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Entrepreneurial Funding Challenges for Latin American Women Start-up Founders

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Entrepreneurial Funding Challenges for Latin American Women Start-up Founders

Structured abstract

Purpose - This study explores the funding opportunities for women start-up founders who have received support from the Chilean government agency accelerator Start-Up Chile. It examines the role of gender in Latin American women founders at the stage when they are raising funds and equity capital.

Design/methodology/approach - The study includes an inductive, qualitative approach and interviews with 20 female founders.

Findings - The thematic analysis revealed 10 subthemes that condition founder's access to capital in the following categories: capital needs, network, and individual characteristics.

Originality/value - The contribution of this study is the identification of predominant factors for female entrepreneurs raising capital followed by implications for public policies in entrepreneurial ecosystems including future research orientation.

Keywords: Entrepreneurship, New high-technology ventures, Female founders, Entrepreneurial ecosystem, Start-Up Chile, Latin America

JEL Classification: L26, J16, J24

INTRODUCTION

This paper is centered on funding opportunities among Latin American female entrepreneurs in technology-based companies. Specifically it is based in start-ups that participated in the “Start-Up Chile six month acceleration program” offered by a government agency for promotion of entrepreneurship in Chile.

Given the literature gap on female technology entrepreneurs, their ventures, and managerial skills, this research study examines gender at different stages of the fundraising process. Lepeley, Pizzaro and Mandakovic (2015), Sena, Scott and Roper (2012) , Roper and Scott (2009) have examined women’s access to finance at the start-up stage in small businesses, but lack of knowledge is evident on the struggles that female entrepreneurs in the technology industry face raising capital.

According to First Round Capital (2015), a decade long data of 300 portfolio companies showed that start-up teams with at least one female founder performed 63 percent better than all male teams. Forbes (2015) assesses the probable cause of this result is growing evidence that ‘women provide positive outcome to founding teams based on their diversity of experiences —yet this is not a value asset recognized in the market yet.’

Although it is known that early involvement in business activity, high level of education, and active participation in social networks facilitate women’s participation in creation of a start-ups (Endeavor, 2009), there is a gap in literature on women and gender differences. Lack of knowledge is a constraint to develop efforts to increase

the total number of women entrepreneurs participating in economic activity (Cohoon, Wadhwa & Mitchell, 2010).

The objective of this study is to research the causes, effects, and observe the outcomes of funding opportunities among female entrepreneurs in the technology industry. Results will show the constraints and struggles female entrepreneurs face when attempting to raise capital and the expectation of the authors is that these may help policymakers design and implement new and improved reforms that facilitate female participation in entrepreneurship as an important component of economic development supporting high-growth among women entrepreneurs.

LITERATURE REVIEW

Start-ups and growth

Shane and Venkataraman (2000: 218) defined entrepreneurship research as the study of 'how, by whom, and with what effects, opportunities to create future goods and services are discovered, evaluated, and exploited.' The creation of a new company is a decision made by one or more entrepreneurs. And the factors that motivate and influence this important decision have been, and remain, controversial issues, giving rise to various theories that attempt to clarify the issues at hand (Watson, Scott & Wilson, 1998). In this context, it is necessary to define the concept of a 'start-up'. According to Blank (2010: 1), 'a start-up is a temporary organization in search of a scalable and replicable model of business'. To complement this definition, Ries (2011: 14) stated that 'a start-up is a human institution designed to create a new product or service under conditions of extreme uncertainty.'

Stinchcombe's work (1965) on 'liabilities of newness' and Auster and Aldrich's (1986)

‘liabilities of smallness’ are characteristics of start-up in entrepreneurial activity seen as triggers of agility, flexibility, and required adaptability.

According to Kantis the entrepreneurial process is divided into the following steps: (1) gestation, (2) implementation, and (3) initial development of the company. This systemic conceptual approach emphasizes learning environments (family, education, work experience), support networks (social, institutional, production) and resources (financial and nonfinancial) (Kantis *et al.*, 2002). The Global Entrepreneurship Monitor proposes a standardized global model and sets the cycle of the entrepreneurial process in these three stages: 1) an individual commits resources to start a business that he/she will own, this is identified as a nascent entrepreneur, 2) the entrepreneur receives business income for more than three months but not more than 42 months, in this case, he/she is a new entrepreneur, 3) entrepreneurs with over 42 months of operation are considered established entrepreneurs (Amorós & Poblete, 2011).

In terms of entrepreneurs’ success factors, personal network is among the most important because it appears to substitute for lack of experience in business. Emerging companies also benefit from the expertise of its partners acquired with experience in multiple markets, rather than slow accumulation of knowledge on a country basis. In short, companies that benefit from a fast and proactive approach, networks must be large and scalable to reach multiple markets. Miller, Besser and Riibe (2007) report no differences in network benefits based on gender, size of the business, or years of ownership. In general social capital variables and strategic network theory held a positive effect on network benefits, suggesting that strategic business networks produce gains for both male and female owned small businesses.

Phelps, Adams and Bessant (2007) provided a framework to examine issues of growth in firms and business effectiveness, where the tipping point is a ‘magic moment’ when an idea, trend, or social behavior crosses a certain threshold and spreads like wildfire (Moffat, 2002). In this environment the absorptive capacity of the firm is the ability to recognize the value of new external information, assimilate it, and apply it to commercial improvement. This capacity is critical for a firm to advance innovation as a function of the firm’s collective knowledge (Cohen & Levinthal, 1990). Accordingly, a commercial network may provide links and relationships that can in turn promote a new business context and provide a broader range of access and networking opportunities for the entrepreneurs.

Women leading start-ups

Since Schumpeter (1934) numerous authors have attempted to shown that new small firms are a major source of job creation, technological innovation, and regional growth. Although there is consensus that entrepreneurship has capacity to generate wellbeing, the predicament “how to” remains bleary and more evidence is necessary to objectively assess the best mechanisms to support and promote entrepreneurship in different countries (Amorós & Echecopar, 2008). The need for research is even more acute for women in entrepreneurship.

The Multilateral Investment Fund (2014) defines high-growth female entrepreneurs as businesses with growth rates over 20 percent for at least three years. Although 85 percent of high-growth female entrepreneurs have ambition to keep growing their business, most of the high-growth companies are in traditional sectors such as food and beverages and service industries that have lower rates return and potential

growth than sectors like software and the Internet, which are preferred by male entrepreneurs.

According to data on technological entrepreneurship, female entrepreneurship is below their male counterparts. In Chile over 50 percent of the SMEs founded by women are in sectors with low added value and low competitiveness compared with technological businesses owned by men (Amorós & Poblete, 2011).

Despite numerous studies revise female entrepreneurship (Goduscheit & Norn, 2011; Sullivan & Meek, 2012; Ahl & Marlow, 2012; Powell & Eddleston, 2013), only a few are conducted in developed and developing countries that have analyzed the gender implications of entrepreneurship.

Entrepreneurs face considerable challenges attracting recruits and managing them in the absence of established norms and traditions (Gupta & Nazanin, 2014). Kantis and Diaz (2008) found that 56 percent of innovative enterprises in emerging economies are founded and led by men, and the rest largely involves companies in where men and women share entrepreneurial responsibility. By contrast, innovative companies founded and led by women are 9 percent and significantly less.

Acccording to Amorós, Kuschel and Pizarro (2014), the level of female entrepreneurship in Chile was 25.5 percent in 2013, showing slight increase compared to previous years. However, it is a figure below the ventures of men, which stands at 40%. In terms of necessity versus opportunity entrepreneurship, the majority – among both from men and women– is necessity-driven, defined by the Global Entrepreneurship Monitor as having no better options for work.

Funding entrepreneurial activity in Chile

Brooks *et al.* (2014) showed that investors' preference to provide financing to male entrepreneur pitches over females counterparts. Diana Project (2014) findings confirmed that only 4 percent of partner venture capitalists are women. Moreover, Kuschel and Lepeley (in press) address the concern about lack of studies in tech start-ups on gender differences, which opens high potential and an area for future research.

In this context there is a need to bridge the gap creating new programs aimed to increase female participation in entrepreneurship coinciding with Hampton *et al.* (2009) findings that female networks in start-ups in new technology-based ventures are important to validate business ideas that stimulate social support are necessary to boost confidence and decrease feelings of isolation. The idea has induced creation of entrepreneurial acceleration programs in Latin America. i.e.500 Startups in Mexico, ANII Uruguay, Wayra in several countries in Latin America and Spain, plus entrepreneurial incubators in a growing number of universities and other entities. In Chile these six programs that support women start-ups are well known: Girls in Tech Chile, The S Factory, Link, BST Innovation, Chile Foundation, Mustakis Foundation.

Besides in 2010 the Chilean Government launched "Start-Up Chile" to attract world-class early stage technology entrepreneurs to start their businesses in Chile. Until September 2015, Start-Up Chile has attracted over 1.000 start-ups entrepreneur from 40 countries, who receive $US 40,000 in unconditional financial support to cover living expenses in Santiago, Chile (El Mercurio, 2015). Each call for Start-Up Chile accelerator funds around 9 percent of start-ups that are led by a woman

(CORFO, 2015). Santiago –and now more Chilean cities– benefits greatly from government initiatives like Start-Up Chile that attract and foster *international* start-ups. Besides Start-Up Chile has demonstrated to have a significant positive impact on Chilean participants. One of the best examples is Leatherbee and Eesley (2014) exploring feasibility in development of an ecosystem of innovation and entrepreneurship using an interdisciplinary sociological and psychological approach. The study highlights that behavior of “discovery and innovation” induces self-efficacy of the entrepreneur. Moreover, according to Startup Ecosystem Report (2012: 118), ‘the Santiago start-up ecosystem has a healthy mix of start-ups targeting consumers, enterprises, and SME customers as does start-ups accelerators in Silicon Valley.’

METHODOLOGY

This study explores the funding opportunities of women star-up founders who have received support from the Chilean government agency accelerator Start-Up Chile. It examines the role of gender in Latin American women founders at the stage when they are raising funds and equity capital. The methodology used is qualitative and inductive following a constructive approach. This work stems out of a broader study conducted between 2014 and 2015 to explore the experiences of female entrepreneurs in technology in diverse geographical areas with a special emphasis in Latin American founders.

Sample design

The study sample includes Latin American female entrepreneurs who lead technology-based start-up teams. All these women entrepreneurs have receive

support from the accelerator program *Start-Up Chile*. Traditional entrepreneurial ventures and services non-intensive in technology are not included in the sample. Start-Up Chile provided an anonymized database containing demographic information of each start-up team participating in the acceleration program during five years between March 2010 and March 2015.

Figure 1: Participant selection criteria

<< INSERT FIGURE 1 ABOUT HERE >>

The universe of 972 start-up teams in Start-Ups Chile accelerator program included a total of 2,173 male and female founders. Only female founders were selected. This filter provided 445 female founders or 20 percent of the total entrepreneurs. A second selection filtered female founders with the role of CEO or team leader. 195 women were selected representing 9 percent of the total. The last cohort was filtered by country of origin and only Latin American natives were selected to participate in the final interview process. This sample included 52 participants from Chile (50%), Argentina (21%), Mexico (10%), Brazil (6%), Uruguay (4%), Ecuador (4%), Colombia, Venezuela and Costa Rica (5%). Of all participants, 33 percent have a business degree and 21 percent have a STEM (science, technology, engineering, and mathematics) educational background. Invitations were sent to this cohort. Twenty interviews were conducted to 19 women involved in entrepreneurial activity and one employed in corporate business. The final sample have ages range between 26 and 33 years old. Thirty five percent of the female co-founders lead a start-up in advanced stage of ‘functional product with user’. Ten percent had already

reached scaling sales. Thirty percent had STEM background and 35 percent had degrees in business administration.

Table 1: Sample characteristics

<< INSERT TABLE 1 ABOUT HERE >>

Procedure

The female entrepreneurs included in the sample were contacted by e-mail and invited to participate in an interview. Before the interview signature of an informed consent was required and contained full explanation of the objectives and scope of the study in compliance with established ethical policies. Researchers and the participants had to sign the consent form. Participants receive a copy. All participants accepted to participate in audio-recorded interviews.

To fulfill requirement of the research questions each interview followed a semi-structured script with questions related in the following five topics. 1) motivation and previous experience as entrepreneur, 2) funding needs and sources, 3) team structure, 4) common obstacles, and 5) networks used.

The following is a sample of the king of questions included in the personal interviews. Why and how did you decide to apply for Start-Up Chile funding? What are the future expectations for your venture? As a female start-up founded, did you confront special challenges raising capital? What advice would you give to new female founders to increase their chances of success raising capital?

Interviews with the entrepreneurs lasted between 40 minutes and 1.20 hours. After the interview, each audio recording was transcribed *verbatim* and entered into the Atlas.ti v.7.0 software for qualitative analysis.

Analysis

The data collected was qualitative so the analysis followed a qualitative approach, aligned with the inductive thematic analysis described by Bryman (2012). Inductive thematic analysis 'involves identifying and coding emergent themes within data' (Guest, 2012: 9).

First, the analyst read the transcription and made notes. The researcher examined the main idea of each narrative. Then, a second reading searched was conducted to identify themes in the narrative *i.e.*, repeating words, metaphors, similarities and differences, concepts or ideas (Ryan & Bernard, 2003). Understanding that a narrative as a story shaped by different themes. According to Ryan and Bernard (2003) themes are fundamental concepts that characterize specific experiences of individual participants gathering a more general insight that is apparent in the data. Open coding was conducted and quotations were labeled into 1 to 3 word labels. Then, close coding was conducted to reduce the number of codes eliminating repetition of similar codes, always comparing with the original data for accuracy and validation.

To gain better understanding of each narrative the analyst asked probing 'why and how' questions. Here are examples: Why is she raising capital? How did she choose one funding source over another? How did she know where to find funding sources? How can Latin American women raise capital easier? All cases were re-grouped into categories as 'country of origin', and their participation in 'Start-Up Chile program as the first funding', followed by the second and beyond.

After asking questions, new questions had to be addressed. What is the overall point of each narrative? How does the selected themes relate to the central point? This

procedure was conducted for each narrative. Finally, the analyst perused annotations (known as ‘memos’ in Atlas.ti) and reorganized the findings in broader categories with overall close coding, addressing the why and how questions, commonalities, differences, patterns, and relating each of the emerging points to the research question.

The resulting major themes reflect the aim of the study and are exhaustive and sensitive to the data.

The main idea of the narratives is to explain why start-ups needed to raise capital, why and how the goal was achieved or not. Therefore the main code is identified as ‘funding opportunities’.

Following the Strauss (1987) question of ‘what are the codes about’, figure 2 shows the first close coding in ten subthemes that ended up in three main themes about ‘conditions’: 1) capital needs, 2) networks, and 3) individual characteristics of the female founder.

Figure 2: Emerging subthemes and themes

<< INSERT FIGURE 2 ABOUT HERE >>

RESULTS

The three themes identified above are explained and supported by direct quotations.

1. Capital needs

Findings show that different stages and type of start-ups and industries require different amounts of capital (seed, series A, series B) aligned with different

challenges. Several paths were identified in the Start-Up Chile program (table 1 in the sample section).

The majority of participants in the study continued working in their start-ups. 25 percent did not raise external funds but relied on revenues derived from sales and customers. The rest of the participants raised capital. 45 percent applied for acceleration funds, public grants and seed capital in Latin America in exchange for equity (societal participation). 30 percent raised private venture capital, including half in Latin America and the other half in the U.S. The findings show that capital needs are related to a) business stage and b) industry.

1.1. Business Stage

Entrepreneurs raise capital based on the stage of the start-up (*i.e.*, product development, prototyping, market validation, scaling). The Start-Up Chile program is a seed funding source intended for the product development stage. Nonetheless start-ups that participated during several generations (batches) were at different stages and are not comparable because they were at different stages, including the post-acceleration stage. One of the participant described it like this:

> '*I think that capital needs are contingent with the phase where the start-up is. If the women entrepreneur has an idea of innovation and a sound value proposition, capital will really emerge...'* ASI.

1.2. Industry

The finding showed that the technology (software), agricultural industry, and biotechnology industries have different capital needs and therefore different supply sources and opportunities for funding.

The technology (software) industry is known as a ‘low-cost industry’ because start-ups developing software and applications have low fixed costs (*i.e.*, internet connection, laptops). If CTO is part of the team, the cost is only the ‘cost of living’. On the other hand, biotech start-ups have high costs of implementation in laboratories added to the time lapsed while a scientific test can take off may create a costly endeavor. In addition there are fewer grants for this industry and private corporations related to natural resources and energies often offer grants to help the development of new products. Participant DF produces a protein that grows in seaweed and states the situation this way.

> ‘A start-up entrepreneur *just can’t survive with the funds. The problem with biotechnology companies is the generation of very long term products. It is not like to make an application and have it for sale in 6 months. This does not happen. It may take at least two years of research to reach expected results. But can be developed in two years. So, it is necessary to find ways to keep research going for at least 2 years. In this industry it doesn’t matter the experience gained in Start-Up Chile. Prospect clients matter the most.*’ DF

Lastly, the industry of agricultural technology is about developing hardware, sensors, and what is known as an ‘internet of things’ for small and big farmers. These start-ups usually have high costs related to prototyping, pilot tests, massive production, components import, assembly of components, warehousing, distribution, installing, technical support, monitoring, and maintenance. Similar to the biotech industry it requires large amounts of capital and private companies that support Research and Development (R+D), particularly to foster the wine industry in South American countries. A participant describes it this way:

‘The *fact in this industry is that it has many components. We have sensors, communication between sensors, a base station, temperature, humidity, UV, soil moisture on three levels, BH, electric conductivity. Therefore expenses mount in the prototype form*’. PF

2. Networks

2.1. Start-Up Chile

The majority of participants in Start-Up Chile states that it opens access to networks of female founders like Mujeres del Pacífico, Girls in Tech, Women Who Code and it serves as a warranty for further funding opportunities with Chilean government agency that promotes corporate development CORFO, other incubators and accelerators in Chile and abroad, such as Wayra, 500 Startups, and investors networks. One participant explains:

‘*Start-Up Chile opens doors. In fact when we were selected as semifinalists we were invited to a demo day and we were among the finalists. Unfortunately we didn’t win. But in that event we met an American investor who has an accelerator in San Diego, California and he invited us to participate in his accelerator. He offered us an initial investment fund of $US150.000 plus $US 350.000 when we are ready for mass production.*’ ML

‘*Generally when you apply and win Start-Up Chile, when you talk about it, investors like it, it is a kind of validation.*’ CR

‘*Having reached up to the demo day at Start-Up Chile was an achievement because only between 10 or 15 among 80 reach this target! For me the*

objective was getting there, it did not matter whether we were in first, second or whatever place. Just participating in this event and having opportunity to introduce our project with its metrics to interesting people and investors from around the world, was very good, and it lead to several follow up meetings, many indeed. When the results of the Demo Day were published more people who didn't attend the event contacted us. For example TechStars NYC contacted me because they saw my video on Chile Demo Day. We had a great deal of exposure and contacts, some better and some worse, but in short we had improved.' CM

This above statement represents the perceptions of start-ups in the technology and agricultural technology industries, where Start-Up Chile is well known and has a reputation. But in the biotech start-ups the situation is different. Here Start-Up Chile program is not known consequently participation in this program does not have a significant impact on the entrepreneur.

'*It depends on the industry where you are because in our industry it is different. Start-Up Chile is just starting to deal with biotechnology (…) So it may help at the very beginning, to have a financial support, a base, but to advance in the scientific field it does not. For instance, the COPEC Foundation, a large Chilean corporation is highly recognized. Again, I think it depends on the industry you are in.*' DF

2.2. Investors and Entrepreneurial Ecosystems in Chile, Latin America, and the U.S.

The Chilean investors' networks are different from others ecosystems in Latin America. For example, Mexico has its own entrepreneurial ecosystem.

> *'I guess the environment changes your mindset, especially in a country like Mexico or Chile, where people are generally risk-averse as a society...*' VP

> '*Why not Mexico? Because in spite of the large size of the country that to many would look advantageous, in terms of e-commerce, based on the experience I have in the Mexican market, there are many problems and obstacles to growth in the industry. Including bad logistics, high level of fraud in credit cards and other areas, that hinder developments in e-commerce*'. CM

> '*I have noticed that when you have someone local it helps considerably, business becomes much easier. That's why I'm going to start looking for a country manager. It does not need to be a fashion expert, but someone with effective business acumen*'. CM

Private investors and venture capitalists in United States normally are not willing to support Latin start-ups that do not have a team based in the U.S, or neither a customer base.

Someone, usually an investor or a mentor from Mountain View 500 Startups program, makes the introduction to the entrepreneur to enter this network.

> *'As it happened at Start-Up Chile, the good thing about the accelerators is they bring you contacts and we have guaranty of that with 500, so that open doors much easier.'* LC

‘*In January (2015) we participated in the 500 Startups, an entrepreneurial accelerator in Silicon Valley. It just finished the program with the Demo Day. We are now (August 2015) raising capital but from another position. We now have customers, we are living here, people already invested in us, this totally different. Now we have 500 Startups, we belong to a signet*’. ASO

2.3. Networks support for female founders

Although there is an abundance of networks available to female founders, where women can find support and new contacts with customers, suppliers, education, skill training, and industry information, only one of the women entrepreneurs included in the sample is actively participating in networks.

‘*We have a discussion group where we talk regularly about many issues, and we share concerns and opportunities about the process we are advancing as entrepreneurs. The network offers consistent support.*’ CN

Most women in the sample perceive participation in networks is a time consuming disruption that does not produce significant returns or adds value to their work. Here are some opinions of research participants.

‘*I do understand that participation in networks is very important. But at this stage I need to concentrate 100 percent in my start-up. I don’t want to be distracted. There are too many options in entrepreneurship networks with potential to divert me from my target. Besides, nowadays is common to hear that a woman is an entrepreneurial just by attending ad hoc events, and there are indeed plenty of events! But I am very selective. I choose carefully those that can really compensate my time and help me advance my project.*’ CM

‘*I do not have active participation in networks. At one time I was in contact with Women 2.0 (a network for female founders). Once they invited me to annual event in Miami organized in association with the Interamerican Development Bank (IDB). But I do not keep in touch with them. I do not see much value for women entrepreneurs when institutions organize events exclusively for women, when women entrepreneurs have to confront challenges in “men fields”* ’. ASO

Women in the sample do not participate actively in networks but accept to be speakers in events to ‘give it back’ to their communities.

‘*When they invite me to talks on women in technology I accept because I am interested to give back and help other women in the community*’. LC

The conclusion here is that the value of networking is correlated with the perceived value this activity gives back to the founder and her start-up.

3. Individual characteristics

Findings report that individual characteristics do affect opportunity for funding. Participants in the study offered arguments around five main topics: gender, globalization, country of origin, age and experience, and perseverance. The analysis of these variables is shown below.

3.1. Gender

Women entrepreneurs have hard work requirements exacerbated by an uncertain and demanding business environment. In terms of gender, women entrepreneurs have two options to cope with this adverse situation. They can complain and feel discriminated against by customers, suppliers or investors. Or they can use gender difference to take advantage for been prominent and stricking.

> '*As a woman entrepreneur I have received help from many people willing to help me, including giving me information on contacts, network, and others things. But on the other side, investors persistently show a macho tendency. And I do not think they do because they undervalue woman, but just because they don't feel comfortable discussing topics they are unfamiliar with that they are unable to handle, such as entrepreneurial women's issues they don't have enough knowledge about*'. JP

> '*Being a woman introduces an imbalance when we are just a few among all the entrepreneurs. But in a certain way it can gives us more visibility and this helps. Although initially women can find less opportunities, indeed we can find more advantages for been few to leverage the situation and give women more resilience.*' ASI

> '*I have never felt belittled for being a woman. I never felt it is a problem being a woman. Indeed I always try to use it as a tool to my advantage.*' LC

‘I see an issue among women entrepreneurs. I see most women behave in a submissive fashion that is “not to ask”. Women have a tendency to wait until asked, instead of assertively saying "I want this and give it to me”.’ VP

‘*Actually, being a women entrepreneur in the technology industry it is not a problem. Opportunities are greater when there are fewer women. The standard perception is "there are no women so expectations are low". But indeed when a woman emerges in the technology industry, whatever she says surprises everybody because it exceeds all expectations about woman. Being a woman in the industry means to be different and this always help us. And I think many more doors are opened for women.’ LC*

For the Latin American women entrepreneurs in the sample who have tried to raise capital in the United States they consider that US investors see woman as a handicap added to another negative cultural perception for being from Latin America. Investors take these characteristics as disadvantages that increase risk.

‘*Coming from Latin America and being a woman requesting funds in the United States. Last year this thought went through my mind. Today I think it is largely a mental constraint than anything else. I mean, there may be discrimination, but what can we do? We cannot go against it. Then, if we want to raise US capital we must accept the conditions and do something to change it. Going against is counterproductive, I think.*’ ASO

3.2. Globalization

Another characteristic identified by the women entrepreneurs in the technology industry was globalization competence. A common feature related to raising capital is the issue of necessary skills to deal with people from other countries and cultures, sensitivity to cultural differences, new environments and new ideas. Findings show that the opportunity to visit other countries while in the accelerated support start-up and meeting new people can help them advance the start-ups objectives.

> '*I came from living 6 months in Paris, 6 months in Singapore... Chile, Mexico and Tanzania, it was exactly the same... I think local culture doesn't promote [opportunities identification]. A person who has lived in many places can detect opportunities to do business.*' VP

3.3. Country of origin

The study findings show that country of origin is directly related with opportunities women entrepreneurs perceive when creating a start-up and differences are visible in Latin America. In some countries, idiosyncrasy and the systems are more conservative, structured and bureaucratic and the population is more risk averse (*i.e.*, Chile, Mexico). While in other countries people have to handle higher levels of uncertainty and risk is a constant that does not stop entrepreneurial plans (*i.e.*, Venezuela, Argentina).

> '*Chileans compared with Argentinean behave quite different, most likely because Argentina is a highly unstable country with a great deal of*

uncertainty, while Chile is more stable and predictable. That may justify why Chileans are more risk averse that Argentineans'. ML

3.4. Age and experience

Women start-up founders feel that investors believe that experience in the industry add trust and is valuable when they provide funds. In some industries when founders look very young can be an obstacle to raise capital.

'*In the United States it is difficult for a women, and even worse for a younger woman, to raise capital in the water industry, because this is a very conservative industry highly regulated by government policies. I overheard comments like "she should bring some grey hair to the table". So someone older and with more experience generates more credibility in this business and this facilitates to raise capital.*' ML

3.5. Perseverance

The most frequently cited condition for fundraising among founder women in the sample was *perseverance and i*t was also identified as the most important characteristics for any entrepreneur. Clarifying that perseverance is steady persistence in a course of action to reach an objective in spite of difficulties, obstacles, or discouragement. Perseverance was frequently associated with success.

'*I think that persistence and passion are fundamental assets to be a successful entrepreneur. Women have a lot of passion but often get scared*

and get afraid more easily than men. But if women know how to handle fear, risk and hazards, which are inevitable parts of the endeavor, then persistence and endurance are crucial to attain sustainability. To be an entrepreneur is not easy'. CR

'*In the technology industry we have to bid a lot, and why not? This industry definitely isn't easy. It is highly competitive, many firms, lots of actors. It is quite difficult. But we have made it with perseverance, it has not been luck. In fact many times we wanted to surrender, but at the last moment we said "let's go for one more push". Perseverance helped us go through, keep pace with challenges, and stay fit.*' LC

'*Last year I spent 9 months in the United States [raising capital]. USA. It was so much time to spend away from home. It was very hard. I think I was depressed. I did not realize how hard it was to be alone. My partner visited me occasionally, but I knew no one, sometimes the only person I spoke to was the coffee guy in Starbucks. It was very difficult indeed but perseverance kept me through*'. ASO

DISCUSSION

The study has shown a comprehensive picture of the experience of women start-up founders raising capital in the tech industry after participating in the Start-Up Chile accelerator program.

The main themes are grouped in three categories: capital needs, networks, and individual characteristics. Capital raising needs are associated with business

characteristics, networks with the entrepreneurial ecosystem, and individual characteristics report personal attributes of female founders.

These three categories emerged naturally from the interviews with start-up founders and only the network topic was considered in the original script and it was somehow emphasized by the interviewer.

Not surprising these results confirm that ‘perseverance’ is a key element to raise capital; while gender seems to play a lesser role.

In relation to the query if the founders did or did not raise capital after participating in the Chile Start-up acceleration program and how they evaluate the experience, the findings provide some explanations.

Looking from a theoretical dimension, Attribution Theory (Heider, 1958) states that a person’s reactions are based on two levels of attributions: internal attribution, inferences that a person behaves in a certain way led by personal attributes, such as attitude, character or personality; and external attributions, inferences that an individual behaves in a certain way contingent with the situation he or she is involved in.

The individual characteristic of perseverance resulted the main element necessary to succeed raising capital. This may be interpreted as an attribution error which over-emphasizes the human capital characteristics. Baum and Silverman (2004) noted that venture capitalists make an attribution error overemphasizing human capital in startups when they make investment decisions. On the other hand, gender discrimination appears to be an obstacle for women who have not raised capital. This may be more of perceived fear than a real obstacle. The argument introduces a self-serving attribution bias (Rogoff, Lee, & Sub, 2004).

Female founders who raised capital accepted that being a woman is the most

notorious obstacle while pitching their start-up to investors. Although most women believe that gender should not be an obstacle this is a challenging dilemma to deal with because founders need to be rational and have high level of self-esteem and confidence in order to reflect these personal attributes to potential investors.

Fiore and Lussier (2015) empirically tested the fundamental attribution error over-attributing business success to celebrity-entrepreneur disposition. The hypothesis confirmed that people attribute business success more to entrepreneurial dispositions of a person, rather than to team behavior or external factors. This has serious implications about the outcome and effectiveness of public policy.

CONCLUSION

The purpose of this study was to explore the outcome of funding opportunities for female start-up founders who participated in the accelerator Start-Up Chile. A main interest was to examine the role of gender and particular conditions of Latin American women founders while raising capital to grow their companies.

The inductive thematic analysis used in the interviews conducted to the 20 women included in the study revealed ten subthemes conditions to raise capital, which were gathered in the following three categories: capital needs, networks, and individual characteristics.

The contribution of this study is the identification of the ten subthemes and three themes that can improve public policies and help women start-up founders in the technology industry to be more effective fundraising capital for their businesses after participating in the Chile Start-up accelerator program.

Public policy implications

Following Fiore and Lussier (2015) regarding the over-emphasis and attribution of success to personal traits, this study found that five subthemes are related to the individual characteristics theme, a similar conclusion with Fiore and Lussier (2015), with potential to act as a bias for public policy definition.

Researchers should interpret these results carefully. Public policies aimed to support new venture creation in Chile point to enhancing the entrepreneurial ecosystem, offering grants, providing co-work space, allowing failure, and empowering the social image of 'the entrepreneur as a hero'.

Also, attention needs to be placed on the cohort of women and men star-up founders who do not participate in the entrepreneurial ecosystem (*i.e.*, institutions, networks, resources) and rely only in personal savings, '*family, friends and fools*' (FFF) for economic support. A new line of research should look at this group and explore its rate of success and failure raising capital compared with the cohort that seeks support in Chilean government agencies. Are there differences?

Additionally, these authors suspect that there are young people with less social capital but have potential to create a new business. These potential entrepreneurs are currently excluded of the Chilean and Latin American entrepreneurial ecosystem and existing networks. Are they destined to become necessity entrepreneurs rather than opportunity entrepreneurs? If so, are the present public policies (*i.e.*, Start-Up Chile program, accelerators and co-works with public funds, grants) intended only for middle age people and or higher income applicants? Is it possible to motivate low income individuals to start rapid growth ventures?

Public policies in developing countries seek to increase entrepreneurial activity that promotes economic growth with social development necessary to increase

population wellbeing. Lepeley *et al* (2015) and Acs (2006) explain that necessity and opportunity entrepreneurship have differential impact on economic growth. Acs adds that 'when more people becomes involved in opportunity entrepreneurship and more people leave behind necessity entrepreneurship (as a precarious source of self-employment), the shift results in rising levels of economic development' (Acs, 2006: 102).

It seems that entrepreneurs have mixed motivations to start up a business. But it is clear that a shift from people's necessity-oriented into opportunity-oriented is a strong motivation when entrepreneur ventures develop and increase sustainability (Williams, 2008).

According to the Executive Director of CORFO, Inti Nuñez, (September 2015), the public agency to for development that is injecting funds to develop and strengthen entrepreneurial activity, over $US 30 million have been invested in the last 4 years in Start-Up Chile, with a return estimated in $US 200 million in accumulated business value in 2015. Lepeley *et al.* (2015) report a three decade history of women entrepreneurs in Chile, one of the strongest formal records in Latin America. The participants in this study perceive that Chilean and Latin American entrepreneurial activity has had a great impulse in the last decade. And Chile is following on its historical consistent path (Lepeley *el al.*, 2015).

In spite of the fact that some authors contend that gender might not have significant impact on raising funds (Cohoon, Wadhwa & Mitchell, 2010) we have found some associations of gender to difficulties and failure, but also to being a woman as a resource to take advantage of. Women will confront less cultural obstacles in the future, if the number of women leading and distributing VC funds increases, because for now the 'gatekeepers of venture growth' are male-dominated (Brush, Carter,

Gatewood, Greene, & Hart, 2004). This is a concern that has received limited attention in entrepreneurship literature and it requires immediate awareness to solve this gap. Where are the solutions?

With extremely limited exceptions the social perception that ‘women should stay at home’ is totally obsolete and worldwide. In the Knowledge Society this state has reached a point of no return to the past.

Limitations and future research

The identification of effective paths to fundraising was out of the scope of this study. Further analysis of qualitative comparative analysis (QCA) may fill this gap to help recognize conditions for successfully raising of venture capital, either from private Latin American investors or investors from abroad.

This study did not include interviews with men start-up founders who have participated in the Chile Start-up accelerator program. Future research could consider gender comparisons and rates of success raising external capital to observe differences and effects in the fundraising process.

Finally, although the size of the sample may seem small, it is representative of the undersized representation of women entrepreneurs in the technology industry, and this study may be considered as a pioneer in the field.

REFERENCES

Acs, Z.J. (2006). How is entrepreneurship good for economic growth? *Innovations: technology, governance, globalization, 1*(1), 97-107.

Ahl, H., & Marlow, S. (2012). Exploring the dynamics of gender, feminism and entrepreneurship: *Advancing debate to escape a dead end? Organization, 19*(1), 543-562. http://dx.doi.org/10.1177/1350508412448695

Aldrich, H., & Auster, E.R. (1986). Even dwarfs started small: Liabilities of age and size and their strategic implications. *Research in Organizational Behavior*, *8*, 165-198.

Amorós, J.E., & Echecopar, G. (2008). Entrepreneurship in Chile: Are we on the right track? In Cortés et al. *Entrepreneurship and Innovation in Chile: a pending task*. Desarrollo University Press. Santiago, Chile.

Amorós, J., E. & Poblete, C. (2011). National Report of Chile. Global Entrepreneurship Monitor. Desarrollo University Press. Santiago, Chile.

Amorós, J., E., Kuschel, K. & Pizarro, O. (2014). Women and entrepreneurship in Chile 2013/2014. Desarrollo University Press. Santiago, Chile.

Baum, J. A. C., & Silverman, B. S. (2004). Picking winners or building them? Alliance, intellectual, and human capital as selection criteria in venture financing and performance of biotechnology startups. *Journal of Business Venturing*, *19*(3), 411-436. http://doi.org/10.1016/S0883-9026(03)00038-7

Blank, S. (2010). What's A Startup? First Principles. Retrieved from: http://steveblank.com/2010/01/25/whats-a-startup-first-principles/ (accessed 23 October 2015).

Brooks, A.W., Huang, L., Kearney, S.W., & Murray, F.E. (2014). Investors prefer entrepreneurial ventures pitched by attractive men, *Proceedings of the National*

Academy of Sciences, 111(12), 4427-4431 http://doi.org/10.1073/pnas.1321202111.

Brush, C.G. Carter, N.M., Gatewood, E.J., Greene, P.G., & Hart, M. (2004). Gatekeepers of Venture Growth: *A Diana Project Report on the Role and Participation of Women in the Venture Capital Industry*. Available at SSRN: http://ssrn.com/abstract=1260385 or http://dx.doi.org/10.2139/ssrn.1260385 (accessed 23 October 2015).

Bryman, A., 2012. *Social Research Methods*. Oxford University Press: Oxford.

Cohen, W.M. and Levinthal, D.A. (1990). Absorptive capacity: a new perspective on learning and innovation, *Administrative Science Quarterly, 35*(1), 128-152. http://dx.doi.org/10.2307/2393553

Cohoon, J. McGrath and Wadhwa, V, and Mitchell, L., (2010). Are Successful Women Entrepreneurs Different from Men? Available at SSRN: http://ssrn.com/abstract=1604653 or http://dx.doi.org/10.2139/ssrn.1604653

CORFO (2015). Terms and Condition - Start Up Chile. Retrieved from: http://www.corfo.cl/programas-y-concursos/programas/concurso-emprendedores-globales-startup-chile (accessed 23 October 2015).

Endeavor (2009). Study of Risk Capital and investor networks in Chile. An X-ray access to risk capital for Chilean entrepreneurs. (accessed 23 October 2015).

Fiore, R.A., & Lussier, R.N. (2015). Measuring and testing general fundamental attribution error in entrepreneurship affecting public policy. *Journal of Entrepreneurship and Public Policy*, *4*(2), 171-186. http://doi.org/10.1108/JEPP-03-2014-0013

First Round Capital (2015). *Ten year project. First Round*. Retrieved from: http://10years.firstround.com/#method (accessed 23 October 2015).

Forbes (2015). VC Firm First Round: Our Female Founders Outshine The Men. Available at http://www.forbes.com/sites/alexkonrad/2015/07/29/first-round-female-founders-outperform-the-men/

Goduscheit, R.C., & Norn, M.T. (2011). Female entrepreneurship—a systematic literature review. Paper presented at the Annual Academy of Management Meetings, San Antonio, TX.

Guest, G. (2012). *Applied thematic analysis.* Thousand Oaks, California: Sage Publications.

Gupta and Nazanin (2014). Role of entrepreneur gender and management style in influencing perceptions and behaviors of new recruits: Evidence from the Islamic Republic of Iran, *Journal of International Entrepreneurship, 12*(1), 85-109. http://dx.doi.org/10.1007/s10843-014-0120-x

Hampton, A., Cooper, S. and Mcgowan, P. (2009) 'Female entrepreneurial networks and networking activity in technology-based ventures an exploratory study', International Small Business Journal, 27(2), 193-214 http://doi.org/10.1177/02662426081004.

Heider, F. (1958). *The Psychology of Interpersonal Relations*. New York: Wiley.

Kantis, H., & Díaz, S. (2008). *Study of best practices, innovation and entrepreneurship in Chile. An X-ray of dynamic entrepreneurs and their business practices*. Endeavor.

Kantis, H., Ishida, M., & Komori, M. (2002). *Entrepreneurship in Emerging Economies: Entrepreneurship in Latin America and East Asia*. Washington: Inter-American Development Bank.

Kuschel, K. & Lepeley, M.T. (in press). Women start-ups in technology: literature review and research agenda to improve participation. *International Journal of Entrepreneurship and Small Business*.

Leatherbee, M. & Eesley, Ch., E (2014). Boulevard of Broken Behaviors: Socio-Psychological Mechanisms of Entrepreneurship Policies (August 15, 2014). Available at SSRN: http://ssrn.com/abstract=2488712 or http://dx.doi.org/10.2139/ssrn.2488712 (accessed 23 October 2015).

Lepeley, M.T., Pizarro, O., Mandakovic, V. (2015): Women Entrepreneurs in Chile: Three Decades of Challenges and Lessons in Innovation and Business Sustainability in Female Entrepreneurship in Transition Economies Trends and Challenges. Ramadani, V., Gërguri-Rashiti, S., Fayolle. A. (eds.). Palgrave Macmillan.

Miller, N., Besser, T., & Riibe, J. (2007). Do strategic business networks benefit male-and female-owned small-community businesses?, J*ournal of Small Business Strategy, 17*(2), 53-74. http://dx.doi.org/10.1177/0266242607082525

Moffat, L. (2002). *The Tipping Point- How Little Things Can Make a Big Difference?* Malcolm Gladwell (ed.), New York: Little, Brown and Company.

Multilateral Investment Fund (2014). WEGrow: Unlocking the Growth Potential of Women Entrepreneurs in Latin America and the Caribbean. Retrieved from: http://wegrow.fomin.org (accessed 23 October 2015).

Phelps, R., Adams, R. & Bessant, J. (2007). Life cycles of growing organizations: A review with implications for knowledge and learning, *International Journal of Management Reviews, 9*(1), 1-30. http://dx.doi.org/10.1111/j.1468-2370.2007.00200.x

Powell, G.N., & Eddleston, K.A. (2013). Linking family-to-business enrichment and support to entrepreneurial success: Do female and male entrepreneurs experience different outcomes?, *Journal of Business Venturing, 28*, 261–280. http://dx.doi.org/10.1016/j.jbusvent.2012.02.007

Ries, E. (2011). The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses.

Robert A. Fiore, & Robert N. Lussier. (2015). Measuring and testing general fundamental attribution error in entrepreneurship affecting public policy. *Journal of Entrepreneurship and Public Policy*, *4*(2), 171-186. http://doi.org/10.1108/JEPP-03-2014-0013

Rogoff, E. G., Lee, M.-S., & Suh, D.-C. (2004). “Who Done It?” Attributions by Entrepreneurs and Experts of the Factors that Cause and Impede Small Business Success. *Journal of Small Business Management*, *42*(4), 364-376. http://doi.org/10.1111/j.1540-627X.2004.00117.x

Roper, S., & Scott, J. M. (2009). Perceived Financial Barriers and the Start-up Decision An Econometric Analysis of Gender Differences Using GEM Data. *International Small Business Journal*, *27*(2), 149–171. http://doi.org/10.1177/0266242608100488

Ryan, G.W. & Bernard, H.R., 2003. Techniques to Identify Themes. *Field Methods*, *15*(1), 85-109. http://dx.doi.org/10.1177/1525822X02239569

Schumpeter, J. A. (1934). The Theory of Economic Development. Harvard University Press, Cambridge MA.

Sena, V., Scott, J., & Roper, S. (2010). Gender, borrowing patterns and self-employment: some evidence for England. *Small Business Economics*, *38*(4), 467–480. http://doi.org/10.1007/s11187-010-9272-9

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25* (1), 217-226. http://dx.doi.org/10.5465/amr.2000.2791611

Stinchcombe, A.L. (1965). *Social structure and organizations*.

Strauss, A.L., (1987). *Qualitative Analysis for Social Scientists*, Cambridge University Press: Cambridge.

Sullivan, D.M., & Meek, W., R. (2012). Gender and entrepreneurship: A review and process model, *Journal of Managerial Psychology, 27*(5), 428-458. http://dx.doi.org/10.1108/02683941211235373

The Diana Project (2014). Women Entrepreneurs 2014: Bridging the Gender Gap in Venture Capital, Babson http://www.babson.edu/Academics/centers/blank-center/globalresearch/diana/Documents/diana-project-executive-summary-2014.pdf (accessed 23 October 2015).

El Mercurio (2015). *Start-Up Chile launches new program focused on promoting female entrepreneurship*. Retrieved from: http://www.economiaynegocios.cl/noticias/noticias.asp?id=153736

Watson, K., Scott, H., & Wilson N., S. (1998). Small business start-ups success factors and support implications, *International Journal of Entrepreneurial Behaviour & Research, 4*(3), 217-238. http://dx.doi.org/10.1108/13552559810235510

Williams, C.C. (2008). Beyond necessity-driven versus opportunity-driven entrepreneurship A study of informal entrepreneurs in England, Russia and Ukraine. *The International Journal of Entrepreneurship and Innovation*, *9*(3), 157-165. http://doi.org/10.5367/000000008785096647

Figure 1: Participant selection criteria

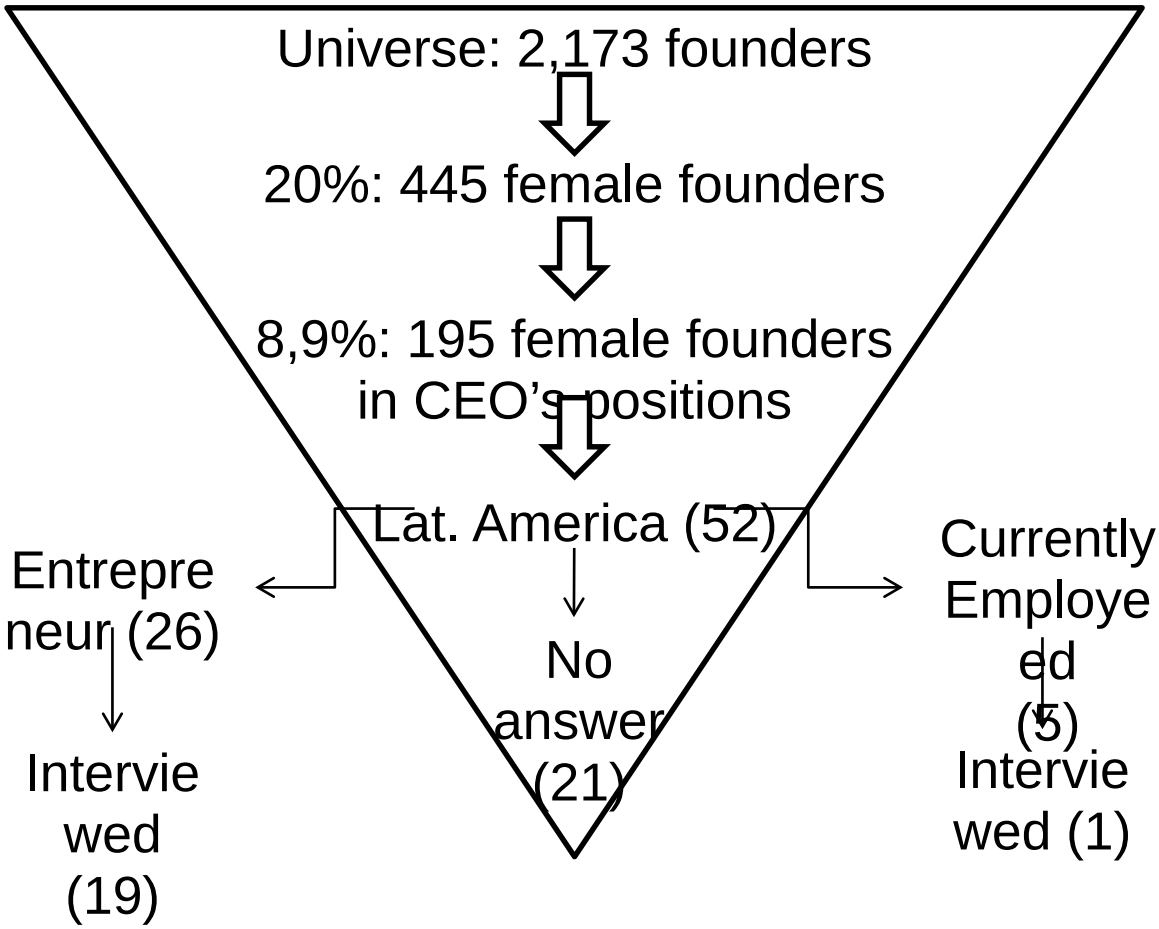

Table 1: Sample Characteristics

Participant ID	Country	Age	Education Background	SUP Chile batch	Business Stage after acceleration at Start-Up Chile	Industry	Cofounders+ employees	Capital Raised
JP	Chile	31	Philosophy	3	Model validation	Fashion	3+17	Seed
NF	Chile	27	Management Control Engineer and Accountant	4	Model validation	Fashion Market Place/Decor	1+4	-
IN	Chile	26	Industrial Design	4	Functional product with users	Fashion	2+10	Seed
CR	Uruguay	28	Fashion Design	4	Functional product with users	Fashion	3+0	VC Latin America
ASO	Uruguay	28	Telematics Engineer	4	Working Prototype in Development/ Prot. Valid.	Beauty & Cosmetics	2+8	VC USA
VP	Mexico	32	MBA	5	Concept	Financial technology	2+0	-
CN	Mexico	33	Communication studies	6	Model validation	Entertainment	3+0	-
LC	Argentina	32	Master on Technology Business Management	6	Functional product with users	Software	4+6	VC USA
DF	Chile	33	Molecular Genetics and Microbiology	7	Working Prototype in Development/ Prot. Valid.	Bio-tech	3+3	Seed
VP	Colombia	26	Languages	8	Model validation	Education	2+0	-
CP	Argentina	33	Business Administration	8	Model validation	E-commerce	1+1	Acceleration
NC	Argentina	31	Communication	8	Model validation	Hiring & Recruitment	2+9	Seed
PF	Chile	38	Science in Aerospace Engineering	9	Functional product with users	Agronomy technology	2+3	Seed
ML	Chile	31	Engineering	9	Functional Product with Users	Nano-tech	2+0	Seed
DL	Chile	31	Engineering	9	Scaling sales	E-commerce	3+43	VC Latin America
CP	Chile	26	Business Administration	9	Model validation	Fashion/Fashion	4+0	VC USA
SG	Chile	26	Business Administration	10	Functional product with users	Hiring & Recruitment	3+0	Seed, Acceleration
ASI	Venezuela	26	Social Work/ Industrial Design	11	Functional Product with Users	Health Technology	5+0	-
FC	Chile	26	Biotechnology engineering	11	Working Prototype in Development/ Prot. Valid.	Bio-tech	2+0	Seed
CM	Argentina	32	Business Administration	11	Scaling sales	Market Place	4+6	VC Latin America

Figure 2: Emerging themes