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Why Startups Fail in Emerging Entrepreneurial Ecosystems

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Abstract
Innovation is key to the economic and social development of any geographical area. Entrepreneurs are the actors responsible for innovation and startups (technology-based companies with high potential for growth and impact) are usually associated with the existence of entrepreneurial ecosystems. This paper aims at understanding why startups fail in an emerging entrepreneurial ecosystem. To achieve the goal, we performed an exploratory research in which entrepreneurs whose startups had failed in the emerging entrepreneurial ecosystem of Porto Alegre, Brazil were interviewed. The insights from the interviews are used to generate ideas on how the different domains of an emergent entrepreneurial ecosystem may influence on startup mortality and to provide possible avenues of improvement for the ecosystem itself. The results show that this particular ecosystem could be much better in avoiding the failure of startups. Policy and Finance are the most problematic areas, while the presence of high-level Human Capital is seen as the strongest point. Culture, Support and Markets are the three middle-ground dimensions. They need improvement, but they are not as bad as the two first ones. A lot of ground remains to be covered in understanding the emergent entrepreneurial ecosystems and especially the failure of startups on these environments. It is necessary to further understand those ecosystems are related to the overall economic situation of the country and especially how better public policy could positively impact.

Keywords
Entrepreneurial Ecosystem; Startup Failure; New Venture Failure; Innovation; Emerging Markets.

1 Introduction

Innovation is key to the economic and social development of any geographical area, and consequently is needed for the improvement on the average quality of life enjoyed by the members of any society. The entrepreneurial judgment and consequent action (Foss & Klein, 2012, 2017) is

what will give rise to innovation which is a consequence of actions taken by a particular set of individuals, the entrepreneurs. Therefore, entrepreneurs, in a broad sense, are essentially innovators.

In this paper, we consider that the main instrument by which entrepreneurs can create value through innovation are startups, that is, new ventures in the process of discovery, development and undertaken of economically viable and scalable business models to [create and] explore marketplace opportunities (Ehrenhard, Wijnhoven, van den Broek, & Zinck Stagno, 2017). However, these kinds of businesses face several challenges in the early stages of their life cycles and many of them fail (Kürcher & Durstmüller, 2019). One of the main causes for these failures is a lack of support from the external environment (Nair & Blomquist, 2019).

The set of environmental conditions that may influence the creation, growth and perpetration of new ventures (Isenberg, 2011) is called entrepreneurial ecosystem. Well developed entrepreneurial ecosystems stimulate the creation of highly successful and impactful ventures that serve as inspirations for a new wave of entrepreneurs (Autio, Kenney, Mustar, Siegel, & Wright, 2014) in a self-fulfilling virtuous cycle. However, if not good enough, entrepreneurial ecosystems may also contribute for startup's negative outcomes. Therefore, it becomes necessary to understand how ecosystems may influence startups failure.

Thus, while many studies seek to identify how entrepreneurial ecosystems are able to foster the emergence of successful entrepreneurs and startups (Roundy, Brockman, & Bradshaw, 2017; Stam, 2015), this paper contributes to the literature from a different perspective. Here we aim to provide insights on how the different domains of an entrepreneurial ecosystem may influence on its startup mortality and use those insights to provide possible avenues of improvement for the ecosystem itself.

For that purpose, we focus our analysis on the entrepreneurial ecosystem domains: Policy, Finance, Culture, Support, Human Capital, and Markets (Isenberg, 2010). This exploratory and qualitative study adopts this point of view to look at the entrepreneurial ecosystem of Porto Alegre, one of the most important cities in Brazil, and uses it as a proxy to similar emergent ecosystems.

2 Entrepreneurial Ecosystems: A Theorethical Framework

The socio-economic configuration that facilitates the raising of new ventures with high growth potential is called entrepreneurial ecosystem (EE). Thus, EE can be defined as a set of interdependent actors and factors that, through their agents, act in a coordinated way to enable productive entrepreneurship within a particular territory (Spigel & Harrison, 2018). A well-functioning entrepreneurial ecosystem must be able to foster the emergence of new high-impact businesses, the startups. One of the most acknowledged and widespread models of an entrepreneurial ecosystem (Stam, 2015) is the one by Isenberg (2010), which argues that EEs can be divided in 6 inter-related domains: Policy, Finance, Culture, Supports, Human Capital, and Markets.

On the Policy dimension, government must feed the ecosystem (Stam, 2015) especially through the promotion of better conditions for entrepreneurship to prosper (Mason & Brown, 2014). One of the Government's main responsibilities is to reduce, ideally eliminate, the constraints to entrepreneurial action. Things such as taxes payment simplification, legislation facilitating and decriminalizing bankruptcy, protection of shareholders over creditors, as well as legislation dealing with and protecting business angels, easier access to capital markets (including creation and liberalization), simplification of employment contracts, and support for the unemployed, are some

of the possible actions that theoretically support entrepreneurial activity and that depend upon policy makers to be putted in place (Autio et al., 2014). However, governments are just a part of the ecosystem and alone they are uncapable of fostering the whole entrepreneurial process. Other ecosystem leaders, such as experienced or serial entrepreneurs, which may serve as mentors for new entrepreneurs (Mason & Brown, 2014), must contribute to its evolution as well (Isenberg, 2010).

The Finance domain deals with the availability, access, and visibility of financial resources, such as seed capital, angel investment, venture capital and bank loans (Stam, 2015). Only by having access to finance, startups will be able to grow, and without such access, promising ideas will starve (Kshetri, 2014). However, money is not the only important asset that comes with the investment. Mentorship, workplace, networking, and access to consumers are also crucial for a well-functioning entrepreneurial ecosystem (Zahra, Wright, & Abdelgawad, 2014).

Culture emphasizes the influence of the general attitude towards entrepreneurship. The culture of a particular environment will be highly influential in the propensity of people to take the entrepreneurial risk and face uncertainty and possible failure and all its consequences. Failure is a natural part of the entrepreneurial (and innovation) process and it is a common step in entrepreneurs' careers before they reach success (Isenberg, 2010). Hence, societies that aim higher levels of socioeconomic development must value entrepreneurship and must learn to deal positively with failure. The spread of successful stories, the existence of entrepreneurship events, competitions and prizes, and positive media for the entrepreneurs can encourage others to become entrepreneurs (Isenberg, 2010).

The fourth domain is Support, which refers to actors that foster the connections on the EE and back new businesses up, providing infrastructure and support services. Thus, Support can be divided in three major groups: infrastructure providers, non-government entities, and service providers. The first group includes the telecommunication, transportation, logistics, coworking spaces, energy and science parks (Isenberg, 2010) as well as safety conditions in emergent economies (Endeavor Brasil, 2017). Non-government entities include business accelerators, hubs and business incubators (Arruda, Nogueira, Cozzi, & Costa, 2015). Finally, professionals and service providers such as lawyers, accountants, consultants, software developers and hardware suppliers are in the last group (Mason & Brown, 2014).

The Human Capital is the fifth dimension of the ecosystem and refers to the availability of skilled workers, whom will increase the competitiveness of new ventures (Florida, 2002). Therefore, this domain highlights the importance of highly qualified training and education for present and future workers in the ecosystem, given that the most entrepreneurial regions are those with the most skilled workers (Zahra, Wright and Abdelgawad, 2014) and which are also capable of attracting high-skilled professionals from other regions (Neck, Meyer, Cohen, & Corbett, 2004). In that realm, the presence of educational institutions, mainly high-level universities, is seen as crucial to the success of the ecosystem.

The last domain is Markets. It emphasizes the benefits startups could derive from networks and the relationships with larger corporations. Larger companies may serve as clients, partners and investors for startups. Also, they can usually attract high skilled people to the area as well as qualify new professionals that might end up working for/funding startups. Those larger companies can also create programs to foster the emergence of new ventures. Moreover, some of them invest directly, providing resources, workspace, and commercial opportunities – as first clients for instance. This relationship between larger corporations and startups encourages new ventures through knowledge spillovers and it becomes source of information, resources, and access to markets (Zahra et al., 2014). Also, networks allow entrepreneurs to access new opportunities (Faroque, Morrish, &

Ferdous, 2017) and learning, which is facilitated by the geographical proximity (Fu, Revilla, Diez, & Schiller, 2013).

Therefore, these dimensions point to the elements an EE must have to facilitate the thriving of startups. However, every entrepreneurial ecosystem is peculiar to each context (Spigel, 2017), and although good practices may be similar between ecosystems, it is not possible to have a final model. Here, we understand that emergent entrepreneurial ecosystems are the ones in emerging economies that have to face the institutional drawbacks typical of those territories (Gaughan, Javalgi, & Young, 2018). We consider that such ecosystems may have peculiar characteristics in relation to the death of new businesses, since the failure of startups is highly contextual and influenced by the localization of the venture itself (Nair & Blomquist, 2019).

3 Startup Failure in Entrepreneurial Ecosystems

According to Nummela, Saarenketo & Loane (2016), startup failure can be viewed as a result of unexpected events or avoidable errors leading to an undesirable outcome (startup closure), which includes insolvency, bankruptcy, poor performance as well as other insights about what entrepreneurs consider a failure. Besides individual mistakes made by the entrepreneur, there are also problems outside of entrepreneur's control that causes the death of a venture (Cardon, 2011). Thus, we use Isenberg`s (2010; 2011) model for understanding the influence of the entrepreneurial ecosystem on the circumstances that entrepreneurs have faced determining their startup failure (Jenkins & McKelvie, 2016).

In the Policy domain, failure often come from public policies or macro-environment not conducive to entrepreneurship. Thus, startup may fail as a consequence of a lack of support from the government, i.e., when the legal, regulatory, financial and political frameworks do not correspond to the needs of the startup (Carter & Wilton, 2006). However, these conditions are contextual, and these unavoidable factors (by the point of view of the entrepreneurs) can vary substantially from place to place (Maté-Sanchez-Val, López-Hernandez, & Fuentes, 2018). These differences must be considered in government strategies to improve entrepreneurship policies (Cardon, Stevens, & Potter, 2011).

Among the types of failures, the most common in the absence of financial capital is bankruptcy, which can occur when there is no more money available to invest in that particular startup, whether seed money, angel investment, debt, investment from accelerators or other kinds of financing (Spigel, 2017), such a situation limits the capacity of operation and consequently jeopardizes the survival of the business (Kshetri, 2014). Therefore, in the Finance domain, the lack of financial capital may lead a startup to insolvency or cause its early death (Schwarzkopf, 2016). On the other hand, a high rate of startup failure in the ecosystem may negatively influence the subsequent supply of financial capital for new ventures (Nair & Blomquist, 2019).

The Culture domain, in turn, may encourage entrepreneurs who have failed and help them to avoid the fear of (a new) failure (Spigel, 2017). Failing may have an important role, as it provides learning opportunities (Jenkins & Mckelvie, 2016), entrepreneurs also have to face financial, social and psychological costs as their startup dies. Moreover, failure may be an emotionally traumatic experience (Ucbasaran, Shepherd, Lockett & Lion, 2013).

In the Support domain, entities must help startups prevent failure especially through knowledge and opportunities to learn from past mistakes of other ventures in other places. These support institutions, especially in the case of business incubators, also contribute to startups survival enhancing their social capital through networks and to their access to physical, financial, human, knowledge and technological resources. In complex and uncertain environments, mobilizing

sufficient resources, securing legal recognition, creating awareness among potential customers, and negotiating favorable terms with stakeholders are crucial steps for startups (Nair & Blomquist, 2019), ones in which incubators may help a lot. On the other hand, both the support institutions and the support professionals may help entrepreneurs to prevent errors in contract design, avoid costs of not adopting a formal interaction with stakeholders, and also minimize the possibility of failure (Azoulay & Shane, 2001).

Lastly, the Human Capital domain may help in avoiding startup failure through training and education. Training in managing skills is especially important, since the lack of business and people managing capabilities are drivers for the failure of startups (Nummela et al., 2016; Chatterji, Delecourt, Hasan, & Koening, 2019). Hence, this domain also highlights the importance of universities and qualification centers for the training of entrepreneurs and their human resources, so startups are less likely to fail (Maté-Sanchez-Val, López-Hernandez, & Fuentes, 2018).

Finally, in the Markets domain, a lack of a viable bridge between startups and large companies may contribute to the failure of these new ventures and also to the failure of the ecosystem itself (Auerswald, 2015). In addition, large companies may provide access to early adopters, whom are especially important for the first tests, sales, and even. the survival of the startup (Schwarzkopf, 2016). Still in this domain, networks may also be crucial to the success or failure of a startup, since low network connections (Kücher & Feldbauer-Durstmuller, 2019) may hinder the information flows, knowledge spillover and access to resources towards the new ventures (Nair & Blomquist, 2019).

Moreover, what both researchers and practitioners must know about startup failure is that it has both a bad and a good side. On the negative side, besides the direct impact on the new business, the failure of startups can jeopardize the availability of resources in the ecosystem, such as financial and cultural capital. On the other hand, the knowledge spillovers generated by the death of a startup should provide learning (and possibly people and financial resources) for the others that stay on business (Nair & Blomquist, 2019). Thus, even the death of a startup may be beneficial to the ecosystem. As in biological ecosystems, in which new organisms feed on the death of others, the death of startups in EE should mean the success of others, as a result of the availability of resources and the learning provided by the failed cases (Ucbasaran, Shepherd, Lockett & Lion, 2013).

4 Method

This paper used an exploratory multi-case approach to identify why startups fail in an emergent entrepreneurial ecosystem. In-depth interviews were conducted to bring up the perceptions of former startup entrepreneurs' that were/should have been inserted in this ecosystem. The data was collected via one-to-one interviews, consisting of individual discussion sessions between interviewer and interviewees (Hair, Celsi, Ortinau, & Bush, 2008), and aiming to evoke interviewee's perceptions and opinions (Creswell, 2009) on the reasons why their startups failed and the influence of the EE on that.

Due to the inherent dynamism of the emerging entrepreneurial ecosystems, only startups that had their final activities up to second semester of 2016 were analyzed. Companies that closed activities before that time are part of an entrepreneurial ecosystem that is possibly very different form the present one. Another important characteristic to select the interviewees was success. Success was defined based on one of the two 'success indicators', either: a. at least some revenue at some point, or b. actual client acquisition via formalized contracts. Startups that closed activities before the second semester of 2016 or that do not have had at least one of those two success indicators were not considered in the analysis and their entrepreneurs were not interviewed.

Ten (former) failed startup founders from the Porto Alegre EE, selected by convenience and using a snowball approach, were interviewed. Interviewees responded to a semi structured questionnaire divided in three general areas: on themselves as entrepreneurs, on the startup that they lead and, finally, on their views on Porto Alegre's EE. The interviews were all conducted in Portuguese and took circa one 65-70 minutes each. Responses were analyzed jointly as a way to give a whole picture from the influence of the EE on the startups' failure.

5 Discussion

Brazilian entrepreneurs must face structural challenges in their ventures. Some of the numbers give a rough idea: around US$ 250 mi were invested in startups in Brazil in 2017, against USS 24 bi in the US. Brazil's grade in access to venture capital is 2.5 (out of seven), Israel's is 4.7. On average, it takes almost three months to open a business in Brazil, in Singapore it can be done in less than three days. 70% of the profit in Brazil is spent on taxes. Brazilian legislation was rated 2 (out of seven) in its easiness to hire and fire personnel. The educational system is one of the worse in the world and the country is not able to attract highly educated individuals (Brasil - Secretaria Nacional de Juventude, 2018).

However, some Brazilian cities are more prone to entrepreneurs than others. Among them, São Paulo, Florianópolis and Vitória are the three most entrepreneurial ones. In this study we chose Porto Alegre as the locus of this research given the city, which has the sixth largest GDP of the country and around 1,5 million inhabitants, felt 8 positions – from 7th to 15th - in one year in the Brazilian Entrepreneurial Cities Ranking (Endeavor Brasil, 2017). Thus, we seek to analyze the conditions of this environment in relation to the failure of startups in its EE.

According to the An Lab (An Lab – Innovation Lab., 2018), Porto Alegre has more than 300 actors in its whole startup environment, including 166 startups, 36 coworking spaces, 16 incubators, 5 accelerators, 19 support entities, as well as 5 funding agents, and 16 higher education institutions. The city features also several other innovation initiatives, like the Porto Alegre's Sustainable Innovation Zone (ZISPOA), the InovaPoA, an innovation and technology office directly connected to the municipal mayor; the Poa.hub, a public incubator, and many others.

The interviews indicate that many improvements are to be made in this particular EE if it is to actually foster startup creation and development. The entrepreneurs' perspective on each domain provides some understanding of this emergent EE, and supports the development of some suggestions on how it could be improved.

Policy and Finance are probably the less developed dimensions in Porto Alegre. Since the government in Brazil has three different levels (Federal, State and Municipality), a generous change should be made in all of them to clear the path to the entrepreneurial endeavor providing less bureaucracy and easier taxes for entrepreneurs and investors. On the other hand, the presence of high-level human capital is seen as the strongest point of the Porto Alegre's ecosystem. Culture, Support and Markets are the three dimensions in the middle, they have got to improve, but their influences are not as negative as the two first ones.

Public policies initiatives were mentioned by some entrepreneurs, but it easy to notice that the policies in place are not being properly marketed by the public sphere. The government has to better communicate the available policies that could benefit the development of startups. Also, the different governmental hierarchies must work to remove the bureaucratic barriers as a way to facilitate the startup's access to markets.

Access to smart money in early stages was broadly mentioned in the research as one possible cause for failure. Financial resources give the startup more time to learn about the market and, with

more time, pivoting the solution if necessary. The access to finance is complicated by the complex legislative background that must be modified to become more entrepreneurial-friendly. Still on the financial side, mentorship that comes with smart money is capable of accelerating the learning and helping entrepreneurs avoiding failures. Unfortunately, the access to financial resources also depends a lot on friendly legislation that is not easy to change. So, although smart money availability is undoubtedly positive for the success of entrepreneurial ecosystem, this is hardly in a foreseeable future in the Brazilian case.

Three of the points that were made earlier about Porto Alegre were also detected as some of the main problems in the Brazilian entrepreneurial ecosystem. The Brazilian Youth Secretary (Brasil, 2018) points to reducing the time to open a company (bureaucracy), to facilitating the access to capital via angel investment, and to spreading the word about public policy initiatives that may facilitate the entrepreneurial action, as three of the four main problems in Brazil. The fourth one is seen as lack of entrepreneurial education in the country. This shows that the results of the research are in line with the general understanding of the Brazilian situation and that in spite of the huge environmental differences in Brazil, many problems concern the country as a whole.

The average age of the entrepreneurs in the Porto Alegre ecosystem is fairly low. As demonstrated by Azoulay et. al. (2018) most successful entrepreneurs are older and carry a lot of industry and entrepreneurial experience before hitting a home-run. The past experience in entrepreneurial endeavors will be a plus for the interviewees in their possible future ventures.

The existence and development of relationships between actors seems to be very important. Better networks are capable of facilitating the access to finance, to labor and even to better public policies. The relationships throughout the ecosystem should be further understood. Networking clearly helps as the information flows occur faster and with less noise than information obtained in the market, furthermore, networks also provide freer information than the one that comes from a hierarchy (Kaneko & Imai, 1987).

Access to real-life close-by examples and networking with successful entrepreneurs both from Porto Alegre and from outside, including abroad, would be very valuable. Seeing that regular people succeed in their ventures and recognizing that they faced similar difficulties can be a breath of fresh air to the startup entrepreneurs. The network in the Porto Alegre's EE has much to improve. Business' and technology developer's networks are completely disconnected and need to be closer in order to generate more possibilities of successful collaboration. In general partners have similar backgrounds also due to that separation between the two aforementioned fundamental areas, this must be changed. Infrastructure and educational institutions have a big role to play on that.

The general feeling is that the ecosystem as a whole is getting better little by little, but there is still a lot of room to improvements in all areas. Spaces to help in the development of early stages startups are much needed. An infrastructural organization that could provide services to would-be entrepreneurs in pre-acceleration phases of startups could be very important to the development of the whole environment. Failing and pivoting fast can help in the development of more solid business models and this could be achieved faster if there were a supporting institution to accelerate the process.

6 Practical Contributions, Limitations and Further Research

Since changing important legislation is mostly outside of the scope of municipalities, the public policy should provide a stable and safe (in terms of municipal legislation and security) environment so startups are less likely to fail. The municipality should focus in providing spaces and opportunities for networking between the current and future entrepreneurs possibly including a

space/program to offer mentorship for very early stage companies. Providing funds is not advisable for two main reasons: the very complex financial situation of the municipality and; the almost certain use of political influence in the distribution of those resources.

Finance also depends on proper legislation that is outside of the scope of the municipality. In that area investors should be more capable of understanding the risks and possibilities involved in the startup environment. To do so they should learn more about the market and its peculiarities to be able not only to invest, but to participate as advisors in a number of companies. Associations of investors and the help of private institutions in the development of skills are also advisable.

The cultural aspect is harder to change. Entrepreneurs must understand the cultural environment in which they are inserted and have to try to deal with it the best they can. They have to be ready to face the environmental difficulties imposed by a more conservative background (in terms of business failure) of the people in the south of Brazil and should be capable of joining forces with people that share the same cultural norms. Private institutions and universities could support programs to try to change the mentality of their public, since it is very hard to do something like that from a broader perspective. Furthermore, local succeeded startups should be seen as role models by society. Their founders must be invited to talks and lectures in events, acceleration programs, incubators and universities.

Support has a lot to improve. Most coworking spaces, accelerators, incubators, and consultants need to work to develop the proper networks. It seems that many of those institutions are isolated and this makes it harder for the people that they aim at helping to develop better and faster. On the other hand, accountants and lawyers need to specialize and be able to deal with those newer forms of organization. One important example of the positive impact of the Support domain on startups' perpetuation is a recent study showing that circa 70% of the Brazilian startups that reach incubation phases tend to remain active (Sebrae/Checon Pesquisa, 2017).

As for the Human Capital, the most important thing is to provide information on how startups really work and try to give to the students viable alternatives to initiate their startups while in college. Furthermore, professors should be aware of the new possibilities of entrepreneurship and should, in addition to the common teachings of new-ventures, add the startup track to their entrepreneurship courses. Also, universities should provide spaces for students from different areas to get to know each-other, generating new networks among different specialties and the social proximity (Letaifa & Rabeau, 2013) needed to foster collaboration and partnerships and eventually resulting in an academic spinoffs. Startup founders must be aware of the implications of having and choosing cofounders, especially because motivation and financial capacity to engage on the startup is fundamental.

Discussions with current and former entrepreneurs should be part of college's daily activities as a way to show to the students that success is not far away and that failure is also part of the learning process. Educational institutions should also pay attention to the formation of human capital on entrepreneurship research as well. Two of the three largest universities in the city have Master's and PhD programs on innovation, but theoretical and field research on entrepreneurship still has low visibility.

It is necessary to foment the development of entrepreneurial networks and connect the newbies to the larger companies from the beginning. The entrepreneurs have to be able to test their products and presenting prototypes to potential adopters, this could be facilitated by universities and private institutions (such as makers rooms) providing access to basic tools and network. Furthermore, the cultural aspect of the larger companies has to be considered as well. Established companies must be more open to collaborating with startups as 'angel customers'. Those initiatives have to be beneficial for the larger companies, of course, but they can be fundamental to the startups, since

they end up providing capital to keep the companies rolling and client's portfolio that facilitates the acquisition of more customers.

The present work is a single study case and thus has very limited generalization capabilities, furthermore, the sample selection could lead to unintended biases. The single interview per case is also a drawback, since it does not allow triangulation, which is advisable when inferring results from interviews. To better understand the emerging entrepreneurial ecosystem phenomena, it is advisable to replicate this research in different cities across the globe. However, the prospective approach used in this paper is advisable as a first step to understand a scientific problem. For a deeper understanding of any emergent EE, and especially its relation with failure, it would be important to have a panel following startups along their different development stages and trying to understand how each of the different domains impacts their development as time passes. This paper serves as an input to further research on the same topic in similar situations and can also be used as a benchmark to compare to other studies.

There is also a lot of ground to be covered in the understanding and identification of the necessary characteristics and features of emerging entrepreneurial ecosystems. Looking at unsuccessful entrepreneurs can provide deeper insights on the reasons for failure which could be beneficial to the development of better public and private solutions to the current and future emerging entrepreneurial ecosystems.

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