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Start-ups down under: How start-up communities facilitate Australian entrepreneurship

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Abstract

Although the number of incubators, accelerators, co-working spaces and science parks is rapidly increasing around the world, little academic attention has been paid to the start-up communities that these initiatives create. This paper responds to recently made calls for in-depth research into this growing phenomenon, by qualitatively studying the benefits that start-up communities offer to entrepreneurial ecosystems, entrepreneurs, and start-ups. We study the start-up communities in three cities in Australia, a country that has seen a rapid growth in entrepreneurial activity. A total of 53 semi-structured interviews were conducted with entrepreneurs and community managers, such as incubator- or co-working space manager. For the entrepreneurial ecosystem, we found communities to create legitimacy, and to attract new stakeholders. Communities were found to provide entrepreneurs with an inspiring environment, a shared sense of belonging, encouragement and ambition. For start-ups, the community is a source of both tangible and intangible resources. We also found multiple risks to be associated with start-up communities, as it can be difficult for entrepreneurs to stay focused, maintain a work-life balance, protect the start-up?s IP, and create a unique company culture. The benefits and risks associated with the community were found to be conditional to the community?s size and diversity. Finally, we found incubators and co-working spaces to influence these conditions, by introducing community



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1 Introduction

Governments all over the world are taking measures to improve the conditions for high-tech start-ups (Isenberg, 2010). Australia is a notable example of this. This country has experienced a tremendous economic growth between 1991-2013, which was for a considerable degree due to the flourishing Australian mining industry (Battellino, 2010; Business Spectator, 2013). However, the mining boom is now coming to an end (Sydney Morning Herald, 2013) and the various Australian governments are looking for more innovative and sustainable ways to nourish economic growth. For example by supporting initiatives such as the Discovery Translation Fund (ANU Connect Ventures, 2013) and the Innovation Connect grant program, both of which support entrepreneurship and innovation in the city of Canberra (ACT Government, 2013). Consequently, the number of Australian start-ups has seen a considerable increase from 2007 onwards (PWC and Google, 2013).

This recent growth in entrepreneurial activity is accompanied by a fivefold increase in the number of co-working and collaborative workspaces, incubators and accelerators; in February 2013 there were 62 of these places all over Australia (Shareable, 2013). These programs provide support to start-ups (Hackett and Dilts, 2004; Bergek and Norrman, 2008) and facilitate the growth of start-up communities. Start-up communities can tentatively be described as local informal networks of entrepreneurs that support and encourage each other by sharing their resources and passion, thereby facilitating learning and innovation (Wenger and Snyder, 2000; Davidsson and Honig, 2003; Feld, 2012; Van Weele et al., 2013). Start-up communities strengthen the entrepreneurial ecosystem by attracting stakeholders (such as new entrepreneurs and investors) and creating more legitimacy for start-ups as an organizational form (Barabási and Albert, 1999; Zaheer et al., 2000). In addition, these communities provide entrepreneurs with opportunities for collaboration, as well as encouragement and even a shared sense of belonging (McAdam and McAdam, 2008; Van Weele et al., 2013).

Start-up communities exist on different levels, as entrepreneurs interact with each other within coworking spaces (Spinuzzi, 2012), incubators (Hughes et al., 2007), science parks (Bakouros et al., 2002), cities (Feld, 2012), or geographic regions (Saxenian, 1996). Although communities come in different shapes and forms, empirical studies have been mostly limited to the interaction between entrepreneurs in the context of start-up support, such as incubators. Further, despite the growth of start-up communities, and the potential benefits they may offer to start-ups, empirical studies have so far yielded contradictory results on their added value to start-ups. While some argue that communities can be an important resource to start-ups (Hansen et al., 2000; Hughes et al., 2007), others disagree: "there is a bulk of empirical work that seriously challenges this proximity effect on client networks within incubators" (Schwartz and Hornych, 2010 p. 486; see also Chan and Lau, 2005).

This paper responds to recently made calls for qualitative research to provide in-depth insights into start-up communities, and the ongoing debate on their impact on start-ups (Soetanto and Jack, 2013; Wang and Chugh, 2014). We will first explore the characteristics of start-up communities and the conditions under which they operate. We will then answer our main research question: which benefits and risks do start-up communities create for entrepreneurial ecosystems, entrepreneurs and start-ups?

Empirically, we investigate Australia as case study. Within this country certain cities have recently seen a strong increase in entrepreneurial activity. We pay attention to Sydney and Melbourne, which are now the two largest entrepreneurial hubs, and the small but growing start-up community in Canberra (Herrmann et al., 2012; PWC and Google, 2013). Our data comes from qualitative interviews with actors (entrepreneurs and community managers) in the start-up community in each of the three cities.

Our paper contributes to the entrepreneurship literature by providing in-depth insights into the benefits and risks of start-up communities, and by showing that both these benefits and are conditional to the community's size and diversity. Practically, the results of this study are of great interest to policy makers and community managers that wish to facilitate the emergence and growth of start-ups, since they can learn from the practices reported here from the Australian context. The remainder of this paper is structured as follows. We will first present our theoretical framework, followed by the methods section. We will then present the results, after which we provide a brief discussion and conclusion.

2 Theory

In this section we outline the theoretical concepts of our framework. A process of constant comparison will be used to interpret our data, and to link our data to our theoretical framework. In addition, new empirical insights will expand and enrich our theoretical framework, thereby developing new theory on the impact of start-up communities. Our conceptual model is presented in figure 1 below. It shows that the entrepreneur, the start-up, and the start-up community operate in the context of an entrepreneurial ecosystem, which we will discuss first. We will then outline the needs of entrepreneurs and start-ups that start-up communities may fulfil. We will then discuss the characteristics of start-up communities (of which we will identify two levels), as well as the benefits and risks they present to entrepreneurs, start-ups and ecosystems.

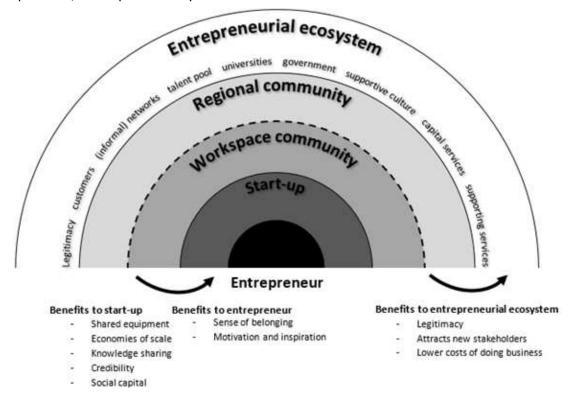


Figure 1. Conceptual model

2.1 Entrepreneurial ecosystem

Entrepreneurs and start-ups operate in an entrepreneurial ecosystem (Spilling, 1996). Other terms that are used to the describe the entrepreneurial context are 'entrepreneurial system' (Neck and Meyer, 2004) or 'regional system of entrepreneurship' (Qian et al., 2013). However, the definitions given to these concepts strongly overlap those of entrepreneurial ecosystem which is commonly defined as "the set of tangible and intangible environmental factors that shape the performance of Micro, Small and Medium Enterprises (MSMEs), or start-ups, in a geographically and politically defined area" (Gnyawali and Fogel, 1994; Fogel, 2001; Goetz and Freshwater, 2001; Turok, 2005; Roxas and Lindsay, 2007). This definition limits entrepreneurial ecosystems to specific geographical areas, which is in line with our approach to study cities. Earlier studies identified various actors that should be present in a favourable entrepreneurial ecosystem: universities to supply knowledge and talent, government to provide financial resources and regulations, professional supporting services such as lawyers, accountants and possibly coaches, capital services to provide financial resources, a talent pool to provide new entrepreneurs or talented employees, and established firms or consumers who serve as customers to buy the start-up's products or services. These actors should be well-connected through formal and informal networks that facilitate the flow of resources between them (Carlsson and Stankiewicz, 1991; Neck and Meyer, 2004; Cohen, 2006).

Within the entrepreneurial ecosystem, networks of actors operate under an institutional infrastructure (Carlsson and Stankiewicz, 1991). *Regulations* may support start-ups by providing financial incentives and tax benefits, or a low number of rules that start-ups have to comply with (Gnyawali and Fogel, 1994; Bruton et al., 2010). In addition, a supportive *culture* encourages and rewards start-ups for taking risks, thinking creatively, and behaving opportunistically (Busenitz et al., 2000; Dickson and Weaver, 2008). As start-ups conform to the norms and values present in the institutional infrastructure, they gain *legitimacy* (Oliver, 1997) which is a key asset for new firms to survive, since it allows the organization to gather more resources (Cyert and March, 1963; Zimmerman and Zeitz, 2002).

2.2 Needs of individual entrepreneurs and start-ups

In determining the benefits of start-up communities it is important to understand the needs that should be fulfilled for start-ups to be successful. Some of these needs are tied to the individual entrepreneur, these are identified using entrepreneurship literature. Other needs are associated with the start-up, and we will use the commonly applied Resource Based View to understand the resource needs of start-ups (Barney, 1991; Rothaermel and Thursby, 2005; Mahoney and Pandian, 2006).

First of all, entrepreneurs need the *ambition to grow* (see Davidsson, 1989; Gundry & Welsch, 2001). According to Raposo (2008) and Hessels et al. (2008)¹ entrepreneurial ambitions are most often the aspiration to achieve *personal success* (e.g. leading an organization or economic ambitions) or the *desire to be independent*. In addition, entrepreneurs can be driven by more externally oriented motives such as *solving a problem* or *improving the world* (Zahra et al., 2009). For technological entrepreneurs, the *desire to innovate* or apply scientific knowledge can also be an important motivation to start a business (Marvel and Griffin, 2007; Morales-Gualdrón et al., 2009). The second factor is *sense of*

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¹ Hessels et al. (2008) also add entrepreneurship out of necessity to the list, but acknowledge that this is mostly applicable to more developing countries.

belonging (Shepherd and Haynie, 2009). Although entrepreneurs often want to distinguish themselves from others, they also have a psychological need to identify and relate themselves to others. This identity seeking can be based on personal relationships, such as friends and family, but also a shared collective identity of a group (Brewer and Gardner, 1996), such as supporting a football team or a nation state.

Resources are "stocks of available factors that are owned or controlled by the firm" (Amit & Schoemaker, 1993, p. 35). The most important tangible resources for firms (including start-ups) are physical capital (land, office, equipment, raw materials etc.) and financial capital (Barney, 1991). Important intangible resources are (Van Weele et al., 2013): technical knowledge to develop new innovations, knowledge about doing business, social capital (e.g. network contacts) to gain access to resources that are not under the entrepreneur's control (Adler and Kwon, 2002; Davidsson and Honig, 2003) and credibility to convince others to invest resources in the new venture (Shane and Cable, 2002; Van Rijnsoever et al., 2012).

2.3 Start-up communities

The word 'communities' has been used in various contexts that represent different levels of aggregation. Communities have been identified and studied in incubators or co-working spaces (Hughes et al., 2007; Spinuzzi, 2012), which implies a specific physical space. Other scholars interpret start-up communities as the interaction between entrepreneurs in science parks (Bakouros et al., 2002), cities (e.g. Feld, 2012), or even regions such as Silicon Valley in California or Route 128 in Massachusetts (Saxenian, 1996). We make a distinction between 'workspace communities' and 'regional communities'. Workspace communities are start-up communities within the physical boundaries of a confined shared work space. Regional communities are start-up communities within a geographic region. The boundaries between these two levels of communities may not always be clear, and different communities may overlap. The literature also remains implicit about at which level, which processes operate. This is something we pay explicit attention to in our empirical results.

2.3.1 Characterizing start-up communities

The concept of communities has received a lot of attention in scientific literature, but in the context of entrepreneurship it remains underexposed. Neighbouring domains in which the idea received more attention are co-working spaces (Spinuzzi, 2012), business communities (Laumann et al., 1978), incubators (Hackett and Dilts, 2004; Bergek and Norrman, 2008), and communities of practice (Brown and Duguid, 1991; Wenger and Snyder, 2000). These insights can be useful for a theoretical understanding of how start-up communities work. Further, the concept is often mentioned in relation to the social capital and informal networks of entrepreneurs (see Birley, 1986; Davidsson & Honig, 2003; Neck et al., 2004). Using this network perspective, communities are not about the egocentric relationships of one focal actor in the network, but rather about the network of actors as a whole (Laumann et al., 1978). However, start-up communities are more than informal networks. Following ideas from communities of practice, they are tightly knit and self-emergent groups (Brown and Duguid, 1991) that are held together by the passion and commitment of its members (Wenger and Snyder, 2000). Community members have a 'give before you get' attitude, as they are willing to help each other and share their experience, without expecting something in return (Feld, 2012). Among the group members there is little to no hierarchy and news, knowledge and information diffuses quite rapidly. Within the community practices emerge and are replicated (Brown and Duguid, 1991). This is in line with views from the social network literature, which claim that close networks foster the development of shared practices, and a *shared identity* among members (Coleman, 1988; Schilling and Phelps, 2007). In addition, shared *norms against opportunism* are developed (Spinuzzi, 2012). Violation of these norms can severely damage the reputation of actors within the community, thereby greatly reducing chances of survival (Zaheer et al., 2000).

In light of these characteristics, we define start-up communities as local informal networks of entrepreneurs that support and encourage each other by sharing their resources and passion, thereby facilitating learning and innovation (Wenger and Snyder, 2000; Davidsson and Honig, 2003; Feld, 2012; Van Weele et al., 2013).

2.3.2 Conditions: size and diversity

Communities operate under certain conditions that influence both the benefits and risks associated with the community.

The first condition is the community's size. A larger community provides access to more resources. However, resources can only be valuable when members of the community are able to access them. When communities are small, networks are informal and relatively easy to manage which makes resources easy to access (Rothschild and Darr, 2005; Aerts et al., 2007). But when communities grow larger, the addition of each new group member implies a larger investment from all existing members to maintain relationships (Burt, 2001). Some connections within the network will not be maintained, with as a consequence that structural holes emerge: not everyone is connected to everyone anymore, and the community might reach a point at which members are not aware of other member's knowledge and other resources (Hughes et al., 2007). Differences in connectedness will exist, which implies different roles, differences in power (Ibarra, 1993), differences in access to information, tasks and a likely reduction in trust and shared norms (Coleman, 1988; Burt, 2000). A possible outcome could be that a large community becomes fragmented in multiple sub-communities that are based on personal relationships, while still identifying with the group identity of the community (Wenger, 2000).

In addition to size, communities require an optimal level of *diversity*. When members have nothing in common, interaction within the community is low (Chan and Lau, 2005). A certain level of homogeneity is therefore desirable, as this creates complementarities among members (Hughes et al., 2007). In addition, for a community to be perceived as legitimate, the members of the community must appear similar enough to the outside to be seen as a group (Navis and Glynn, 2010). However, a community should not be too homogenous, and must be diverse enough to allow for making new combinations that lead to innovations (Ruef, 2002; Nieto and Santamaría, 2007).

The conditions under which communities operate can be. For example, *selection processes* protect communities from growing too large. Selection processes can also influence the community's level of diversity, for example when a particular industry focus is used as selection criterion. In addition, appointing *community managers* is a way to make sure that members stay connected as the community grows. Community managers (such as incubator managers) can make introductions, thereby facilitating social interaction between members of the community (Spinuzzi, 2012). Larger communities more often have community managers (Deskmag, 2012), who thereby enable the community to reach a larger size (and thus value) while maintaining a high level of connectivity.

2.3.3 Benefits and risks of start-up communities

Under the right conditions, start-up communities offer several benefits to the entrepreneurial ecosystem, individual entrepreneurs, and start-ups. However, not balancing the previously described conditions might lead to malfunctioning of the community, creating risks.

Entrepreneurial ecosystems are strengthened through preferential attachment: well connected, visible and legitimate communities *attract new entrepreneurs and other actors* as network partners, for example investors, lawyers, accountants, etc. (Barabási and Albert, 1999). Communities also facilitate the creation of trust-based relationships that make actors more accessible and reduce the need for extended formal arrangements (Zaheer et al., 2000). Communities thereby *lower the costs of doing business*, making the system more efficient. In addition, *legitimacy* for start-ups as an organizational form can grow from the sheer fact that sufficient similar ventures exist (Hannan and Freeman, 1989).

Entrepreneurs are provided with a community of peers whom they can identify with. This contributes to the earlier mentioned *sense of belonging*, and communities can give comfort when entrepreneurs realize that their peers cope with similar challenges (McAdam and McAdam, 2008). Further, communities can help entrepreneurs *to set their ambitions higher* by being inspired by the positive results of close peers (Van Weele et al., 2013) and being able to benchmark their own performance to others (Greve, 1998). Being part of a community requires a time commitment from its members to build relationships. A potential risk of communities is therefore that communities may *distract* entrepreneurs from the day-to-day business (Cooper et al., 2010), especially when communities are large, and the number of relationships that need to be maintained high.

Start-ups get access to valuable resources. For example, start-ups can share physical capital, such as equipment or facilities. This might also create financial benefits, as start-ups may profit from economies of scale when they share office space, facilities or even services (e.g. accounting or legal services) from 'preferred suppliers' (Hansen et al., 2000). Communities thereby give indirect access to financial capital. Start-up communities can also be a source of technological and business knowledge, as members exchange ideas, experiences, or capabilities (Wenger and Snyder, 2000; Neck and Meyer, 2004; Van Weele et al., 2013). As individual start-ups often suffer from a lack of credibility, they can benefit from the success stories of other ventures in the community, by copying best practices or using these examples to demonstrate the potential of their own company. Start-up communities can also increase the social network of its members in two ways. First of all, start-ups may share network contacts, such as investors or prospective clients, thereby directly increasing the social capital of all members (Davidsson and Honig, 2003). Secondly, as mentioned before, communities attract new entrepreneurs and stakeholders through preferential attachment, thereby further increasing social capital. Another benefit of communities is that they pool the resources of all start-ups, which enables them to engage in joint projects, exploring new businesses which they would not have been able to explore only by relying on their own resource base (Hughes et al., 2007). As such, the value of the community's resource base becomes greater than the sum of every individual's resources. Being part of a start-up community may not only be beneficial. Communities may expose start-ups to the risk of involuntary knowledge spillovers, especially when communities consist of very similar or even competing start-ups.

3. Methodology

3.1 Research design

To apply and enrich our theoretical framework we conducted a qualitative multiple case-study, based on theoretical sampling of start-ups, incubators, accelerators and co-working spaces. This research design suits our goal of building new theory on start-up communities (see Eisenhardt, 1989). We studied start-up communities in three Australian cities, which allowed us to explore differences between cities and their start-up communities. Including multiple cities also makes our theoretical insights more robust (Yin, 2009). Sydney and Melbourne are the two largest entrepreneurial hubs in Australia, and have more developed start-up communities. In Canberra, a start-up community is emerging, but the city is not recognised an entrepreneurial hub per se (Herrmann et al., 2012; PWC and Google, 2013). As such, we study locations with and without a strong start-up community. The relatively recent growth in entrepreneurial activity and the contrast between the cities enables us to analyse upcoming regional and workspace communities, as well as their impact on the entrepreneurial ecosystem, entrepreneurs and start-ups.

3.2 Sample and data collection

Data was collected between February and July 2013. During this period of time, one researcher was based in Canberra and immersed in the Canberra start-up community. He worked at the leading start-up support organisation in Canberra, and attended various start-up events in this city. Combined with informal meetings and observations, this further enriched our dataset, and led to an in-depth understanding of start-up communities. Three visits of 3-5 days were made to both Sydney and Melbourne, during which interviews were conducted. At different stages a second researcher joined the interviews to ensure that concepts that the first researcher had missed were included and that the interview results could be interpreted and discussed at an early stage.

Through events, desk research and existing network contacts potential interviewees in each of the three cities were identified and approached. Snowballing proved to be a very effective method of selecting and approaching other interviewees; after each interview the interviewee was asked who would be interesting to approach for an interview next and if the interviewee was able to make an introduction, which interviewees were often willing to do.

In total, we conducted 53 (53 minutes average) qualitative, semi-structured interviews at 17 organisations that support start-ups, including the leading incubators, accelerators, co-working spaces and investors. Most interviewees were affiliated with those organisations, either as staff (community manager), investor or as tenant. The entrepreneurs in the sample ranged from receiving intense support, to having received help once or twice. Our sample contained three entrepreneurs that were not affiliated with an incubator or co-working space to include the perspective of entrepreneurs who are less involved in a start-up community in a city. All-but-two of the entrepreneurs in the sample had a technical product. This could be either hardware or software. Although there was no demarcation by sector or industry; the start-ups in the sample were mostly active in web and mobile applications for consumers and clean-tech. The start-ups themselves were highly diverse, and ranged from nascent, one-man businesses to 17 year old, 30+ employee companies. Although one could argue the latter is not a start-up, it is part of the community and can provide additional insights in how start-ups can be supported. Additionally, the sample included five university staff involved in supporting

entrepreneurship to gain additional insights. When possible we performed the interviews face-to-face. In two instance Skype was used. An overview of the interviewees is presented in table 1.

City	Number of interviews	Interviews per category
Sydney	16	12 Entrepreneurs
		5 Community managers
		2 Investors
Melbourne	17	10 Entrepreneurs
		8 Community managers
		3 University staff
Canberra	20	14 Entrepreneurs
		7 Community managers
		1 Investor
		2 University staff

Table 1 Overview of interviews per city and per category. Interviewees often fit in more than one category, e.g. someone can be an entrepreneur and have a facilitating role in a co-working space, or one can be a coach to one company while investing in another. Interviewees could also be familiar with the start-up communities in different cities. Consequently, the number of interviews per category add up to more than the total number of interviews of 53.

3.3 Interview scheme and data analysis

We primarily used open-ended questions which enabled the interviewees to explain and clarify their answers. The interviews were roughly structured as follows: entrepreneurs and community managers were first asked to introduce themselves and their start-up or their organisation. The core of the interview consisted of some personal question; questions about the resources that start-ups lacked and support that was offered; and questions about the start-up community and how it influenced their business practice. In many instances the interviewers asked additional probing questions to let the interviewee elaborate upon the initial answers. The initial interview scheme (which is given in Appendix 1) does not contain all concepts of our theoretical framework. This is because both our theoretical framework and the interview scheme were adapted as the research progressed, and new insights were gained, which reflects the iterative nature of the qualitative research process (Bryman, 2008).

Interviews were recorded and transcribed. In four instances this was not possible because the interviewee did not allow this or for practical reasons. However, the notes taken during those interviews were sufficient to draw up an interview report. The interview transcripts were analyzed using the qualitative data analysis program NVivo. The first four interview transcriptions were coded independently by two researchers, one of whom had not been present during the interviews. This reduced personal bias. Codes were compared and discussed to make sure both researchers had the same interpretation and understanding of the concepts. During the initial phase of coding we interpreted the codes in terms of the concepts from the theoretical framework, while at the same time being open to new codes and concepts, which is in line with Glaser and Strauss' (1967) approach to qualitative data analysis. Next, we used axial coding to relate codes and concepts to each other and selective coding to narrow our focus to the core concepts of this research: the entrepreneurial ecosystem, the needs of the individual entrepreneurs and start-ups, and the characteristics, conditions, benefits and risks of start-up communities.

4. Results

Before interpreting our results on start-up communities, we will first discuss the context in which these communities operate. We will therefore briefly describe the Australian entrepreneurial ecosystem, as well as the needs of individual start-ups and entrepreneurs.

4.1 Australia's Entrepreneurial Ecosystem

Although Australia is one of the largest nations in land area, it is very thinly populated with only 23.1 million inhabitants, who mostly live in cities (Australian Bureau of Statistics, 2013a). The country has seen nothing but economic growth the past twenty years, which can be largely explained by the growth of the mining industry during that period of time (Battellino, 2010; Business Spectator, 2013). Consequently, Australians belong to the wealthiest people on earth (Credit Suisse Research Institute, 2013), and unemployment is relatively low with an unemployment rate of 5,8% (Australian Bureau of Statistics, 2013b).

The actors that we identified in the theoretical framework (i.e. *talent pool, universities, governments, capital and supportive services*), were all observed in the Australian entrepreneurial ecosystem, as well as the *institutional infrastructure* and *networks* that connect them. For reasons of space, we will only focus on the most notable aspects of Australia's ecosystem. Most importantly, we found Australia's welfare to come with a downside for entrepreneurial activity. First of all, due to the presence of safe investment options, such as investing in the mining industry or putting money on the bank, the incentive to invest in high-risk start-ups is low: "In any other advanced economy in the world, the risk free rate of capital is such that —when inflation adjusted—your money is going backwards. In Australia, it's been going still forwards at about three percent a year" (Community manager, Melbourne). As a result, it is difficult for start-ups to raise capital; although interviewees considered early stage investment to be sufficient, they felt that follow-on funding was lacking. Secondly, as one interviewee illustrated, the low unemployment rate and availability of well-paid jobs take away the incentive for people to become entrepreneurs: "The hunger for innovation is simply not there. Because it's far easier to get a government job, nine to five, or probably more so like 9:30 to 4:37 in the afternoon, and have an amazing lifestyle and get paid ridiculously well" (Community manager, Melbourne).

Australia has a small domestic market that is separated in both time and distance from the rest of the world. Consequently, there are relatively few *customers*, which makes it difficult to create a large scale start-up. In addition, the small market discourages risk taking behaviour, as it leaves less room for error (Ferris, 2001). Ambitious entrepreneurship is further discouraged by Australia's *culture* that, although Australia has a rich history of small- and family businesses, does not encourage risk taking and entrepreneurship. Instead, society encourages the more traditional careers that include a university degree and a corporate job. Some felt that Australia's culture suffers from the 'Tall Poppy Syndrome', which means that high achievers are resented, cut down or criticized because their achievements or ambitions elevate them above their peers: "It's not so much jealousy about wealth or success, it's just there is this strong egalitarian striking a lot of Australian society where it doesn't matter the guy next to you has made 300 million and you made 30 grand last year" (Entrepreneur, Sydney). Although Australia's ecosystem has traditionally been far from ideal for entrepreneurs, interviewees also emphasized that entrepreneurial activity is increasing, and that the ecosystem is becoming more favorable as more people become entrepreneurs.

4.2 Needs of individual entrepreneurs and start-ups

The (resource) needs of both start-ups and individual entrepreneurs were in line with our theoretical framework. Accordingly, there was no reason to adapt our framework, and again, we will focus on the most notable aspects. Interestingly, the risk averse and egalitarian nature of the Australian culture is reflected in the relatively low levels of ambition of Australian entrepreneurs: "There's been a lot surveys to say that Australian entrepreneurs don't have a bigger vision as some of the US entrepreneurs (...) People are starting smaller, more robust businesses that won't have a huge pay-up" (Community manager, Sydney). Although some entrepreneurs mentioned ambitions such as changing the world or creating an international company, most interviewees became entrepreneurs because the lifestyle appealed to them. A variety of personal motivations were found to play a role, that were mostly in line with previous studies, such as a desire to be independent, the ability to make a difference, or the variety of being an entrepreneur. In addition, given that our sample mainly consisted of technological entrepreneurs, the desire to innovate was an important reason to become an entrepreneur, and creating a great product an important ambition: "It's about inventing something, bring it to market, getting some market acceptance, getting some traction... There's a huge amount of personal satisfaction from doing that" (Entrepreneur, Sydney). As such, most entrepreneurs typically did not have as high levels of ambition as entrepreneurs in other countries, which is in line with previous studies (Steffens et al., 2011; Herrmann et al., 2012).

4.3 Start-up communities

We now describe the community's characteristics, conditions, benefits and risks. Our results are presented in table 2 below. As table 2 shows, some concepts are associated with either the regional or the workspace community, whereas other concepts are associated with both. New codes, that were not yet present in our theoretical framework, are marked with (*), both in table 2 and throughout the text.

4.3.1 Characterizing start-up communities

In line with our theoretical framework, we found two levels of communities: the *workspace community* was found in co-working spaces, incubators and accelerators. In addition, all three cities were found to have *regional communities*. Both regional and workspace communities were found to have their own *unique culture*, expressed in the community's practices, language, norms, visual appearance, etc. As such, every community appeals to a different *audience*, and attracts a different type of entrepreneur. On the level of the regional community, the interviewees felt that Canberra, Melbourne and Sydney were all slightly different, and the start-up communities are strongly influenced by the city culture. In Canberra, for example, the strong presence of the government attracts start-ups that tend to be service or consultancy based, and oriented towards the government. Similarly, we found that workspace communities had their own specific *culture* and *audience* as well, as they catered their services and culture towards for example social entrepreneurs, freelancers or start-ups in a particular industry sector.

As each community appeals to a specific type of entrepreneur, a *shared identity* is created, as members identify with each other. A shared *culture* was found in all communities, in which members feel a strong commitment, or *willingness to help* each other: "I think entrepreneurs are very happy to help other entrepreneurs solve their problems. And then when you help someone else, (...) chances are, when you've got a problem, they're going to help you. But you don't do it because you're looking for a favor

	Workspace community	Regional community	
Characteristics			
	- Unique culture: practices, lang	guage, norms, visual appearance, etc.	
	- Unique audience: attracts start-ups in a particular industry		
	- Strong culture: willingness to help		
	- Strong shared identity		
Conditions			
Size of community	- Small: well-connected	 Large: more resources, risk of fragmentation 	
Diversity: in terms of	- Homogenous: common understanding,	- Heterogeneous: cross pollination, ,	
industry, level of	attraction of outside stakeholders, shared	less risk of knowledge spillovers and	
experience, stage	identity	competing start-ups	
	1.0.0.0.0.0.0.0	competing start aps	
Benefits			
To ecosystem	 Pathway for aspiring entrepreneurs* 	 Legitimacy: favorable regulations, 	
		legitimate career choice	
		- Attracts stakeholders	
To entrepreneurs	- Different environment*	 Sense of belonging 	
	 Escape isolation* 	- Legitimacy	
	- Sense of belonging		
	- Ambition: escape TPS, failure accepted,		
	healthy competition, inspiration and		
	encouragement		
To start-ups	- Social capital: contacts of members and managers, attracts stakeholders		
	- Knowledge: informal knowledge sharing, formalized training and events		
	- Physical capital: office space, facilities,		
	equipment, basic infrastructure.		
	- Financial capital: economies of scale,		
	shared services, access to investors		
	- Credibility: through community		
	founders, selection, success stories		
Risks	, , , , , , , , , , , , , , , , , , , ,		
To ecosystem		- Competition for resources*:	
		employees, capital	
		- Wantrepreneurs*	
To entrepreneurs	- Distraction	p	
	- No work-life balance*		
To start-ups	- Involuntary knowledge spillovers		
	- Increased competition*		
	- Dilution of company culture*		
Facilitation	- Dilation of company culture		
i aciiitatiOil	- Co-location	- Events	
	- Events	- Informal community managers	
	- Formal community managers		
	- Selection processes: regulate size,		
	diversity and culture		

Table 2. Characteristics, conditions, benefits and risks of regional and workspace communities. New codes, that were not yet present in our theoretical framework, are marked with (*)

in return. You do it because you see the opportunity to help somebody who's struggling just like you are" (Entrepreneur, Sydney). The shared community culture also creates shared norms. Within the community, certain behavior is expected from its members: "If you're part of the community here it's expected that you're going to ask people for help or advice or whatnot. It's expected that you also help back" (Entrepreneur, Melbourne). Another entrepreneur supported this point, and illustrates that the norms of the community do not accept opportunistic behavior: "You don't want to be known as someone who takes and doesn't give back" (Community manager, Melbourne). In practice, these norms are not formal rules, but more like informal guidelines for behavior, and, together with the community culture, create high levels of trust between community members.

The shared culture was very strong in the relatively small workspace communities. Entrepreneurs interact with each other on a daily basis, develop friendships, and are willing to help each other. However, in the much larger regional communities, we found the overarching culture to be less present. Entrepreneurs were less supportive of each other, and not as willing to share ideas and help each other: "There seems to be a sort of very critical look at one another here, which is kind of unusual. There's definitely not really that sort of like "all in together" atmosphere in the startup world. (...) People are very quick to criticize" (Entrepreneur, Sydney).

4.3.2 Conditions: size and diversity

The workspace communities and regional communities differ in terms of both size and diversity. Whereas the workspace community tend to be small and very tightly connected, regional communities are much larger. Consequently, the connections between entrepreneurs are not as strong as within the workspace community. In addition, differences in size and diversity exist between various regional and workspace communities. For example, interviewees felt that the large regional communities in Sydney and Melbourne were fragmented: the various workspace communities are in contact with each other, but an overarching body or culture is lacking: "Sydney is such a big city that there are lots of ecosystems. So there is the Hub, Fishburners, ATP, Sydney Angels, Innovation Bay, all the universities. (...) It's not possible to be across all of those communities and ecosystems" (Community manager, Canberra). However, interviewees also saw benefits in Sydney's and Melbourne's large regional communities. Interviewees felt that start-ups in these cities have access to more resources: they attract more attention, there is more start-up capital available, and there is a better chance to meet the right people. Canberra, on the other hand, is an example of a much smaller regional community. On the one hand, interviewees complained that they kept meeting the same people. On the other hand, the community in Canberra was described as being very well-connected: "I think the really positive thing about Canberra is that it's small enough to actually make really important connections. And you can get to the really important people really easily" (Community manager, Canberra).

The *diversity* of entrepreneurs is the second condition. Important dimensions of this concept are: *company stage, industry,* and level of *experience* of the entrepreneur. A community that is (to some extent) diverse brings cross pollination, creativity and inspiration: "Diversity drives the innovation. So if you have a designer and a tech head together, than boom, there is innovation" (Community manager, Melbourne). It is also important for the 'give before you get' cultural aspect that some entrepreneurs are more experienced, so that they can help the new generation of entrepreneurs who have just started. At the same time, communities should not be too diverse, as a certain level of common interest is required for valuable interaction. In addition, it becomes more difficult for highly diverse

communities to attract outside stakeholders. One community manager illustrated the difficulties of appealing to external actors when the community is too diverse: "Our problem was that we had hardware and software. Investors were only interested in one or the other" (Community manager, Sydney).

Together, the concepts of *size* and *diversity* help explain some of the cultural differences between the regional and workspace community described in section 4.3.1. The strong supportive culture within the workspace community is the result of a small group of well-connected and like-minded entrepreneurs. In the regional community, the higher level of diversity means that entrepreneurs do not identify as strongly with each other as they do in the workspace community. In addition, due to the larger size, the connections are not as strong. The result is that a strong, overarching and supportive culture is missing in the regional communities.

The conditions under which the community operate can be optimized to maximize its value to entrepreneurs. Selection processes were found to not only regulate the community's size, but also to create an optimal level of diversity, as co-working spaces or incubators were found to select entrepreneurs in a particular industry and stage. In addition, selection criteria were used to ensure a certain quality of the start-up's idea and team. As such, the community's culture is also curated by selecting new members based on their ability and willingness contribute to the community culture by sharing their knowledge and helping other entrepreneurs. One of the interviewees illustrated this: "we want to make sure that everybody here is a) doing a tech startup and b) they are going to be a valued member of the community. If there are here just for office space, we are not interested. We are looking for people who want to contribute back to the community" (Community manager, Melbourne). Secondly, we found community managers to play an important role in connecting different members within the community: "We know them well because we spend a lot of time with them (...). Lots of people have gone through mergers, lots of people hate their boards. We send them down here to have a coffee together" (Community manager, Sydney). Community managers can be formally appointed, such as incubator managers or co-working space managers. We also observed individuals within the community who voluntarily took on the role of informal community manager, making connections and introductions between members of the community.

4.3.3 Benefits and risks of start-up communities

We will now discuss the benefits and risks of communities to the entrepreneurial ecosystem, entrepreneurs, and start-ups.

Entrepreneurial ecosystems are strengthened in multiple ways through growing regional and workspace communities. First of all, the growing start-up communities creates *legitimacy* for entrepreneurs and start-ups. Some interviewees mentioned that, as start-up communities grow and become more influential, the government is more willing to support start-ups through *favorable regulations*: "I reckon levels of government now realize that that's where the job creation is happening" (Community manager, Melbourne). In addition, successful entrepreneurs serve as role models to inspire a new generation of entrepreneurs, thereby making entrepreneurship a more *legitimate career choice*: "Now that the 4.8% have taken off I think a lot more people are starting to realize that it's a valid career option to become an entrepreneur" (Community manager, Melbourne). Besides new entrepreneurs, the growing regional communities also attracts other actors and stakeholders, such as investors, as the investment opportunities become more visual and accepted: "Over the last five years

the growth of the incubator environment has been remarkable. It's created this energy and this ground swirl and it's one of the reasons why there are more U.S. venture capital firms looking into Australia than there were five years ago" (Entrepreneur, Sydney). In addition, the workspace communities provide a pathway* for aspiring entrepreneurs. Interviewees mentioned that, until a couple of years ago, aspiring entrepreneurs that wanted to deviate from the traditional career path did not have a place to go. But as communities develop, they attract aspiring entrepreneurs and provide them with the necessary resources, and thereby with the possibility to realize their entrepreneurial aspirations.

Although the growing number of start-ups help to build the entrepreneurial ecosystem, it also means that a larger number of firms are competing for resources*. An example is the increasing competition for start-up capital: "There is quite a mismatch (...). There's more and more hands held up for an investment from the burgeoning number of incubator and startups but the pool of investors is staying quite the same" (Community manager, Sydney). Other interviewees complained about the availability and costs of software developers: as the number of start-ups grows, finding talented software developers becomes increasingly difficult. In addition, while the growing community creates legitimacy for start-ups, it may also lead to the 'glamorization' of being an entrepreneur: more people want to become an entrepreneur, although they might not have the right qualities. One interviewee illustrated this: "People see the Social Network movie – it's like I startup this face smash thing and next thing I know I'm a multi-billionaire. Everyone can do that, right? But the reality is there is nothing but hard work, a lot of loneliness and a bunch of luck" (Community manager, Melbourne). Some interviewees complained about wantrepreneurs*: people who want to be associated with the status of being an entrepreneur, who talk about being an entrepreneur, but have not (yet) started an actual business, giving entrepreneurs a bad image. One entrepreneur mentioned that it became increasingly difficult to separate entrepreneurs from wantrepreneurs: "There are some great communities here like Silicon beach. You've got cool places to hang out. But you're maybe kind of 20% entrepreneurs and you meet 80% people who are thinking about doing entrepreneurship" (Entrepreneur, Sydney). Ultimately, some interviewees felt that the growing number of wantrepreneurs might lead to a devaluation of the community, as they have little to contribute. However, other interviewees were not bothered by the increasing number of wantrepreneurs, as they might become 'real' entrepreneurs later.

Entrepreneurs benefit in multiple ways from being part of a start-up community. First of all, as entrepreneurs were typically in a very early stage, and not yet able to afford their own office, the alternative to the workspace community was working from home. Working in the workspace community provides several benefits. First of all, just being in a different environment* is perceived as being valuable, as it enables entrepreneurs to separate work from home, and to be in a different atmosphere to work on their start-up: "They need to get out of the house. People sit at home and they're distracted and they're not productive. (...) People have a really good work ethic here" (Community manager, Melbourne). When working from home, many entrepreneurs did not like working all by themselves, so working in a community enables them to escape isolation*: "just having people to talk to and feeling like you're not alone" (Entrepreneur, Melbourne). Further, being surrounded by a group of peers that entrepreneurs can identify with creates a strong sense of belonging, as three quotes illustrate: "knowing that there are other people out there who are doing the same thing (Community manager, Melbourne) It's good to be surrounded by other people who are just as crazy as you (Entrepreneur, Sydney) We're all united in the goal of internet companies. We do startup weekends, lean thinking, that becomes the culture" (Entrepreneur, Sydney). The feeling of

belonging somewhere or being part of something bigger is especially important in a culture where being an entrepreneur is unusual and where people that are trying something different are not necessarily celebrated, as is the case with the Australian culture. The start-up community enables entrepreneurs to escape from the Australian Tall Poppy Syndrome, thereby contributing to the ambitions of entrepreneurs in multiple ways. First of all, interviewees felt that, in contrast to the Australian culture, the community encouraged ambitious thinking, and failure was more accepted. In addition, interviewees described a healthy competition between start-ups within the community. Finally, working along peers with similar goals brings inspiration and motivation, as one community manager illustrated: "[Tall Poppy Syndrome] doesn't exist in here. People get confidence from the fact that the guy that they sit next to on a daily basis is the guy who gets featured on TechCrunch or gets a million dollar investment. And they feel confident that they can actually do it. So there is a level of 'coopetition' rather than a level of competition" (Community manager, Melbourne).

In line with our theoretical framework, we found that, although the community can be a great source of inspiration, it can also be a source of *distraction*. Especially open space workspace communities can get very noisy, making it difficult to concentrate. Also, as the community becomes part of the entrepreneur's social life, it becomes increasingly difficult to find the right *work-life balance**, as this entrepreneur explains: "I found in the last six months, my business became my life (...). The problem with being at [the workspace community] all the time is that you are always talking about work. So even when we go out for a drink or for dinner, we're all talking about work" (Entrepreneur, Melbourne).

Start-ups often joined a workspace community in order to get access to physical capital, such as shared office space, meeting rooms, facilities, equipment and basic infrastructure (e.g. internet, phone, mail address). Given that the shared facilities are often not as expensive as renting traditional office space, the community also provides indirect access to financial capital, as start-ups are able to benefit from economies of scale. Many of the workspace communities provide additional financial benefits through shared services and perks, such as accounting, legal and design services, or web credit for hosting. Finally, some communities were formally connected to one or multiple investors, thereby providing additional access to financial capital. Perhaps the most important aspect of the shared office space is that it enables entrepreneurs to interact, form close relationships through which they share intangible resources. An example of these resources is the knowledge that is shared among entrepreneurs. This can be formal knowledge sharing, in the form of trainings, workshops or dedicated mentors, or informal knowledge sharing between peers: "Every startup problem has probably been experienced by someone in here. (...) For instance trouble with opening an office in Ohio and visa stuff, there is someone in here who has gone through this process and can help" (Community manager, Sydney). We found multiple ways in which being affiliated with a community contributes to the start-up's credibility. First of all, in line with previous studies, we found start-ups benefit from the success stories of other community members. Additionally, start-ups can benefit from the reputation of the community founders, such as a successful entrepreneur, investor, or reputable university. Finally, many communities were found to have a selection process. Being selected by such a community could be perceived as a stamp of approval to outsiders, further adding to the start-up's credibility. Communities provide access to social capital as entrepreneurs leverage their own network and exchange contacts. In addition, the community manager was often found to have an established network, from which the start-ups could benefit. Finally, the community itself attracts other stakeholders, as one interviewee illustrated: "The power of pull (...). To be so attractive that people will naturally come to you, like flies to honey. So we've been partnering up with other networks and organizations. We offer them free event space and the opportunity to hold events here which are open to our members. And that means that we have (...) an opportunity for our own members to sort of meet a different community. So it's networks connecting to networks in that way" (Community manager, Melbourne).

Growing communities also create risks to start-ups. Most of these risks are associated with the workspace community, as they arise when start-ups and entrepreneurs are constantly surrounded by others. First of all, we found that some entrepreneurs were concerned about the possibility of *involuntary knowledge spillovers*. Interviewees felt that these risks were higher in a homogeneous community, as were the risks of having multiple *competing firms** in the community. Because of these risks, entrepreneurs may be hesitant to share knowledge. Secondly, as some interviewees perceived the start-up's identity and company culture as being important to their success, another risk is the *dilution of company culture**, as it may be difficult to create a unique identity and company culture when the start-up is submerged in the community culture: "You build your own culture, you need to be in your own office, you need to be on your own" (Entrepreneur, Sydney).

5 Discussion & Conclusion

This study aimed to provide in-depth, qualitative insights into the benefits provided by start-up communities to the entrepreneurial ecosystem, the individual entrepreneur, and the start-up. We identified two levels of communities: the workspace and regional community. Communities were found to be informal and tightly knit, with a strong shared identity and unique, supportive culture. As such, communities provide entrepreneurs with a sense of belonging and encouragement, which is particularly important given the risk averse and egalitarian nature of the Australian culture. The shared physical capital of communities not only provides start-ups with shared office space and facilities, but also with financial benefits, for example through economies of scale or affiliation with investors. In addition, communities support start-ups through intangible resources, as start-ups share knowledge and network contacts. In addition, start-up communities provide credibility, as start-ups are associated with successful community members or founders, or through the community's selection process, that acts as a stamp of approval.

However, there are also significant risks associated with communities. For entrepreneurs, the frequent interactions within the community can be a source of distraction, and can make it difficult to maintain a work life balance. Start-ups can be exposed to the risk of involuntary knowledge spillovers, and may struggle to create their own identity and company culture. For the entrepreneurial ecosystem, the growing start-up communities may result in a competition for scarce resources (such as start-up capital and employees). Both the benefits and risks of the community are strongly conditional to the community's size and diversity. For example, large communities may have a large resource base, but were found to be less connected than smaller communities. Another example are homogenous communities, that may create legitimacy and visibility to external stakeholders, but also create risks of involuntary knowledge spillovers and internal competition. Community managers were found to influence these conditions in order to maximize the community's benefits, while minimizing the risks associated with the community.

5.1 Limitations

Before drawing the most important implications, some limitations need to be taken into account. First of all, although we collected data from three different cities, our data is only limited to Australia. Our finding that the importance of the community's supportive culture is partly due to the risk averse Australian 'Tall Poppy' culture suggests that communities are influenced by the national context in which they operate. Our findings should therefore be generalized with caution, and it would be interesting to apply our model to other countries in which there is a national culture that strongly supports entrepreneurship. Furthermore, although our interviewees were from a wide variety of industries, our data is limited to high-tech start-ups. Although this focus is in line with the recent growth in start-up communities in high-tech industries, it limits the generalizability of our results. Finally, due to the qualitative nature of our study, our findings are the result of our own interpretation of the codes. We tried to minimize personal bias, and interpret the data in an objective manner, by involving multiple researchers during the processes of data collection and analysis. We have further tried to minimize personal bias by basing our initial coding scheme on our theoretical framework, and staying as close to the interviewees' own words as possible during the first phases of coding.

5.2 Implications

We have added to the quickly growing body of start-up (support) literature by developing and applying a framework that can be used to study start-up communities. In doing so, our results suggest that start-up communities are of great value to ecosystems, entrepreneurs and start-ups. Our data also suggests that the benefits and risks of communities are conditional to their size and diversity. These conditions, as well as the community's culture, differ strongly between different communities. Consequently, each start-up community can be expected to offer different benefits and risks. This might explain why some previous studies have found communities to be of great value to start-ups (Hansen et al., 2000; Hughes et al., 2007), whereas others have found the community to be of little importance (Chan and Lau, 2005; Warren et al., 2009). Additional research is necessary to further explore and test the relationships that we found between a community's benefits, risks and conditions. In addition, future research could quantitatively study the benefits associated with the community, to provide a better understanding of which benefits are most important, and how communities contribute to the success of start-ups.

Finally, our study suggests that it is possible to influence the community's conditions, and thereby the benefits and risks associated with the community. This is particularly interesting for policy makers and organizations that try to facilitate entrepreneurship (such as incubators, accelerators and co-working spaces), as our data shows that community managers and selection processes can be introduced to maximize the value of a start-up community. Our study has some important implications for entrepreneurs as well. First of all, whereas the shared office space often forms the basis for the workspace community, entrepreneurs should be aware that a significant part of the community's benefits lies in their supportive culture and sharing of intangible resources. Secondly, entrepreneurs should realize that being part of a start-up community means that they are expected to invest time to maintain relationships and help others.

References

- ACT Government, 2013. Innovation Connect Business Development [WWW Document]. URL http://www.business.act.gov.au/
- Adler, P.S., Kwon, S.-W., 2002. Social Capital: Prospects for a New Concept. The Academy of Management Review 27, 17–40.
- Aerts, K., Matthyssens, P., Vandenbempt, K., 2007. Critical role and screening practices of European business incubators. Technovation 27, 254–267.
- Amit, R., Schoemaker, P.J.H., 1993. Strategic assets and organizational rent. Strategic management journal 14, 33–46.
- ANU Connect Ventures, 2013. Discovery Translation Fund [WWW Document]. URL http://www.anuconnectventures.com.au/
- Australian Bureau of Statistics, 2013a. Population clock [WWW Document]. URL http://www.abs.gov.au/
- Australian Bureau of Statistics, 2013b. Labour Force, Australia, Dec 2013 [WWW Document]. URL http://www.abs.gov.au/
- Bakouros, Y.L., Mardas, D.C., Varsakelis, N.C., 2002. Science park, a high tech fantasy? An analysis of the science parks of Greece. Technovation 22, 123–128.
- Barabási, A.-L., Albert, R., 1999. Emergence of Scaling in Random Networks. Science 286, 509–512.
- Barney, J., 1991. Firm Resources and Sustained Competitive Advantage. Journal of Management 17, 99-120.
- Battellino, R., 2010. Twenty Years of Economic Growth. Reserve Bank of Australia Bulletin 103–112.
- Bergek, A., Norrman, C., 2008. Incubator best practice: A framework. Technovation 28, 20–28.
- Birley, S., 1986. The role of networks in the entrepreneurial process. Journal of business venturing 7, 107–117.
- Brewer, M.B., Gardner, W., 1996. Who is this "We"? Levels of collective identity and self representations. Journal of personality and social psychology 71, 83–93.
- Brown, J., Duguid, P., 1991. Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. Organization science 2, 40–57.
- Bruton, G.D., Ahlstrom, D., Li, H.L., 2010. Institutional Theory and Entrepreneurship: Where Are We Now and Where Do We Need to Move in the Future? Entrepreneurship Theory and Practice 34, 421–440.
- Bryman, A., 2008. Social research methods, 3rd ed. Oxford university press, Oxford, United Kingdom.
- Burt, R.S., 2000. The network structure of social capital. Research in Organizational Behavior 22, 345–423.

- Burt, R.S., 2001. Structural holes versus network closure as social capital, in: Lin, N., Cook, K.S., Burt, R.S. (Eds), Social Capital: Theory and Research. Transaction Publishers, New Brunswick, NJ, pp. 31–56.
- Busenitz, L., Gomez, C., Spencer, J., 2000. Country institutional profiles: Unlocking entrepreneurial phenomena. Academy of Management Journal 43, 994–1003.
- Business Spectator, 2013. Mining boom aided economic growth [WWW Document]. URL http://www.businessspectator.com.au/
- Carlsson, B., Stankiewicz, R., 1991. On the nature, function and composition of technological systems. Journal of evolutionary economics 1, 93–118.
- Chan, K.F., Lau, T., 2005. Assessing technology incubator programs in the science park: the good, the bad and the ugly. Technovation 25, 1215–1228.
- Cohen, B., 2006. Sustainable valley entrepreneurial ecosystems. Business Strategy and the Environment 15, 1–14.
- Coleman, J.S., 1988. Social Capital in the Creation of Human Capital. American Journal of Sociology 94, S95–S120.
- Cooper, C.E., Hamel, S. a., Connaughton, S.L., 2010. Motivations and obstacles to networking in a university business incubator. The Journal of Technology Transfer 37, 433–453.
- Credit Suisse Research Institute, 2013. Global Wealth Report 2013. Zurich.
- Cyert, R., March, J., 1963. A behavioral theory of the firm. Prentice-Hall, Englewood Cliffs, NJ, New Jersey.
- Davidsson, P., 1989. Entrepreneurship—and after? A study of growth willingness in small firms. Journal of business venturing 4, 211–226.
- Davidsson, P., Honig, 2003. The Role of Social and Human Capital Among Nascent Entrepreneurse. Journal of Business Venturing 18, 301–331.
- Deskmag, 2012. 2nd Annual Global Coworking Survey. Berlin.
- Dickson, P.H., Weaver, K.M., 2008. The role of the institutional environment in determining firm orientations towards entrepreneurial behavior. International Entrepreneurship and Management Journal 4, 467–483.
- Eisenhardt, K.M., 1989. Building Theories from Case Study Research. Academy of Management Review 14, 532–550.
- Feld, B., 2012. Startup Communities: Building an Entrepreneurial Ecosystem in your City. John Wiley & Sons, Inc., Hoboken, New Jersey.
- Ferris, W., 2001. Australia Chooses: Venture Capital and a Future Australia. Australian Journal of Management 26, 45–64.
- Fogel, G., 2001. An analysis of entrepreneurial environment and enterprise development in Hungary. Journal of Small Business Management 39, 103–109.

- Glaser, B.G., Strauss, A.L., 1967. The Discovery of Grounded Theory: Strategies for Qualitative Research. Aldine, Chicago, IL.
- Gnyawali, D., Fogel, D., 1994. Environments for entrepreneurship development: key dimensions and research implications. Entrepreneurship Theory and Practice 18, 43–63.
- Goetz, S.J., Freshwater, D., 2001. State-Level Determinants of Entrepreneurship and a Preliminary Measure of Entrepreneurial Climate. Economic Development Quarterly 15, 58–70.
- Greve, H.R., 1998. Performance, aspirations, and risky organizational change. Administrative Science Quarterly 43, 58–86.
- Gundry, L.K., Welsch, H.P., 2001. The ambitious entrepreneur: high growth strategies of women-owned enterprises. Journal of Business Venturing 16, 453–470.
- Hackett, S.M., Dilts, D.M., 2004. A Systematic Review of Business Incubation Research. The Journal of Technology Transfer 29, 55–82.
- Hannan, M.T., Freeman, J., 1989. Organizational Ecology. Harvard University Press, Cambridge, Massachusetts.
- Hansen, M.T., Chesbrough, H.W., Nohria, N., Sull, D.N., 2000. Networked incubators. Hothouses of the new economy. Harvard business review 78, 74–84.
- Herrmann, B.L., Marmer, M., Dogrultan, E., Holtschke, D., 2012. Startup Ecosystem Report 2012: Part One. Startup Genome and Telefonica Digital.
- Hessels, J., Van Gelderen, M., Thurik, R., 2008. Entrepreneurial aspirations, motivations, and their drivers. Small Business Economics 31, 323–339.
- Hughes, M., Ireland, R.D., Morgan, R.E., 2007. Stimulating Dynamic Value: Social Capital and Business Incubation as a Pathway to Competitive Success. Long Range Planning 40, 154–177.
- Ibarra, H., 1993. Network Centrality, Power, and Innovation Involvement: Determinants of Technical and Administrative Roles. Academy of Management Journal 36, 471–501.
- Isenberg, D.J., 2010. How to start an entrepreneurial revolution. Harvard Business Review 88, 40–50.
- Laumann, E., Galaskiewicz, J., Marsden, P., 1978. Community structure as interorganizational linkages. Annual review of sociology 4, 455–484.
- Mahoney, J.T., Pandian, J.R., 2006. The resource-based view within the conversation of strategic management. Strategic management journal 13, 363–380.
- Marvel, M., Griffin, A., 2007. Examining the technical corporate entrepreneurs' motivation: voices from the field. Entrepreneurship theory and practice 31, 753–768.
- McAdam, M., McAdam, R., 2008. High tech start-ups in University Science Park incubators: The relationship between the start-up's lifecycle progression and use of the incubator's resources. Technovation 28, 277–290.

- Morales-Gualdrón, S., Gutiérrez-Garcia, A., Roig Dobón, S., 2009. The entrepreneurial motivation in academia: a multidimensional construct. International Entrepreneurship and Management Journal 5, 301–317.
- Navis, C., Glynn, M.A., 2010. How New Market Categories Emerge: Temporal Dynamics of Legitimacy, Identity, and Entrepreneurship in Satellite Radio, 1990–2005. Administrative Science Quarterly 55, 439–471.
- Neck, H., Meyer, G., 2004. An entrepreneurial system view of new venture creation. Journal of Small Business Management 42, 190–208.
- Nieto, M.J., Santamaría, L., 2007. The importance of diverse collaborative networks for the novelty of product innovation. Technovation 27, 367–377.
- Oliver, C., 1997. Sustainable competitive advantage: Combining institutional and resource-based views. Strategic management journal 18, 697–713.
- PWC, Google, 2013. The startup economy How to support tech startups and accelerate Australian innovation.
- Qian, H., Acs, Z.J., Stough, R.R., 2013. Regional systems of entrepreneurship: the nexus of human capital, knowledge and new firm formation. Journal of Economic Geography 13, 559–587.
- Raposo, M., Paço, A. do, Ferreira, J., 2008. Entrepreneur's profile: a taxonomy of attributes and motivations of university students. Journal of Small Business and Enterprise Development 15, 405–418.
- Van Rijnsoever, F. Van, Welle, L., Bakker, S., 2012. Credibility and legitimacy in policy-driven innovation networks: Resource dependencies and expectations in Dutch electric vehicle subsidies, in: Druid Conference 2012.
- Rothaermel, F.T., Thursby, M., 2005. University–incubator firm knowledge flows: assessing their impact on incubator firm performance. Research Policy 34, 305–320.
- Rothschild, L., Darr, A., 2005. Technological incubators and the social construction of innovation networks: an Israeli case study. Technovation 25, 59–67.
- Roxas, H., Lindsay, V., 2007. An Institutional View of Local Entrepreneurial Climate. Asia-Pacific Social Science Review 7, 27–44.
- Ruef, M., 2002. Strong ties, weak ties and islands: structural and cultural predictors of organizational innovation. Industrial and Corporate Change 11, 427–449.
- Saxenian, A., 1996. Regional advantage: Culture and competition in Silicon Valley and Route 128. Harvard University Press, Cambridge, MA.
- Schilling, M., Phelps, C., 2007. Interfirm collaboration networks: The impact of large-scale network structure on firm innovation. Management Science 53, 1113–1126.
- Schwartz, M., Hornych, C., 2010. Cooperation patterns of incubator firms and the impact of incubator specialization: Empirical evidence from Germany. Technovation 30, 485–495.
- Shane, S., Cable, D., 2002. Network ties, reputation, and the financing of new ventures. Management Science 48, 364–381.

- Shareable, 2013. Coworking Grows Quickly in Australia [WWW Document]. URL www.shareable.net
- Shepherd, D., Haynie, J.M., 2009. Birds of a feather don't always flock together: Identity management in entrepreneurship. Journal of Business Venturing 24, 316–337.
- Soetanto, D.P., Jack, S.L., 2013. Business incubators and the networks of technology-based firms. The Journal of Technology Transfer 38, 432–453.
- Spilling, O.R., 1996. The entrepreneurial system: On entrepreneurship in the context of a mega-event. Journal of Business Research 36, 91–103.
- Spinuzzi, C., 2012. Working Alone Together: Coworking as Emergent Collaborative Activity. Journal of Business and Technical Communication 26, 399–441.
- Steffens, P., Stuetzer, M., Davidsson, P., James, N., 2011. Global Entrepreneurship Monitor National Entrepreneurial Assessment for Australia. The Australian Centre for Entrepreneurship Research.
- Sydney Morning Herald, 2013. The mining boom is over [WWW Document]. URL http://www.smh.com.au/
- Turok, I., 2005. Cities, competition and competitiveness: Identifying new connections, in: Buck, N., Gordon, I., Harding, A., Turok, I. (Eds), Changing Cities: Rethinking Urban Competitiveness, Cohesion and Governance. Palgrave Macmillan, New York.
- Wang, C.L., Chugh, H., 2014. Entrepreneurial Learning: Past Research and Future Challenges. International Journal of Management Reviews 16, 24–61.
- Warren, L., Patton, D., Bream, D., 2009. Knowledge acquisition processes during the incubation of new high technology firms. International Entrepreneurship and Management Journal 5, 481–495.
- Van Weele, M.A., van Rijnsoever, F.J., Nauta, F., 2013. Take Them by the Hand? Unconsciously Incompetent Entrepreneurs and Incubation Processes, in: Druid Conference 2013. Barcelona.
- Wenger, E.C., Snyder, W.M., 2000. Communities of practice: The organizational frontier. Harvard business review 78, 139–146.
- Yin, R.K., 2009. Case Study Research: Design and Methods, Fourth Edi. ed. Sage Publications Inc., Thousand Oaks, CA.
- Zaheer, A., Gulati, R., Nohria, N., 2000. Strategic networks. Strategic management journal 21, 203–215.
- Zahra, S.A., Gedajlovic, E., Neubaum, D.O., Shulman, J.M., 2009. A typology of social entrepreneurs: Motives, search processes and ethical challenges. Journal of business venturing 24, 519–532.
- Zimmerman, M.A., Zeitz, G.J., 2002. Beyond Survival: Achieving New Venture Growth by Building Legitimacy. Academy of Management Review 27, 414–431.

Appendix A – Initial interview schemes

Questionnaire entrepreneurs

Introduction

- 1. First of all, could you state the company name, age and the number of employees, what the company is about?
- 2. How did the company start and what makes it special/unique?

Personal

- 3. What is your age and your background? (e.g. Technical/business, Entrepreneurial experience)
- 4. Why did you decide to start your own business instead of working for a company (Motives)?
- 5. How does that reason weigh up to the risk of being an entrepreneur?
- 6. What were your chances of making a decent living as an employee and how did that influence your decision in any way?
- 7. What is your ambition?/ What are you trying to accomplish?
 - a) What is your geographical focus?

The entrepreneurial community and support

- 8. How are you involved in the start-up community (in your city)? (e.g. incubator, co working space, events and meet-ups)
- 9. Could you name something that is unique or remarkable about the local start-up community in your city? (e.g. very competitive, community oriented, etc.)
- 10. What benefits are there for you being part of the community?
 - a) What part of being in a community is most valuable for you?
 - b) Was that also the reason to join the community/incubator/co working space?
- 11. How would you describe the entrepreneurial community in this city and can you compare that to other cities?
- 12. What do you miss? What could be better?
 - a) Is there any part that is overrated/less valuable?

Outside the community

- 13. Do you feel supported by your environment in being an entrepreneur? Why/How?
 - a) Does your environment see you starting your own business as risky?
 - b) Are there entrepreneurs in your family?
 - c) Do you feel supported by your family? How do they support you?
- 14. And how do you think that, in general, the society looks upon entrepreneurship, taking risk, achieving? Is that celebrated here?
- 15. Do you think people rather buy your product/service or a similar product of a big corporate?
- 16. What does being an entrepreneur do for your image?
 - a) How did that influence your decision to become an entrepreneur?

Questionnaire community managers

Introduction

- 1. When was the incubator/accelerator/co working space established and how big is the organisation now? (FTE employees, annual budget, nr. of tenants + FTE, Check the information available online)
- 2. What does your business / revenue model look like?

Personal

- 3. When and why did you join the incubator?
 - a. What is your personal background?
- 4. What are your responsibilities here?
 - a. Are you also a mentor to the firms?

Support of the incubator / accelerator / co-working space

- 5. Why do entrepreneurs need an organisation like this?
 - a. How would you explain that only 4.8% of Australian technology start-ups grow into successful, global companies (whereas many more Silicon Valley (8%) and New York (6.7%) based start-ups reach scale)? (Ambition/Environment)
 - b. What are problems entrepreneurs struggle with?
- 6. What are resources entrepreneurs are lacking?
- 7. Can you, as an incubator, hand them those resources?
 - a. What do you think is most important in your range of support services?
- 8. What is unique about this incubator/co-working space?
- 9. When do you consider yourself successful?

Entrepreneurial ecosystem

- 10. What is the general background of entrepreneurs that come to your organisation? (E.G. mainly students, or also outside university? part-time/full-time entrepreneur?)
 - a. Is there a selection process? (criteria)
- 11. How are they supported outside this incubator? (community)
- 12. What do the entrepreneurs you meet want to achieve?
 - a. On which markets do they focus? (E.G. Australia. US. Europe)
- 13. How would you describe the general entrepreneurial ecosystem in Australia?
 - a. What are strengths or weaknesses? (For example, government regulations, the status that society attaches to entrepreneurs, an overload of bureaucracy, etc)
 - b. And what is different in this city compared to Sydney / Canberra / Melbourne?
- 14. Is it 'popular' to be an entrepreneur in Australia in general and in this city in particular?
- 15. And how do you think that, in general, the society looks upon entrepreneurship, taking risk, achieving? Is that celebrated here?