provided.

Besides all these recognized values, entrepreneurs only realize them mainly after entering the accelerators programmes (Bliemel et al., 2019). Before that, what they usually value the most is the possibility to get funds.

METHODOLOGY

The main purpose of this chapter is to find out the main characteristics of acceleration programmes (with a focus on ABI) and identified best practices, analysing them in the light of accelerators literature review. This analysis has the objective of presenting some clues and perspectives that allow a proposal of a framework to be implemented for academic business incubators (ABI), based on the case study of IPStartUp. Adaptability of processes and procedures in the after 2020 pandemic crisis will also be addressed, as possibilities, necessities or inevitabilities.

Under the scope of incubation literature, IPStartUp was implemented and developed as an ABI. For the purpose of this chapter, an empirical exploratory case study was adopted, with a mix of qualitative and quantitative approaches (Yin, 2009), supported by data from IPS internal databases, documents and regulations, reviewing and analysing them from October to December 2020. In order to correctly understand and frame all the data collected, IPStartUp staff contributed with clarifications in order to reach a better understanding about the strategy focus and the goals of the incubator. In addition, this research considered data from internal databases about incubation activity, entrepreneurship projects and company creation from 2015 to 2020.

According to Yin (2009), case studies can be used to determine whether a theory's proposition is correct or whether some alternative set of explanations might be more relevant. Also, the author emphasizes the importance of exploratory studies to underline some relevant future study propositions.

For the literature review the authors collected mainly publications after 2015, published in scientific journals, since the topic must be evaluated according to recent methods. However, some publications were considered prior to that year if they identify methods and respective results in academic environment. The search for relevance was carried out in several databases with the combined words "acceleration"; "business"; "accelerators", "university accelerators"; "business accelerators"; "entrepreneurs" and "ecosystems". After choosing the most relevant publications, cross-reference was also evaluated.

IPSTARTUP: ABI CASE STUDY

General Description

IPStartUp is an ABI, created in 2015, under Polytechnic Institute of Setúbal (IPS), a Portuguese medium-size HEI. IPS is a public HEI created in 1979, with five colleges covering areas of engineering, education, business administration and health care in two different locations, has around 7,000 students and follows general HEI strategies when it comes to nurturing innovation and knowledge, as well as entrepreneurship, innovation and technology transfer. In recent years, the institution enforced and stimulated active learning practices, promoting links with industry partners and enhancing entrepreneurship among its community.

IPStartUp is framed under IPS general regulation while having some specific rules. It mainly targets the IPS academic community (students, graduates, professors, and researchers) and looks for those who have innovative business ideas, either technology based or not, but that can be linked to one of the knowledge areas that IPS teaches among its colleges, which allows the recruitment of internal mentors.

IPStartUp is part of the National Incubators Network (RNI), which is a certified incubator for governmental support programmes, such as Startup Voucher, Incubation Voucher, Internationalization, R&D Vouchers and Startup Visa, which enhances the incubator's credibility and the recruitment of entrepreneurs that are external to IPS community (Pinto et al., 2020).

Incubation Model and Incubatees

Support model has three phases: pre-incubation, incubation and business development.

Pre-incubation encompasses the beginners' phase, mostly with students that arrive from ideas competitions and still need a lot of support when it comes to capacitation on business model and innovation. It usually takes less than 6 months but at the first years of the incubator, teams usually stay longer. According to the incubator manager, most of the participants were studying at the same time and had less time dedicated to the development of the idea. On the other hand, the efforts dedicated to accelerating ideas were not a priority for the incubator's internal team as other activities were being prioritized, such as communication activities inside classes; workshops for raising awareness about entrepreneurship; preparation of internal procedures and other activities towards an internal entrepreneurial culture.

Incubation encompasses the time needed to develop a first prototype, along with the piloting of the business model, the first business plan and financial estimates. According to the incubator's manager, a lot of teams did not get to the second phase because they lacked the motivation to go on or because they finalized their studies and needed to get a job. Most of the teams that entered this phase directly came from the Poliempreende competition (a business idea competition from the national Polytechnic network).

Teams enter the business development phase after incorporating. According to the data made available from the incubator, in November 2020 there were 17 teams in the incubation process (all three phases), from which 4 were already companies and 1 was an association. Two of these teams were accepted under the governmental programmed Startup Visa. All teams are less than 3 years old and most of them are 1 year old or less. Business ideas come from different fields of knowledge, representing the diversity of the HEI itself.

As a structure that complements its HEI entrepreneurship offer, IPStartUp seems to have demonstrated, even in few years, that it has an impact not only on putting people together and working on internal in-

novation systems but also as a support structure for those who want to develop their business ideas (Van Burg et al., 2008) and create companies (Fini et al., 2011).

Internal Processes and Support

Processes of learning and achievement along the way allowed the improvement of managerial practices (Van Burg et al., 2008; Carvalho & Galina, 2015; Carvalho, Backx & Galina, 2019; Carvalho, Backx & Mine, 2020).

With the aim of providing support to those entrepreneurs who wanted to develop their projects, IPStartUp used internal resources, such as tutors and mentors (Clarysse et al., 2005) and HEI links to regional stakeholders (Phan et al., 2005; Fini et al., 2011).

The awareness of entrepreneurship opportunities and the spread of the entrepreneurial spirit (Van Burg et al., 2008; Somsuk & Laosirihongthong, 2014; Nicholls-Nixon et al., 2018), followed the selection criteria of entrepreneur-focused and survival-of-the-fittest approaches (Bergek & Norrman, 2008; Nicholls-Nixon et al., 2018). Despite being a young incubator, it seems that the strategy selected fits both the promotion of entrepreneurial spirit and the separation of winners from losers, and results in a small but diversified portfolio, with entrepreneurs/teams representing a broad set of sectors (Bergek & Norrman, 2008).

The alignment with IPS knowledge transfer activities, is also notable on the first steps towards spin-off creation, as IPStartUp already received teams from the recently created IPS research centres. Even if technology transfer and intellectual property are still supported at an ad hoc basis, these interactions and practices may have direct impact on the creation of spin-offs (Van Burg et al., 2008; Fini et al., 2011; Berbegal-Mirabent et al., 2015; Carvalho & Galina, 2015; Carvalho, Backx & Galina, 2019; Carvalho, Backx & Mine, 2020).

To foster entrepreneurs' skills and to promote knowledge exchange, IPStartUp also develops regular activities like themed workshops and networking sessions (Van Burg et al., 2008; Somsuk & Laosirihongthong, 2014). Best practices exchange, and emotional support are some of the goals that can be achieved by these practices (McAdam & McAdam, 2008; Schwartz & Hornyh, 2010; Bøllingtoft, 2012). All these activities are also part of the dissemination scheme. Statements of young incubatee entrepreneurs also allow the dissemination of the entrepreneurial spirit as well as attract more young entrepreneurs to enter the incubation process and develop their business ideas (Van Burg et al., 2008).

Facilities such as physical office space; access to research and specific high-value data; access to laboratories and other specific in-house resources, allow for incubatees to get high value at low cost (Mian, 1997; McAdam & McAdam, 2008; Carvalho & Galina, 2015; Carvalho et al., 2019).

In addition, and following one of the most valued assets of ABIs, IPStartUp incubatees use the IPS image to open doors on complex issues like intellectual property, legal questions or reaching prospective customers at a very early stage (Mian, 1997; McAdam & McAdam, 2008; Carvalho & Galina, 2015; Pinto et al., 2020).

Networking Strategies

In order to grow, IPStartUp has been increasing networks, inside and outside IPS. The internal links to professors, researchers and other incubatees (former and current) provide mentoring on technology and business issues (Mian, 1997; Lee & Osteryoung, 2004; Clarysse et al., 2005; Rothaermel & Thursby,

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2005; Van Burg et al., 2008; Nosella & Grimaldi, 2009; Somsuk & Laosirihongthong, 2014). The external links to regional partners such as companies from different industries, public procurement entities, governmental SME support entities, business consultant partners and investment partners, complement these internal resources (Aaboen, 2009; Scillitoe & Chakrabarti, 2010; Fini et al., 2011) and provide a broader base of support both for IPStartUp internal team and to the incubatees, bringing knowledge, resources and key links to support entrepreneurs (Pinto et al., 2020).

Adapted Strategies for the 2020 Pandemic Crisis

Before the pandemic crisis, almost all incubatees received mentoring on a face-to-face basis and most of the meetings took place at IPS campus, either at IPStartUp facilities, or other available rooms. Networking sessions, such as presentations to partners, investors or other people, also took place in physical facilities.

After March 2020, all these arrangements had to be evaluated and an online strategy had to be designed. Tutorial and mentoring sessions continued, on the same regular basis, but using one of the platforms that were also used in IPS working and learning environments (usually Zoom or Microsoft Teams). According to the incubator manager, there was no evidence of struggles regarding tutorial or mentoring meetings and the follow ups were usually scheduled from session to session.

Regardless of the relative adaptative environment, both from the incubator and the incubatees side, according to the incubator manager, the most evident struggle was regarding the motivation of the entrepreneurs to stay focused on their projects. Most frequent complaints were towards the difficulty in reaching prospective customers when those customers were in the business to business (B2B) approach. According to the incubator manager there were some strategies implemented to overcome those struggles, such as trying different communication approaches (e.g. phone call, social networks reinforcement) but for some business ideas the final strategy was to completely change the business model or even to embrace a whole new business idea.

REFLECTIONS FOR A FRAMEWORK PROPOSAL

There is not enough evidence on what ecosystem elements must already be in place; on which accelerators' programmes lead to desirable effects (Hochberg; 2016; Roberts and Lall, 2019); there is a lack of an overall framework for understanding the ecosystem that supports student entrepreneurship (Wright et al., 2017) and defining one accelerator configuration seems difficult as not all accelerators achieve acceleration (Hallen, Bingham, and Cohen, 2014). However, some studies' results might be a platform for reflections on accelerators' creation, based on an operational evaluation of practice. The next recommendations were identified as the main ones when preparing the creation or the reformulation of an accelerator or of an acceleration programme. These recommendations are strongly focused on an academic base but do not yet reflect process or procedures adaptations after the 2020 pandemic crisis.

Strategy and Target Focus

The decision to start an accelerator encompasses many challenges. When it comes to universities, one might think that, because of their dimension and the knowledge concentration, they might be the centre of the entrepreneurial ecosystem, but universities alone do not drive it (Isenberg, 2010). In fact, this is

a result of a co-creation process, involving many stakeholders (students, faculty, university managers, academic business incubators, investors, business angel networks, local authorities, startups and corporates) each of them with different objectives, norms, standards and values. To function, universities must develop mechanisms for bringing together these stakeholders by establishing extensive and deep networks (Wright et al., 2017) and never losing a policy focus (Shankar & Clausen, 2020).

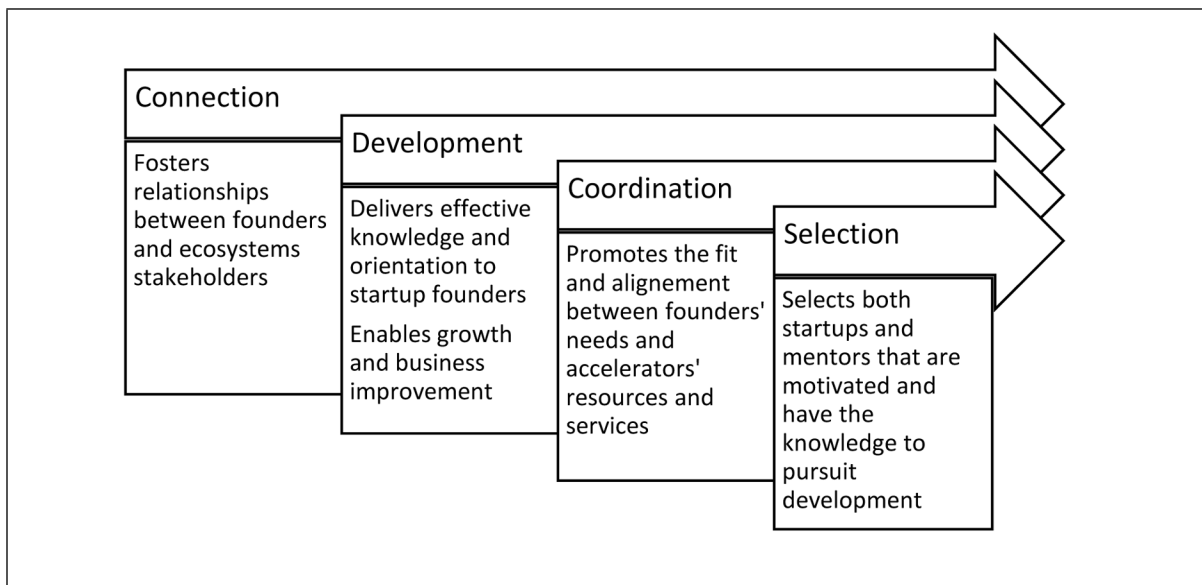
Expertise

Accelerators rely on their directors and stakeholders’ vision to achieve the best results, according to their goals. Goswami et al. (2017) argue that this vision conducts to intermediation processes which influence the commitment of the different actors:

- The regional entrepreneurial ecosystem by enhancing stakeholder cooperation;
- The venture validation by testing success or failure;
- The ecosystem knowledge by increasing ventures founder’s knowledge, even when their startups fail.

Goswami et al. (2017) also found out that there are four kinds of expertise that can make accelerators become meso-level intermediaries between startup founders and the regional entrepreneurial ecosystem. Table 3 shows how these expertise act as influencers.

Table 3. Accelerators expertise and impacts



Source: own elaboration, based on Goswami et al. (2017)

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So, to be able to guarantee a good expertise basis, accelerators founders or directors should be persons with experience in managing a startup company, experience as angel or seed investors or persons close to the industry field (Christiansen, 2009).

Branding

A clear programme structure allows accelerator managers to develop specific knowledge, skills and networks, which leads to delivering distinctive value to the new ventures they nurture, improving the performance and reputation of their programmes (Shankar & Clausen, 2020).

As quickly as possible, accelerators must prepare their brand dissemination, including information on their stakeholders and services, in order to attract other stakeholders and engage the existing ones (Christiansen, 2009; Barrehag et al., 2012).

Size

The number of startups accepted in the programme depends on the programme's focus as well as the funds available, but for new accelerators it is wise to start with few ventures and, when it proves successful, expand it. This is particularly important for accelerators whose industry focus requires higher amounts of seed funding (Christiansen, 2009).

Funding

It is important to provide funding for startups at a level which allows entrepreneurs to focus on their business. Furthermore, technology-oriented spinoffs from universities are capital-intensive startups that need different amounts of capital along the development phase (Christiansen, 2009). While accelerators need to take an equity stake in order to meet their own financial metrics (Christiansen, 2009), university accelerators don't usually take equity stakes in student-founded ventures (Dempwolf et al., 2014) and in this case, philanthropy and development officers could play a support role for student entrepreneurship, by attracting funds through gifts or investments from stakeholders such as alumni and corporate partners (Wright et al., 2017).

But funding startups might not be the first step for the implementation of an accelerator. According to Isenberg (2010) accelerators should accelerate growth instead of startups creation, and it is difficult to create value without growth. For this matter, it would be more beneficial to support a few high growth potential ventures than many limited growth potential startups, especially when resources are limited. Also, Shane (2009) and Acs et al. (2016) corroborate this by defending that it is better to invest in a few high-quality and promising startups than in many "*wage-substitution businesses*" that will lead to public money waste.

Nevertheless, if the primary goal is to build an ecosystem, then the programme may need to fund companies that may not be likely to generate a significant return, as it can result in a larger and stronger ecosystem (Christiansen, 2009). After that, the high-quality growth strategy may be adopted.

Duration

The question about the most suitable duration for an acceleration programme is a very important one. As already stated, acceleration implies short periods of time (3-6 months), but how to decide what the best duration is?

For Christiansen (2009), programme duration or timeline should be long enough to enable startup founders to develop a demo product and a pitch.

Depending on the industry, time required before a true demo is ready can be shorter or longer (Christiansen, 2009). Corroborating, Barrehag et al. (2012) refer that with some accelerators, exit strategies might vary depending on the goals set for return on investment.

Educational Programmes

In regions without a strong history of entrepreneurship, educational programmes should be more comprehensive, while accelerators that focus on more experienced entrepreneurs could develop a more tailored educational programme. Despite this, product-specific advice and education should be included as a part of every accelerator programme, in order to promote the long-term success of ventures (Christiansen, 2009). According to Wright (2018), a key component of educational programmes is question and answer panels and discussion sessions on the relevance of the learning issues and startups survival.

The programme's focus choice is critical and a prior survey to the city or region resources and capabilities is needed before starting (Christiansen, 2009).

Networking and Alumni Relations

Since networking opportunities are usually one of the main reasons for entrepreneurs to apply for accelerators (Barrehag et al., 2012; Brown et al., 2019) and increase connections to the regional entrepreneurial ecosystem (Goswami et al., 2017), they should be considered as the opportunity for startups to work closely together in activities like workshops; joint learning activities or shared office space (Christiansen, 2009; Barrehag et al., 2012). This should be even more reinforced in niche accelerators, where peers advising is more implementable (Goswami et al., 2017).

At universities, alumni, professors, entrepreneurs in residence, teachers of entrepreneurship or coaches of entrepreneurial creativity and business plan development, should be engaged in the process, as they can facilitate the internal and external environment connection. Furthermore, alumni entrepreneurs may be involved to contribute to the ecosystem as mentors, coaches, investors or advisors, as they already became successful professionally (Wright et al., 2017)

Community Capital or Social Capital

Bliemel et al. (2019) highlight that to create a virtuous cycle within entrepreneurial ecosystem, accelerators must provide human, social, cultural, financial, political capital. Otherwise, the entire virtuous cycle could collapse, e.g., lack of seed capital can make entrepreneurs look out the ecosystem to find it.

A resource-rich environment can attract the best startups focusing on a specific industry or technology and may be attractive to stakeholders, as mentors, even at an early stage (Christiansen, 2009).

Metrics and Outcomes

While the acceleration process itself refers to “growth”, which can be on number of customers and revenues or team capacity and maturity, these goals are usually time-compressed (Shankar & Clausen, 2020) and depending on the goals of each accelerator programme, “success” may differ (Hochberg, 2016).

Dempwolf et al. (2014) argue that accelerator metrics should address participation, process and performance for four distinct constituencies: startups, activities, sponsors, and follow-on investors. Such metrics would allow for true comparisons across the various types, business models, industries and so forth. They may also help distinguish new accelerator models, as the market for accelerators continues to grow.

Crisan et al. (2019) present a series of cited outcomes that can be described as “soft” and “hard”. Network building, innovation enabling, entrepreneurship nurturing and promoting people’s tolerance to failure could be understood as the “soft” ones, and funding, market access, access to research facilities and exits could be described as the “hard” ones.

CONCLUSION

The reasons behind the implementation of an accelerator or an accelerator programme are related to IPStartUp management vision and to IPS mission. As a HEI, IPS is committed to enhancing knowledge and technology transfer to society, and IPStartUp must follow those premises, to get legitimacy and stakeholders’ credibility, which is essential to get their support (Pauwels et al., 2016).

The strategy followed by the incubator management regarding the implementation of an entrepreneurial ecosystem, both internal and external, seems to be in line with Isenberg (2010), as it uses all resources available and aims to achieve maximum growth, but at the same time delays it a bit by gathering more participants, while constructing a community.

The incubation model and its activities promote the creation of new and high-value, knowledge-based organizations, but the acceleration can increase growth, qualified employment creation and generate significant revenue, which has not been the case in the first years of the incubator implementation.

As the incubator achieved a steady credibility inside its mother institution, it is important to take the next steps towards growth and a next generation of ventures, supported by regional ecosystem stakeholders.

As a contribution for universities that intend to start their own accelerator, this study identifies ten main dimensions that ABI should reflect on before implementing their own acceleration programmes or associating with other accelerators. Table 4 sums up these dimensions, focusing on ABI perspectives.

All these dimensions are considered of the utmost importance, but dissemination and communication activities need to have a special consideration. No ABI is successful if teachers, students and graduates are not aware of its existence (Pinto et al., 2020) and for that matter neither is an acceleration programme or an accelerator. Due to the time and efforts it utilizes (Pinto et al., 2020) and having in mind that ABIs run on a non-profit basis, human resources might be difficult to allocate, so ABIs internal teams might have to be creative.

Soon, more studies are needed to understand the impact of acceleration programmes linked to ABIs. The diversity of outcomes that can be achieved must be clarified, so that comparisons are possible and HEI top management can take more informed decisions towards the investment in these support activities that are also part of their mission but lack the “numbers” to be evaluated.

Table 4. Dimensions for reflections under implementation decision for ABI accelerators

Strategy and Target Focus	Evaluate HEI and ABI policy focus
	Take into account regional stakeholders interests
Expertise	Rely on ABI directors expertise as well as on the mentors' network with a vision to improve it Select participants that fit best with that expertise Promote a culture of knowledge exchange
Branding	Invest on branding activities such as communication and dissemination that catalyzes visibility and credibility
Size	Evaluate the internal structure and facilities before defining the number of participants
Funding	Look for investor possibilities and evaluate own seed funds
	Depending on industry focus or not, specific stakeholders have to be involved
	Create rules for investment, according to desired goals and outcomes
Duration	While it should not be longer than 6 months, definitions about startups exit achievements will define the length of the programme
	Evaluate technology-base or not, as it will also define the length of the programme
Educational programmes	Entry evaluation criteria should be implemented so that tailored educational programmes are prepared
	A link to HEI and regional resources might be of assistance when designing such programmes
Networking and Alumni Relations	Evaluate facilities that can be used under acceleration
	Involve former founders and corporate mentors
	Put in place future actions, managed by the ABI, for networking activities
Community Capital or Social Capital	Be aware of the resource environment that can be assigned to acceleration activities as it can create either a virtuous cycle or a collapse
Metrics and Outcomes	Define what "success" means and the metrics to measure it
	Monitor accomplishments and involve stakeholders in growth and exit

Source: own elaboration

In the case of public HEIs, as its mission encompasses regional development, knowledge transfer and ecosystem building, the use of resources must be well demonstrated, both for stakeholders and for governmental authorities.

After the 2020 pandemic crisis, HEIs also need to look back on their procedures of incubation and acceleration and make assessments of the before and after pandemic impacts of their programmes. Evaluation may only be possible after a few years, but the decisions to be made regarding implementation should take into account the lessons learned in dealing with creativity and new ventures support during a period of pandemic crisis.

The implemented changes, as mentioned at IPStartUp procedures, must be evaluated in a few years in order to understand if they were completely discontinued or if they need to be understood and considered as part of the day-to-day jobs to be done, as already mentioned in this chapter. As a startup vision induces business incubators to act as learning organizations (Carvalho & Galina, 2015; Carvalho, Backx & Galina, 2019; Carvalho, Backx & Mine, 2020), the adjustment of processes and procedures may be seen not only as a consequence of the 2020 pandemic crisis, but also as the inevitable changing future.

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The main limitation in doing this study was the lack of data, because IPStartUp is a young incubator. Nevertheless, authors were granted access to all data available until now and to primary information, which allowed a more accurate study.

As for future research directions, besides the socioeconomic impact, outcomes and metrics definition previously referred to, studies about the network effect and success or failure case studies should be developed.

For HEIs to achieve a central role in the entrepreneurial ecosystem, they must be able to catalyse all the interactions and achievements and clearly demonstrate their value.

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KEY TERMS AND DEFINITIONS

Academic Business Incubators: Establish practical support for people connected with the entrepreneurship in the campus.

Business Accelerator: Is a programme that supports startups in the access to mentorship, investors and other support that help them become stable, self-sufficient businesses and grow.

Business Incubator: An organization designed to accelerate the growth and success of entrepreneurial companies through support in infrastructures, network, and services.

Incubatees: Free term indicating the entrepreneurial teams formally supported by the incubator.