

POLITECNICO DI TORINO

DEPARTMENT OF MANAGEMENT AND PRODUCTION ENGINEERING

**Master of Science degree  
Engineering and Management**

Master Thesis

**Business Angels and Informal Venture  
Capital Market: an overview**



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July 2018



## **Abstract**

In this master dissertation, is possible to understand the principal characteristics of the Business Angels and the Informal Venture capital market Capital Market, and how they evolved during the last decades around the world. To this aim, have been considered the roles and relations that different city actors, as the governments, universities, non-profit organizations, and entrepreneurs, have with the creation of positives or negative externalities that affect and drives the market development. In it is analysed and described a new database of 911 Business Angels and the last three decades of the scholars and researchers findings available in the Business Angel literature. The results of those empirical analysis indicate that the men still lead the market, but that should be taken into consideration the increasing participation of the women in the market during the last years, at the point that are changing some market stereotypes and interests. The vast majority of them are well educated with a bachelor's degree from the top 10 world universities rankings, and their sectors of interest are strongly linked with the new technology and the business management. Also, it was found that they have an entrepreneurial background and experience in high rank job titles (e.g. CEO or Board member), and that a minority invest two times in the same companies. Finally, was analysed how the new technologies and the internet are changing the structure of the angel market, how the future research in the field could be addressed with the considerations and hypothesis generated.

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# Chapter 1

## Introduction

Previous research has highlighted the important role of venture capital (VC) market for economic development, revealing that it stimulates innovation (Kortum and Lerner, 2001) and supports the development of entirely new industries (Bygrave, et al., 2003) in different geographic areas that are closely related to the new business formation rate and the size of the technology sector.

The venture capital market is divided by two types, known as formal and informal venture capital. The informal venture capital is considered the primary source of external equity finance for new businesses (Mason and Harrison, 2000; Bygrave et al. 2003) and the informal investor as an individual who used his own money to provide capital to a private business owned and operated by someone else, for example, an immediate family member, a relative, friend, co-worker, neighbour, or stranger. While in the formal venture capital market operates the Ventures Capitalists and the organized capital funds.

This definition turns every Business Angel to an informal investor, but not every informal investor is a Business Angel. That is because the informal investor should be divided in different groups as they made investments in companies related with family members, friend or strangers. Business Angels are the most experienced and most actives investors segment, they invest more purely for financial reasons and hence one would expect this type of investment to be carried out in a more professional and indeed formal manner and is assume that they will avoid a closed personal relationship (as family or friends) with the entrepreneurs.

In the literature there are many definitions for Business Angels that have been evolved in time but creates some confusion now to compare the results that different Scholars and researchers are finding in their studies.

Taking into consideration the principals characteristics and definitions given to business angels in the literature, to avoid misunderstanding when interpreting the data results of this study, the following definition for Business Angels have been adopted.

Business Angel is a high net-worth individual (not an institution) acting alone or in a formal or informal syndicate. Who, mainly considering commercial aspects, invest a portion of Him or Her own assets, in form of debt or equity, in high-risk unquoted business in which there is no family connection. And Who, after the investment generally contribute with their commercial skills, experience, business know-how and contacts; taking an active involvement in the company, for example, as an advisor or directors board member.

Unlike the Venture Capital Found, the Business Angels have preference for funding entrepreneurial ventures in the seed and start-up phases with presence in all kind of industry sectors and geography locations. Also, Business Angels have a shorter decision cycle due to the no need of investment approval, a less costly structures with low transaction cost and a plus with the created added value for their investments when they are expert's investors.

The companies or entrepreneurs that demand substantial external financing are usually the ones in early stages of development, the potential "gazelles", these are the firms with high

growth and high potential. Some of those firms, the ones that don't have all the needed capital or are running out of capital, are not able to prove with a track record the validity of their business ideas, making more difficult to get an institution loan. Even if debt financing is available, it may be inappropriate for the small growing firms to depend on this alone. Making regular payment of principal and interest is a heavy burden for the company and can lead to undercapitalization and business failure (Mason and Harrison, 1995).

The ability of small firms to access finance is hindered by persistent market failure, which have limited the supply of finance from the private sector and creates funding-gaps for new businesses, particularly in technology sectors. Also, the lack of data of information about Angels investors reduce the probability of the entrepreneurs to launch their businesses to the market.

The investment focus of the formal venture capital industry has shifted progressively away from early stages and technology-based ventures towards more established companies and management/leveraged buyouts (Mason and Harrison 2003; Sohl 2003) Venture capitalists distinguish themselves from informal investors usually on the basis that they invest larger sums of money, focused more on later stage investment and as a formal financial services company are more heavily regulated.

This is one of the reason why is important to put attention on the Business Angels activity as they provided resources to finance small-medium projects and help to reduce the funding-gap that exist in the market.

Additionally, many observers consider angel investments to be one of the key drivers behind the start-up and growth of new businesses (Council, 2007), with a potentially available total amount of informal venture capital being one-third larger than the amount invested.

Over the years the international market of the Informal Venture Capital has developed some significant structural changes as the emerge of Business Angels groups and networks; those are angels who wants to invest together rather than as individuals (Mason, 2006) and have more actualized information about the market. The creation of Business Angels Networks (BANs) provide an information channel between entrepreneurs and Business Angels (BAs) without giving up the privacy of the latter (Mason and Harrison, 1996).

Other changes are the more active involvement of different city actors as the public administration and universities. The former has been launching different initiatives and policies that stimulate the development of the informal venture capital market, while the latter intensify the numbers of research in the area and creates programs or business incubators to improve the capacities of entrepreneurs and/or investors at the moment to launch a new business idea in the market.

Despite the recent changes in the informal venture capital market, there exist start-ups companies that are ready for investment, but they are not able to complete the budget required in order to put the business idea in the market or just are not able to present the idea to the necessary quantity of Business Angels in order to find one that could be interested in those kinds of investments. For that reason, each day, takes more importance the role that the public authority and the Business Angel Networks could have and the contributions that they could make in the Informal Venture Capital Market development.

The Business Angels Networks (BAN) are playing an important role in the market since the investors/entrepreneurs save time when meet only with entrepreneurs/investors that

fulfil some characteristics that they expect. Also BANs are helping with the due diligence that Angels investors made in order to reduce the investment risk through considering all the aspects relating from the investment opportunity subject to funding: the entrepreneur (management), the firm, the product as well as the external environment. Also BANs are helping the entrepreneurs to understand the different ways available for funding and that could match with their kind of business (Mason and Harrison, 2001).

Governments have played a key role in the development of venture capital markets around the world (Mason, 2009). Most related with Measures to improve the Fiscal Environment, but they are looking for innovative ways to enhance business angel investments.

Existing research on business angels confirmed the relevance of the fiscal environment for business angels' activity. An improvement or deterioration of the investment taxation might result in enhancing or diminishing the attractiveness of angel investment activity (Mason and Harrison, 1999). Some of the actual measures that have been proven, unlike the classical tax incentive, are the support to the business angels networks, the guarantee schemes for angel investments and the co-investment schemes.

Likewise, another rational for the governments, have been the call that many researchers and scholars are made to advocate for the promotion of the business angel activity in general (e.g. Mason, 2009; Sohl, 2007). Despite that there continues to be debate about the means, the timing and the extent of a possible role of government, it's a common thought that one of the important government task is to help BANs get going.

As we live in a globalized world that each day looks more local, when we talk about communications and business, it suggested that the concentration of technology-based firms would be important for explaining the distribution of informal investments in the economic developed regions than in the developing ones. However, have been also appreciate that in peripheral city regions or in under-developed countries (in a wider view) there exist a consider number of informal investors, that prefer to transfer their investment to the more technological areas or where they find better conditions to invests, given by the different actors of the region (Universities, Governments and entrepreneurial Community). It is important to mark that some of the investments made in those developing regions have success and should be taking into consideration the conditions or policies that make them happen in order to compare with the ones at the more developed regions.

All this provide a context for the main aims of this thesis dissertation, which is concerned to give an overall view of the Business Angels and the Informal Venture Capital Market, considering the role of the principal actors that are involved in a direct or an indirect manner with the informal investments. And how this market has been evolved during the last decades around the world, considering the entrepreneurial landscape, the change in the general economic conditions, the government policies conditions and the different investing models that are been using by Angel Investors. All of this based in a random sample of 911 Business Angels investors and the review of the finding made by scholars and researchers in the last three decades.

The result of this study should help to reduce the lack of information about business angels in the literature, and to encourage the researchers to analyses the informal venture capital market and their investors not only with quantitative variables but also with the qualitative conditions that creates the different geographical locations, with a diverse entrepreneurial culture and economic environment between the regions.

Perhaps one of the greatest challenge in business angel research is to obtain a representative sample of the angel population, but with more researches around the world looking in this field, will be possible to reduce this problem, as long as the Business Angel definitions could be standardized in a one general definition. This is other of the motivations that aims to encourage this study in the future researches.

The document proceeds as follows; In the second section it is possible to find all the synthesis from the different papers and books that were consider in order to address this study about the Business Angels and the Informal Venture Capital Market. In the third section is explained the methodological approach that have been used to analyse the data results. The thesis concludes with a discussion of the main findings and some recommendations for further research, followed by the bibliography that were used.

## Chapter 2

### Business Angels and Informal Venture Capital Market

#### 2.1 Venture capital market (VCM)

The importance of the venture capital (VC) market in the growth of the economy comes from the capacity to accelerate the innovation and support the entirely development of new industries (Kortum and Lerner, 2001; (Lahti, 2011), with different kinds of finance.

It is well known that one of the main obstacles that entrepreneurs face when trying to initiate and/or consolidate their business ideas is the availability of equity capital (Amoros, et al., 2008). As Banks and others lending organizations (In the traditional financial system) are just partially furnishing entrepreneurs with short term capital needs but not with the supply of long term equity funding due to the high transaction costs in dealing with small business due to the lack of financial records, high failures rate and the information asymmetries related to the nascent business ideas or early stage firms (Amoros, et al., 2008). So, entrepreneurs have the need to achieve the necessary equity capital by other formal or informal sources of capital.

As the companies grows and/or pass through the different phases of innovation the financing opportunities that are available changes. The amount of funds required by an entrepreneurial venture generally increases as the entrepreneurial life cycle proceeds, while risk and financial problems decrease in the mature stages (Wetzel and Wilson, 1985; Amoros, et al., 2008). And when dealing with the downstream of the innovation process phases the public intervention decreases and entities take the risk and the rewards connected to the innovation financing are the privates investors. Therefore, innovation is generally funded through companies equity. In the case of startup firms or seed firms, equity will typically come from Business Angels and Venture Capital (VC) funds (Cantemessa and Montagna, 2016).

Each company is different and may be at different phase of the innovation developing (Incubation, diffusion, and maturity) or in a different stage of the business life cycle. In the literature we can find distinct ways to divide the life cycle, and the following general approach is well adapted (in this order):

- Concept Stage: It is the initial stage where the entrepreneur starts developing the business idea.
- Seed Stage: After defying the business model and/or business plan the entrepreneur start to validate the business idea in the market and start to find early financing. In this stage is common to raise the money needed from close individuals to the entrepreneur, as family or close friends, willing to take a high-risk investment based principally on feelings.
- Early Stage: this stage is characterized by the business model adaptation to the market reality. This is the stage where the companies are trying to enter in the market and passionate their brands, it is the begins of the growth effort, where the expenses are high, and revenue is low. For financiers this is the called valley of death, where the rate of success is really low, for instance is where principally the high risk or “angels” investor operates.

- Growth Stage: Here the companies make the possible to growth the sales, with a defined Business model and plan. This stage is where the majority of the start-ups are consolidated and usually follow-up financed from angel groups, super angels, angel syndicates and some venture capital (VC) funds.
- Late Growth Stage: The business demonstrates their position in the market and concentrate more in the improving of their processes, in order to consolidate the market expansion, as the venture attempts to scale its sales. The companies in this stage are principal financed by the VC funds.
- Exit Stage: The last of the startup funding rounds is when the company usually gets buy-outs, in order to make the company able to raise funds from the public sales of stock.

In terms of the size of investment we can separate the VC market in formal and Informal, with the assign of the different type of investors. The FFF investors provide, on average, a modest amount of money per business, normally below USD 25.000. At the other extreme of the equity funding spectrum, most formal venture capital funds are currently investing a minimum of USD 500.000 per business. The range between USD 25.000 and USD 500.000, known as the equity gap, in principle is filled, by the business angels and for some of the active public policies around the world (Mason, 2006).

In the recent years have been noted that the investment focus of the formal venture capital industry has shifted progressively away from early stages and technology-based ventures towards more established companies and management/leveraged buyouts creating a new funding gap, as the minimal amount of money invested have been increasing from the 500.000 to the 1.500.000 dollars. A gap that is covered in part for the informal investors, as example, the groups or syndicates of business angels.

The total market for risk capital, apart from entrepreneurs' own capital, is composed of three main segments: informal capital, professional venture capital firms and public stock markets. The latter two segments can be easily distinguished from the informal investors usually on the basis that they invest larger sums of money (Gaston, 1989). focus more on later stage investment (Jensen, 2002) and as a formal financial services company are more heavily regulated.

The venture capital industry has four main players: entrepreneurs who need funding; investors who want high returns; investment bankers who need companies to sell; and the venture capitalists who make money for themselves by making a market for the other three (Zider, 1998).

Also, some studies had showed the heterogeneity across VCs, who differ in terms of affiliation, size, managerial style, previous experience, industry, and stage specialization (Ughetto, 2010)

The Venture Capital Funds are run by professional investors who lead substantially larger financing rounds, (from around 1 million Euros for early stage funds, and up to tens of millions of Euros for expansions funds), with the objective of exiting their shareholders for a substantial profit after limited number of years. Given the high-risk involvement in startups, VC funds target an extremely high return on investment on each deal, knowing that this return will effectively be achieved only by small minority of their shareholdings. However, by averaging the few significant successes with some minor achievements and high number failures, the fund will tend to deliver-in aggregate-a satisfactory return to its investors (Cantemessa and Montagna, 2016).

In a typical start-up deal, for example, the venture capital fund will invest 2 million Euros in exchange for a 40% preferred-equity ownership position, although recent valuations have been much higher. The preferred provisions offer downside protection. For instance, the venture capitalists receive a liquidation preference. A liquidation feature simulates debt by giving 100% preference over common shares held by management until the VC's 2 million Euros is returned. In other words, should the venture fail, they are given first claim to all the company's assets and technology. In addition, the deal often includes blocking rights or disproportional voting rights over key decisions, including the sale of the company or the timing of an IPO.

To pointed, during the last two decades traditional venture capitalists have virtually abandoned the early stage investments, either, by observing certain parameters, by learning from the mistakes and by following conservative investing principles. And since those dynamics shows no sign of changing soon, the VC industry leaves the door wide open for the informal venture capital investors that wants to get part of that portion of the market (Jensen, 2002).

Not for less, it is important to highlight that the Informal capital markets are the leading source of external risk capital that are funding entrepreneurial startup and small business growth. (Gaston, 1989).

## **2.2 Informal Venture Capital Market (IVCM)**

The informal venture capital market is comprised of private individuals who uses his own money to provide capital to a growing business, owned and operated by someone else, in all kind of industries and geographies (Gaston, 1989; Shane, 2012). But is not expected many cross-border investments by nature of the informal investing, the wealth originated at a certain geographical location will be retained within the same region (Mason and Harrison, 2000; Avdeitchikova, 2009; Collewaert, 2010). Informal venture capitalists are expected to invest in the geographical proximity of their homes, for instance, have been proved that the 60% of investments take place within a radius of 80km from the investor's home (Landstrom, 1998; (Avdeitchikova, 2009).

In fact, the demand for informal venture capital are disproportionately concentrated to economic core regions that have the highest volume of new firms (Keeble and Walker, 1994) the largest share of fast-growing firms and the largest concentration of technology-based companies. Generally, those are regions with a high concentration of wealth and income (Mason, 2007).

In the literature are an ambiguous definition of what is consider compounding the informal venture capital market and, despite that many scholars agree that family related investors are outside the scope of this informal market, while agree that are being an important source of capital for young firms (Mason and Harrison, 1995; Sørheim and Landstrom, 2001; Avdeitchikova, 2009). Is consider that the informal investors are made up of two different groups, the Business angels and the Friends&family-Fools investors. Where the former could invest alone or in a group, (Shane, 2012; Bygrave, 2003) more purely for financial reasons and the investment is expected to be carried out in a more professional and indeed formal manner (Burke, 2010). While the Friends&family-Fools investors refer to individuals who engage in informal investment with entrepreneurs with whom they have a close personal relationship.

## 2.3 Business Angels (BAs)

Business Angel (BA) is a high net-worth individual (not an institution) acting alone or in a formal or informal syndicate (Mason and Harrison, 1995). Who, mainly considering commercial aspects, invest a portion of Him or Her own assets, in form of debt or equity, in high-risk unquoted business in which there is no family connection (Avdeitchikova, 2009). And Who, after the investment generally contribute with their commercial skills, experience, business know-how and contacts; taking an active involvement in the company, for example, as an advisor or directors board member (Mason and Harrison, 1995; Lahti, 2011; Shane, 2012).

Unlike the Venture Capital Found, the Business Angels (BA) have preference for funding entrepreneurial ventures in their seed and start-up phases with presence in all kind of industry sectors and geography locations. Also, Business Angels have a shorter decision cycle due to the no need of investment approval, a less costly structures with low transaction cost and a plus with the created added value for their investments when they are experts investors or have an entrepreneurial background. (Aernoudt, 2007; Gaston 1989; Landstrom, 1998; Mason, 1998).

Exist many stereotypes of what the typical BA should be. One of the common is that they are successful entrepreneurs, but as some research findings shows, those stereotypes could be far away from the reality or just don't apply to all types of BA (Avdeitchikova, 2008; Mason, 2009). As example, one study showed that the proportion of individuals with an entrepreneurial background is over the 40% (Avdeitchikova, 2008).

Nonetheless, some of the characteristics that are assigned to the average or typical BA, considered by many researchers and the Center of Venture Research (CVR) as the principals, could be grouped in the follows:

- BA tend to invest close to their home base
- Individual angels rarely invest more than a few hundred thousand dollars in total
- Angel investors tend to be older, wealthier and better educated than the average citizen, yet a large number are not millionaires.
- Many of the BA also have experience as entrepreneurs (Avdeitchikova, 2009).
- BA anticipate an average annual return of 26% on their investments, but also expect that up to one-third of their investments will fail
- They reject approximately 7 out of every 10 deals that cross their desks, those deals are rejected for a variety of reasons, including poor growth potential, overpriced equity and inexperienced management team (Jensen, 2002).
- Many studies show that the typical angel invests in a single round. One study of angels in the UK found that angels provide follow-on money only 25% of the time (Mason and Harrison, 1996). Similarly, a study by Professor Rob Wiltbank of Willamette University found that only 29% of the companies in which angels invest receive follow-on investment (Shane, 2012).
- Many BA only make one or two investments and then withdraw from the market because of bad experiences, poor results and unfulfilled expectations (Aernoudt, 2007). As one study shows that the 35% of business angels had made only a single investment (Van Osnabrugge, 1998).

However, a number of categorization studies indicate that it is wrong to assume that investors can be considered as one population with virtually identical characteristics (Gaston, 1989; Lahti, 2011). Should be taken into consideration that the social, economic, cultural and geographic ecosystem where they developed their activities could change, and their comportment and characteristic could be altered. As Avdeitchikova (2008) notes, the behaviour of business angels may change over time as their investment experience increases (Collewaert, 2010). Also, that they can act passively in one deal and actively in another.

Business Angels invest in a variety of companies at different level of development stages, led by many types of entrepreneurs in a wide range of industries (Lindgaard, 2011; Gaston, 1989; Mason and Harrison, 1996). Actually, many BAs had earned their wealth in the technology sector, and many remained heavily invested in it (Jensen, 2002). But that doesn't mean that they don't make investment in the low-technology companies or slow-growth industries, as many of them had made their wealth thanks to investments made in companies as Starbucks Inc. (a Coffee-Bar) (Lindgaard, 2011).

Other researchers had categorized the BAs in different types, taking in consideration the way that they usually invest. The four follow categories of investments, where the BA should be grouped as they characteristics corresponds, described by (Collewaert, 2010) with the intention that the entrepreneurs understand better the kind of investors that they could approach, are:

- **Gambles Investments:** the name of this kind of investments refer to the speculative nature, this would imply that investors have placed limited emphasis on managing risks. The due diligence and the involvement in the company is limited, seem to appeal to investors that have the greatest wealth of experience in founding new ventures. This could be, because, the investors perceived that entrepreneurs had invested a substantial share of their net worth and conducted a well-conceived business plan; or they just invest also for 'the fun in it' or because they want to 'pay back' to society with the consolidation of the BAs culture. It is possible to prove this with the findings in different studies. One study showed that the 35% of the Angel investors would make an early-stage investment without looking at the entrepreneur's business plan (Benjamin and Margulis, 2000). Other study report that 20% of angels performed no due diligence on investments that they made (Lindgaard, 2011)
- **Conventional Angel Investments (CAI):** In this category of investments the business angels rely on their intuition, and they compensate the low level of due diligence by gaining control post-investment through active involvement (Collewaert, 2010; Van Osnabrugge, 1998). This kind of investors feel that they can filling knowledge gaps in the business, but not in a day-to-day basis involvement.
- **Due Diligence-Driven investments (DDD):** The investments of this kind have been thoroughly analysed, but the involvement of the investors is very limited. They have been made by expert investors in companies that are more consolidated in the market (Collewaert, 2010).
- **Professionally Safeguarded Investments (PSI):** There is a strong focus on managing risk in this approach by the investors, as they make a through comprehensive due diligence and take an active involvement. Investors usually take a seat on the Board of Directors in companies that operates in industry where they have experience (Collewaert, 2010; Jensen, 2002).

Other characteristics that appear in the literature and could define a type of Business angels are the Virgin, the active and the passive. The virgin BAs have been associated with their lack of knowledge of the investment process (Aernoudt, 2007) and the limited number of business proposals that meet investors' requirements (Mason and Harrison, 2002). And the Active BAs are the ones that involucrate themselves in the companies and invest also time, while the Passive investors only contribute with the funding.

## **2.4 Business Angels Networks (BANs)**

In the absence of a marketplace, business angels and entrepreneurs seeking finance are left alone to find an investment and financing respectively. Business Angels are opportunity constrained, with the majority unable to find sufficient investment opportunities, this reflect the need to help entrepreneurs understand different forms of equity funding (Mason and Harrison, 1999, 2002; Avdeitchikova, 2009; Collewaert, 2010) and to prepare the business ideas until they are investment readiness, because this is often associate with time-loss by the investors. This also shows the need to help the investors with the correct due diligence, as the aim is to reduce the investment risk through considering all the aspects relating to the investment opportunity: the entrepreneur, the firm, the product/services as well as the external environment. All of these needs are covered in part with the activities that perform the Business Angels Networks.

Business Angel Networks (BANs), the main function of these organizations is to improve the efficiency of information flow in the market by providing a channel of communication that enables entrepreneurs seeking finance to get the attention of business angels and at the same time enables business angels, to receive information on investment opportunities, without compromising their privacy (Burke, 2010; Mason and Harrison, 1996). However, the network plays no role in the actual investment process: business angels make their own investment decisions, undertake their own due diligence and negotiate their own term sheet directly with the entrepreneur (Avdeitchikova, 2009).

The definition of BANs should change as the Informal Venture Capital Market evolve, as they adapt and aggregate new services depending to the market demands. As example in the recent years is more common to find BANs (EBAN) that offer services for training investors and others that give a legal consulting for the final business contract (Avdeitchikova, 2009; Sohl 2007). It has been argued that BANs need to evolve into knowledge-based intermediaries, providing training and coaching to entrepreneurs and business angels in the process of raising capital and investing in new ventures (Mason and Harrison, 2003).

### **2.4.1 Types of BANs**

BANs differ in their profile and operation. Lange, Leleux, and Surlemont (2003) list seven typological dimensions to characterize BANs (Lahti, 2011). On each one of these dimensions, the BANs may perform different functions in the market and, in fact, may target different segments (Mason and Harrison, 1996). In order to reflect the growing variety of approaches to intermediation in the market, the scholar Sohl (2007) uses the term ‘angel portal’ (Lahti, 2011). And the follow (seven dimension) could be the best approach to distinguish the BANs:

- Private vs. public
- Profit vs. non-profit
- Early stage focused vs. all stages
- Specialist investors vs. generalists
- Active screening and support vs. passive
- Regional or local geographical reach vs. national or pan-national

- Introduction services only vs. a broader range of services offered (Lahti, 2011)

Apart from the types, the BANs could share some structural characteristics, that will permit to them have a successful establishment and growth. For this, Mason and Harrison (1993) identify three pre-conditions that the BAs should met:

- High visibility and credibility through on-going marketing is needed to build a critical mass of investors and investment opportunities,
- it must be well resourced and
- a hands-on and pro-active approach is needed. (Lahti, 2011)

On these days, the BANs are all around the world, principally around the economics hubs. Therefore, is difficult to characterize all of them as equals with the same general characteristics, because the different policy environment and situation of the development rate for the diverse regions have been played an important role for the uneven evolution of the BANs. And this is the reason why the general characteristics, roles and activities that plays the Business Angels Networks, in a general world view are compiled in the following:

- Many BANs are providing guidance with information of the standard legal documents, codes of conduct and Taxation policies that rule the market (Lahti, 2011). In order to reduce the added cost that the society have each time that one good Business Idea It is not launched due to a misunderstanding of some of that information.
- BANs reduce the financing problems entrepreneurial companies face, they also contribute to the economic development and growth. And there are positive indicators of future potential, such as an upward evolution in value creation and the ability to raise follow-on financing, for the startups ideas (Burke, 2010). Enabling entrepreneurs to raise further financing at the time of the initial investment and later (Mason and Harrison, 1996; Burke, 2010). The ability of companies to raise follow-on funding could be consider as an indirect indication of entrepreneurial success, especially if they have not come to full fruition (Burke, 2010).
- BANs are coaching entrepreneurs on writing a business plan or presenting themselves to potential investors, with the creation of investment readiness schemes that aim to improve the number of investable opportunities that business angels receive. (Mason and Harrison, 2001; Avdeitchikova, 2009) As many of the researchers have noted that they have failed to provide business angels with superior investment opportunities (Mason and Harrison, 1996, 1999, 2002).
- Most BANs operate on a local or regional scale (EBAN).

## 2.4.2 BANs Conclusions

In the Business Angels Market there is a need of a high-quality deal flows, but also is necessary a wide range of services that complement the support, given by BANs to the entrepreneurs and investor, from the start-to-end steps necessities in order to launch a Business Idea in the market. With the gradually evolution of the services that the BANs provide, they will be able to remain in the market (Mason, 2006). As many of them are doing with the inclusion of services such as market surveys, pre-structured deal flow and quality certifications for the deal flow. Additionally, it is important that they improve the common services and continue to help the BAs with the contracting practice and to carrying out the due diligence, and to the entrepreneurs to select the correct investors that match their equity funds necessities.

Another important contribution of the BANs, that have been noted by some researchers, is the indirect effect that creates on the investors perception in the regions where more actively they operate. This effect has been termed ‘behavioural additionality’. As one study showed that the motivations of business Angels are not only based on the financial return at the moment to join a BAN, but also some of them want to contribute to building up a culture around the business angels community while others see the BANs as professional and social infrastructures that give them a higher status (Lahti, 2011).

For many of the BANs is generally difficult to cover their operating costs, hence most are not financially self-supporting and depend on the public sector for their ongoing existence (Avdeitchikova, 2009) for that reason many of the established BANs and the new ones are now commercially oriented.

## **2.5 Business Angels Groups and syndicates (BAG-BAS)**

Since the first years of the 2000 in US and During the last years in the rest of the world, (Sohl; 2003) have been an increase of the phenomenon where individual angels investors establish groups, clubs, syndicates or more formal organizations with the aim to make investments together. (Mason, 2006) The emergence of those groups has been a significant change in the structure of the Informal Venture Capital Market (Avdeitchikova, 2009).

This means that angels with good track records can lead investments in early stage startups and allow other angels to co-invest, providing additional capital to the financing rounds and the opportunity to share risks. The benefit for the startups is that they can get more money than usual and faster (Lahti, 2011).

So, the principal benefits identified for the Business Angels if they make part of the co-investment groups, are the followings:

- The union of capital force: when investors decide to combine their resource to co-invest in business idea, they could take a significant stake in the companies with larger investments capital, that in the absence of those groups they wouldn't made (Avdeitchikova, 2009).
- The diversification of risk: the investment risk will be reduced with the participation of many investors in a single investment, the risk is shared between them.
- The Share of know-how: the sharing and transfer of professional expertise and knowledge between Business Angels of the co-investment group, improves the ability to conduct an effective due diligence and allows to make a prudent investment decision (Jensen, 2002; Lahti, 2011)

However, the creation of these groups if they are not well organized and identified could create some negative externalities to the market. As the 'Smart' aspect of business Angels investment could be diluted, since they start to operate more as a Venture Capital Groups (Lahti, 2011), while they are diversifying their investment portfolio, reducing the investment risks and limiting the involvement in the companies invested. And this could make worst in a long run the financial-gap that face the SMEs investment market (Avdeitchikova, 2009).

## **2.6 BA and VC firms co-investment relationship**

The collaboration between Business angels and venture capital firms to co-invest is not common, due principally to the reduced quantity of investment made by Venture capitalist but is something that happen sometimes in small portions of funding rounds. So, in a less active entrepreneurial and venture capital market, where the number of early stage companies that are available in the market is too small, then the venture capitalist and informal investors acts more like competitors thanks to the reduced investment opportunities. And for this reason, in some occasions, they do a co-invest in the same companies (Lindgaard, 2011). Is possible that this situation occurs more in the developing regions and countries.

## **2.7 BA and their invested companies relationship**

The relationship that will take the BA with the companies just after the investment was made, as an active or passive role, its consider crucial for the probability of business idea success. It seems that the BAs that are willing to perform an active role increase with the hand of their percentage share of the equity stake or with the believe that the business idea will give them a great return (Collewaert, 2010).

Also, an active relationship gives them the opportunity to follow the progress and health of the company with updated feedbacks. But the involvement is not only a control mechanism, it also permits the BAs to share their human capital and give a value added to the business ideas that are often in a lack of skills, for example, to commercialize and marketing their products and services (Collewaert, 2010; Lahti, 2011).

So, the active BAs, particularly those with previous experience, deliver a greatly benefit to the invested companies while they help to reduce the knowledge gaps with their mentoring and other business services (Lahti, 2011). This benefit has been confirmed by a research finding, where the entrepreneurs reported that the value of the “intellectual capital” given by the BAs is often more significant than the value of the financial capital (Jensen, 2002).

There is an increasing number of BAs that are formalizing their active roles by making a seat on the Board of directors (Lahti, 2011). Their participation as board member give them an assurance in front an opportunistic entrepreneur behaviour and give them a voting power on the decisions that will guide the strategic and operative future of the company, essential for managing risks (Collewaert, 2010; Jensen, 2002; Lahti, 2011).

However, an active involvement has great benefits for the invested companies, this could be a trade-off for the investors as they will spend time and effort that could be used to complete the due diligence for others potential business ideas, and possibly this will reduce the number of investment made in the venture market. And sacrificing a complete transfer of the know-how to the business, a board member seat could permit to BAs a less active involvement in the daily operations while they still have control in the company decisions (Lahti, 2011).

## **2.8 BAs and Entrepreneurs relationship and similarities**

Some researchers have been noted that the BAs and the entrepreneurs share many characteristics. Some of them would have business skills and capabilities, a propensity to take risks, a tolerance of uncertainty, a savings for investments, and a joy associated with the new ventures (Mason, 2009).

There is evidences that in the medium and long term often the successful entrepreneurs, who have made wealth with their innovative business, will evolve to informal investors (Mason, 2009). This suggest that the wealth accumulation by the entrepreneurship may reduce the finance constraints and enable the entrepreneurs to reinvest in their companies or make new investments in others; without the need of good luck gaining a lottery or having an inheritance (Mason, 2009).

Another important point to consider is that the BAs that have built a reputation with their past as an entrepreneur, had created a competitive advantage for their future investments, as their business invested are more reliable and credible to do follow-up investments by others informal investors. As their knowledge and intellectual property of the industry where they have been active are the insurance for the new investors that usually don't have experience with some markets, for example the technology sector, that could be difficult to understand without the scientific knowledges (Avdeitchikova, 2008).

In other hand there exist the situation when the BAs and the entrepreneurs of the potential investment companies, don't share to much qualities in common, creating in some occasions an adverse selection or a moral hazard problem. This arise when the investor is unable to determine the attributes of the entrepreneur before making an investment (Collewaert, 2010; Van Osnabrugge 1998), when the interests and values between them enter in conflicts, and when is too expensive to prove what the entrepreneurs are proposing (Collewaert, 2010). Some of those problems have been reduced by the interaction of the investors and entrepreneurs inside the BANs, where the entrepreneurs could have feedbacks and assistance from possible investors, while the investors could have a better understanding of the projects presented, thanks to the structure, requirements and educational approach that BANs have.

## **2.9 The role of the public Authority (government) in the IVC**

The governments around the world, especially in Europe, they are trying to reduce the financial gap for the small and medium enterprises (SMEs) in order to create better conditions for their development (Ecb, 2015), as the SMEs are considering to be an important key source of innovation, job creation and productivity growth in the world (Avdeitchikova, 2009).

The intervention that have been played the government in the informal venture capital market, trying to help in particular the Young and/or small high-growth-oriented and/or high-technology companies, have been based on the market or system failures arguments (Lahti, 2011). Those market failures are principally caused by the R&D externalities, informational opaqueness or asymmetry, and as result, the funding gaps (Burke, 2010).

Should be consider as the crucial importance the role that play the public authorities in the informal venture capital market. As they could deliver support, change the legal environment and create innovative opportunities that could permit the develop and growth of this market (IVCM) (Mason, 2009).

The history of public policies for the Business Angels market is short, for example, in the UK start on the early 1990s, and in the rest of European countries in the late 90s. The first approach that the public authority consider was to stablish their own venture capital funds, however was demonstrate that didn't work as well as expected by two principal reason. First, they haven't the experience and capabilities in order to select startup ideas that will deliver a high social and/or private equity returns. And second the investment decisions where potentially subject to political influence (Avdeitchikova, 2009).

But the form of government intervention has been evolving during time around the world, with a try and error method of different approaches; from the supply-side, to the intermediation, until the more recent the co-investment approach. And the intervention forms identified are the follows, respectively (Aernoudt, 2007; Avdeitchikova, 2009):

- A fiscal incentive for investors:
  - Tax incentive
  - Guaranteeing risk measures
- The support to the business angel networks (BANs)
- The co-investment schemes
- And the changes to Securities Legislation.

## 2.9.1 Types of Government Intervention in the Informal Venture Capital Market

### Tax incentives:

The attractiveness of business angel investment activity could be enhanced or diminished by the changes that governments apply on the investment taxation (Aernoudt, 2007). One of the aim of different countries is to be more competitive in a globalized world where each day new technologies attempt to disrupt many of the industries that generate more value for them (ex. Banks, auto-vehicle, etc.). For that reason, a tax incentive on the Informal Venture Capital Market should be oriented to increase the investments into innovative young companies as they improve the risk-return relationship for the Angel investors (World Bank, 2017).

There are already countries that had showed evidence that the business angels are sensitive to the levels of tax, as Belgium, Luxemburg, UK and Ireland (Avdeitchikova, 2009; Mason and Harrison, 1999, 2000). They are already adopted some different tax policies strategy, some of them with a low tax on capital gains, and others with a more structured tax incentive schemes (Collewaert, 2010). As example, the region of Flanders in Belgium launched a scheme that consist on a loan (called Win Win Loan) that consider the succeed or not succeed of the business where the money was invested, if have succeed the Business Angel will win a yearly tax deduction of 2.5%, but if not succeed they will be granted with a 30% tax deduction (Aernoudt, 2007).

There exist different forms in which the countries had structured the tax incentive, the followings are the more common taxation approaches (World Bank, 2017):

- The Front-end, is when an angel investor get a tax benefit during the first year of investment, and don't take consideration of the business returns. For investor is consider as immediate benefit.
- The Back-end is when an angel investor gets a tax benefit only after the sold of the company invested or just some of their equites, and any of the profit made could gain a tax reduction or tax-free incentive. For the investor is consider as a risk-late benefit, because they need to wait for the company to growth and is not sure that will generate a return from the sale.
- The Roll-over or carry-forward, is when the angels investors that had sold a company or just some of their equites gain a tax benefit if re-invest the gains on a new business idea.
- The young innovative company is the scheme addressed a tax benefit directly to the business ideas and the young firms that demonstrate an innovative focus.

Is noted that the tax incentives are more oriented to increase the number of investments made by Business Angels on the young innovative and/or technological companies (Aernoudt, 2007). Also, that the investment decision stay in hands of the investors, encouraging them for a correct due diligence between different business ideas, a good selection, and to try to add value with their knowledges to increase the probability of success for the business investment (Lahti, 2011).

The Tax Policy makers should take into consideration other facts that have been highlighted for different researchers. One of them is that the business angels deals often are made with loans money instead that their own wealth, making possible to suggest that

if to the loan interest is applied some tax benefit then the number of investors that are attracted to the informal venture capital market could increase (Collewaert, 2010). Another important point to consider is the rate of the tax benefit, if the rate is low the incentive will not increase the investments, but if the rate is too high will contribute to a poor-quality investment. Also, in order to establish the tax rate, they need to consider the business culture, the socio-economic environment, technology evolution, and other characteristics that could affect the investor community in their countries, for example as demonstrated that the angel investors in Germany give less importance on tax benefits than in the case of UK investors (Avdeitchikova, 2009).

### **Guaranteeing risk measures:**

This fiscal incentive is granted to the Angel Investors in the event that the invested company has failed. In the case of total or partial loss of the amount invested the government will pay to the investor a share or a total of the loss incurred. Some countries in order to become cost-neutral will apply a premium payment to the investors that want to enter in the scheme benefit, as it works like a commercial insurance (Aernoudt, 2007).

For the investors this is a benefit that takes time, because they need to see if the business had success or fail. So is not expected to increase too much the number of investments made by experienced investors. But will be more attractive to the eyes of the first-time investors or the business angels that had negative investment experience (Aernoudt, 2007).

There are countries that had applied the guaranteeing risk scheme past, but some of them found that the scheme wasn't too good for the public money. As example, the Netherlands closed this measure in the year 2000, just after 5 years of operation.

### **Business Angel Networks (BAN):**

It is considered that the Business Angel Networks have a positive impact in the informal venture capital market. As they generate new jobs opportunities and contribute with the economic growth for the countries while they increase the number of investment on innovative business (Lahti, 2011). For this reason, it is important for governments to increase the number of those networks and improve their infrastructure and visibility in order to permit that they could be more efficient and flexible to satisfy the changes that the market demand. This form of intervention will reduce the need of the government to direct financing the new ventures or to create public BANs, while activate the private investment and reduce the public cost (Aernoudt 2007; Lahti, 2011; Mason and Harrison 1999).

The BANs, in order to apply to the benefit given by governments, have the need to prove their effectiveness and professionalism to spread the concept of business angel investment and the potential ability to attract investors into the Angel market. Then they will have the support to cover some of the establishment and operation cost until the network is considered to be self-sustainable (Aernoudt, 2007).

An example of the potential that have this measure to stimulate the economic growth and development is demonstrated by the Flanders region in Belgium, where they found that for each (1€) Euro spent on the BANs generated 85.39 Euro in added value (Burke, 2010). Another one is the experience of the British government that suggest the BANs as cost-effective partners to work together in order to remove many of the financial and

managerial problems encountered by new business and technology-based firms, while create communication channels that facilitate the investments activities (Lahti, 2011).

The governments should prevent and be ready to all the changes that could affect the BANs. For this, consider the findings of the researchers in the field could help, as an example some of them highlight that the BANs will evolve into a more knowledge-based intermediaries, providing training and coaching to entrepreneurs and business angels in the process of raising capital and investing in new ventures (Avdeitchikova, et al., 2008; Mason and Harrison, 2003). Making possible for the public authorities to create an adapted and robust policy strategy that will permit the development of the BANs and the informal venture capital market.

### **Co-investment schemes:**

The co-investment scheme is the newest form of public intervention for the informal venture capital market, generally operates with business ideas at the seed stage. The purpose of this measure is to stimulate the investors community to increase their investment in the early-stage companies by improving the attractiveness of early stage deals with a co-investment public funds (Aernoudt, 2007; Mason, 2009). For the investors is like an additional provision of finance that will make them able to make larger or follow-on investments (Mason, 2009).

The characteristic of this public intervention method is that the government don't take responsibility to do its own due diligence of the business invested and plays no part on their management (Mason, 2009). It works in the way that the government provide a financial fund to co-invest in business ideas with selected Business Angels that can prove they have a good financial support and some robust processes to select their investments by an effective due diligence.

The fund was designed in order to reduce the equity gap that face the informal venture capital market while it keeps the public intervention to a minimal in the business decisions. Also, the co-investment scheme permits to reduce the operation cost and due diligence time in front to a formal fund, as the angels investors join forces in the investments with their money, investment judgment and know-how (Mason, 2009).

There are many countries that already apply this kind of intervention, as example of the variations of the co-investment scheme. We will appreciate what are doing some governments in the followings:

- In Scotland (2003) was developed a co-investment fund to inject additional capital into targeted markets with existing private funding partners, as business angels and venture capital firms. The Scottish co-investment fund (SCF) provide a matched investment an amount between £100,000 and £1,000,000, limited to the early-stage business or Small-Medium Enterprises located principally in Scotland, with a target rate of return of 20%. The selected companies should meet some requirements, they must be from an approved business sector, have less than 250 employees, and no more than £16 million in assets.
- In Belgium existed the co-investment fund called Business Angel plus (BA+), that follows its own risk assessment procedure, it selects and grant companies with a loan of 125.000 Euros. Also, it operates like a competition where the most viable businesses will win a loan and the only requirement to participate was that they should prove a secured finance from a Business Angel. During the firsts years

were rejected on average the 50% of the loan applications (Aernoudt, 2007). This co-investment scheme is a more expensive example, as the government need to develop or outsource high specialized capabilities in order to manage the selection of the business to invest (Aernoudt, et al., 2007).

- In Germany the scheme was managed by a subsidiary of the national bank called Deutsche Ausgleichsbank (DtA), investing alongside of venture capital firms and Business Angels the matching amount of up to 500.000 Euro, limited by the 25% of the firms total value. The fund does not sit on the board and the ownership remains passive. And the bank condition asked to the companies looking for the investment, was that they need to find another private investor (Aernoudt, 2007).
- In UK exist different co-investment programs; there is the DTI capital fund programme that make a loan of up to 60% of the companies value and in return ask a small share of the profits between 10-20%, while the company still pay the conforming interest rate of the loan value (Aernoudt, 2007). And the more successful in UK is the Enterprise Capital funds (ECF) with more than £1 Billion invested into more than 400 SMEs (at the end of 2017), this scheme combine public and private money (ex. Business Angels, Venture capitalist, etc) to make a unique equity that will be manage by a third party (General Partner) that will select the companies to do the investments (British Business Bank).
- In Italy there is a co-investment fund that operates in some of their regions, it is managed by a third party called “META-investment group” with presence in other Europeans cities. In Italy They have presence in Sardinia, Sicily, Umbria and Emilia Romagna. The funds have some structural difference between the cities, principally in the industry target and the amount of money available to do the investments. As example in the region of Emilia Romagna they complete the fund of 22 Million to be used during a period of 9 years, the target was the business ideas in the seed or start-up stage, the companies that meet some strict requirements were granted with an investment amount between 100.000 Euros and 1.5 Million Euros, where the 30% of the share invested were public and 70% private.

The policy makers should consider that the companies invested will need later-stage growth capital and that these models will operate better in the markets where the Business Angels activities are well organized, with a greater quantity of BANs in the regions will become easier to find their co-investment partners and to increase the number of investment (Lahti, 2011; Mason 2009). Also, the co-investment scheme seems to be more adequate to attract virgin Business Angels as they don't give too much importance to share the revenues in the high-performance state of the business, while the experienced investors could reduce their willing to participate actively in the business management support due to the share in revenues (Aernoudt, 2007).

### **The changes to the Securities Legislation:**

Another important role that plays the Public Authorities in the informal venture capital market is to actualize, change and develop the legislations that are applied to the investment sector. Because old-policies, bad conception of new ones or an inefficient bureaucratic administration process could stop and/or make difficult any attempt of improvement made in the market. It is important to create a market environment were the Business Angels feel that they are free to make the investment, an environment where is

easy to know the available “ready” to invest companies and to reduce the need of rely on intermediaries to make the investment process (Collewaert, 2010; Mason, 2006, 2009).

### **Conclusion of the Public Authority role:**

In order to conclude, the impact made by the public authorities in the informal venture capital market with the different forms of intervention is difficult to quantify and track over time, due to the lack of evidence. This lack is caused by the nature of the informal and private investments that make hard to measure the market size, the number of business angels or the level of investment activities. For that reason, the support and effort made by the governments in this market could be consider as an act of faith (Mason, 2009).

Some researchers said that the starting point for the evaluation of a government programme is to check the goals it was designed to achieve (Collewaert, 2010). For that reason, the public administration, before they approve or launch any intervention form with the aim to help the informal venture capital market, they need to make some considerations. One of them is to consider if the target will be existing angels or virgin angels investors, another is to stablish if the measures should be focus on reducing the risk of investing or increasing the returns and take all into account in order to avoid that the intervention cause a crowding-out of the private sector (Aernoudt, 2007; Collewaert, 2010).

The government trend policies are shifting to a more direct interventions with the guaranteeing and co-investment schemes that use a large amount of public money in the hand with private capital (BANs, BAs, private funds and angels groups). As these emerging forms of intervention are generating a more active participation of the Business Angels groups or syndicates, it is crucial that the governments find a way to give them a recognition that encourage the increasing of these kind of groups (Aernoudt, 2007; Mason, 2009).

The commitment and the active participation of the government with the creation of solutions that helps the development of the economy with policies that beneficiate directly the Informal Venture Capital market while creates a growth for the SMEs, it is generating a culture around the investment activities. Where the people could see a tangible solution for their economic growth as business innovator or as investor; And thanks to the word-of-mouth advertising are able to be known about the positive impact that the start-ups or business ideas helped by the governments had been made in the society. For that reason, is important that the government give a sense of trust a rely on their scheme solutions, while the academicians need to undertake research which addresses these issues and generates useful policy recommendations (Aernoudt, 2007).

## **2.10 The Role of Universities in the IVC**

Universities play an important role in the IVC, principally they are the structures where the knowledges are developed and usually are the starting point of the new technologies that generate business ideas. Many of them have created incubators and accelerators for potential businesses. Others have been launched courses related with the business angels investments and the entrepreneurship activity.

Those courses and programs provide the Angels and the Entrepreneurs with tools, skills and knowledge that will help them to take advantage of the opportunities that arise thanks to a deep understanding of the investment process. Also, they will be able to understand and address each other in a better way as they will be aware about the types of investors and entrepreneurs that the market comprises (Lahti, 2011).

There are a proportion of investments that have not succeeded by the lack of skills, competence and understanding of the investment process. The Business Angels had recognized the need to improve their investment skill, and this is a demand that is trying to be covered by diverse educational structures, usually with programs of short duration, but these entities are given less importance to train other actors that play a crucial role as intermediaries in the market (ex. Lawyers, accountants, bankers, consultants, etc.) and could be decisive to complete a successful investment (Mason, 2009).

Another important contribute that made the universities is to expand the research publications addresses to this topic, that will help with a better understand of all the issues that have a positive or negative impact in the development and success of the IVC.

## **2.11 The role of internet and new technologies in the VCM**

The globalization and the internet are getting an important role in the development of the IVCN, they are making that the traditional BAs and the virgins ones consider regions from different parts of their countries or the world as more local regions to invest. Increasing every day, the share of investment that takes place over distance (Avdeitchikova, 2009; Mason 2007). It is an effect generated principally by the unlimited flow of information on the potential deals, potential investors, and the educational content related with the investments in early stage business, while all of this is running through geographically dispersed professional or social online networks and platforms (Avdeitchikova, 2009).

There are in the internet, organizations as the World Business Angels Investment Forum that provides a platform to link the best entrepreneurs, startups, SMEs, governments and angels investors, in order to join forces to drive change and create innovative opportunities of equity financing (WBAF, 2017). Also, are others like Investopedia, an educational web-site that spread trusted and actionable financial information and news for every investors, financial advisors and high net worth individuals, and give the opportunity to put all the knowledge in practice with an online investment simulator. And others that had wider the financial and investment possibilities with the online investment platforms as seed capitals funds or crowdfunding.

Some of the seed capitals fund operates as the more conservative fund but online, however there are innovative ones that not only operate with high net worth individuals and permit the participation of a large number of investors who make small amount investments in order to finance a venture idea (crowdfunding) (Investopedia, 2018). An example of these modern platforms is the British so called “crowdcube.com” who permit investment from the £10 pounds into the business ideas that had passed their own due diligences certification and allow the participation in the co-funding not only to individual investors but also to strong capital firms, institutions and the UK government.

Also, should be considered the accelerated development of the cryptocurrencies around the world, and how many companies are using those virtual “money” to get financed. As they instead of sell company shares, are creating and selling their owns cryptocurrencies to the public (Shin, 2017).

In conclusion the internet is helping to reduce many of the market failures and problems that have presence in the IVCN. They are reducing the lack of information about the investment opportunities, the investment process, the active stakeholders in the financial market, and more important helping to reduce the financial gap for the early stage companies. While is prompting the increase of the probability that the new companies have to succeed with an innovative entrepreneurial ecosystem. For that reason, governments and all the stakeholders of the market should get more aware of the importance that have the internet in the informal venture capital.

## **2.12 EBAN and their development: contributions to the BA market**

The European Business Angels Network (EBAN) is a non-profit organization that represent and leads the early-stage investor networks, principally in Europe. Founded in 1999 by some of the firsts angel networks in Europe that attended the call made by the European Commission who in 1998 points the need of solutions that helps the creation, establishment and dissemination of the Business Angels Networks (Aernoudt, 2007). Originally only operates with BANs in Europe, but today also works with other actors in the early stage investment market, with over 150-member organizations that have presence in more than 50 countries around the five continents (EBAN, 2018).

The EBAN contribute to the economic growth of Europe and his future, while plays an important role in the funding of new SMEs that generate wealth and jobs, with a sector that currently make investments of approximately 7.5 billion Euros per year (EBAN, 2018). The EBAN's principals activities are to set the professional standards, training and certification that leads the market future; make a benchmark, research and help the networking between parts acting as intermediary or organising events; also make a Cross-border syndication and co-investment support (EBAN, 2018).

The members of the organizations that make part of the EBAN get many kinds of benefits or advantages. They could get formation, training, visibility in the market, access to exclusive events, and strength their networks, all thanks to the different institutions, annual events and communities organised inside the EBAN (ex. the EBAN institute, EBAN congress, EBAN space, EBAN newsletter, etc.). (EBAN, 2018).

When the EBAN start (In 1999), there were only 52 BANs in Europe, almost all of them were in the UK (48 BANs) (Aernoudt, 2007). During the firsts years of the 2000's for different governments increase the awareness of the important role that plays the informal venture capital market in their economy, in consequence countries as Belgium, Germany, Italy and Spain launches policies and schemes that will help the development of the BANs (Aernoudt, 2007).

Then in the early 2006 were operating 282 BANs in Europe (Aernoudt, 2007), in the end of 2009 were registered 334 BANs, and in the end of 2012 were 460 angels networks. But since then the increasing rate of the number of BANs per year have been decreasing, and currently (end 2017) there exist 470 European BANs. (EBAN, 2018). In the end of 2016 the distribution of BANs in Europe shows that the countries that have more registered angels networks are the followings (# of BANs): France (78), UK (64), Spain (53), Germany (40), Portugal (17), Netherlands (16), and Italy (13), while the rest of the BANs were distributed between other 30 countries (EBAN, 2018).

Around the world have been created organizations that helps with the aim to replicate the functions of the EBAN in different regions, since 1999. Pioneers as the Portuguese Federation of Angels had launched the World Business Angel Association in 2009, which stimulates the creation of the Global Business Angel Network and is helping now the angel investors community and developing a strong entrepreneurial ecosystem over 170 countries. The importance of the creation and developing of cross-border and global institutions, has been raised thanks to the increasing number of investments made by angels investors outside their home country. During 2016 the investments made by angels in their own country were the 59%, in front to the 94% registered in the 2015 (GEN, 2017).

## 2.13 A Global overview of the VCM

At the end of the 2017 the global venture capital market shows decreasing trend of the total number of investments made during the year, but at the same time the quantity of money invested hits the US\$152 Billion (100% total), an 54% increase over the 2016. The amount invested in 2017 was distributed approximately across 11.000 deals around the world, the 69% of the deals correspond to the Americas with US\$87 billion (57% of the total) VC investments, while US\$18 billion (12% of the total) were to Europe within the 21% of the deals, and the Asia Pacific with the 10% of the deals made US\$46 billion (31% of the total, a significant increase from the 19% in 2015).

The decrease in the quantity of investments deals while the amount of money invested increase could be a consequence of the investors willingness to focus their investment effort on the quality and not on the quantity of the companies invested, this assumption is supported by the increasing tendency of worldwide mega-deals saw during 2017. Just during the last year quarter were rise six US\$1 billion+ and \$100 million+ deals, the more representative investments deals were closed in Asia with US\$4 billion on two chines companies and \$1 billion on “Nio” an artificial intelligence focused company, the other three mega-deals took place in US.

Another supported evidence is the three years increasing trend on the amount of money invested and the companies expected return. For the angel/seed stage companies the average deal amount increases a 67% from US\$0.6 Million in 2015 to the US\$1 Million in 2017, while the pre-money valuation increases a 38% from US\$4 million in 2015 to US\$5.5 million in 2017. Instead for more mature companies between 2015 and 2017, the increase was about a 56% for early stage VC deals, while the 13% for late stage VC deals.

The industries that gain more attention from the investors continues to be the software, pharmaceutical, auto-tech, and biotechnology industry. Also, the new technologies as the Artificial intelligence, Blockchain, internet of things, and the food technology, are expected to increase the number and amount of investments in the 2018. An insight that suggest this, are the US\$4.1 investments that perceived the Artificial Intelligent and machine learning during the 2017, the US and China US\$1 billion+ deals made in the automobile industry, and the significant 36% increase in the pharmaceutical and biotechnology VC investments that gets US\$16.6(from 12.2) billion in 2017.

The quantity of BAs estimated at the end of 2016 in Europe by the EBAN were 312.500 angel investors, a 3% increase over 2015. The total entrepreneurs that get angels investments were approximately 38.230 in 2016, a 16% increase over 2015. And the total amount in Euros invested by BAs was €6.7 billion, an increase of the 10% over 2015.

During the last years more, women are being part of the Angel market, as entrepreneurs or investors, changing some of the commons in the decisions making process that rules the market. Just in US some of the recent researches suggest that approximately the 20% of the BAs are females and the 33% of them considered the social impact that will have the business ideas/start-ups where they invest, higher than the 16% of men. Other difference is the importance that they give to the gender of the business funder, where the 51% of the angel women consider the gender versus the 6% of the men. Europe also reflect a similar result in the 2016 EBAN research, suggesting that the 30% of the BAs are women in the central and eastern region while in the northern region just the 10% are women. Other results important to highlight is the average BA age; in Europe is between the 43 and 62 years, and in USA the 78% of investors were older than 41 years, the same result was supported by a 2017 UK research where the 75% of the BAs were alder than 45 years.

These results show that the vast majority of the investments have been made by men with age greater than 41 years. however, the women are being the 30% of the new BAs, they start to get more importance in the market whit their ideas and investments decision driving changes that will have impact in the market future structure. Some of those changes, if they remain considering the gender at the moment to make some investments, will be the increase of the women entrepreneurs.

Actually, the percentage of the female participation in the early-stage entrepreneurial activities changes between continents and regions but had a 6% global increase over 2016 as the Global Entrepreneur Monitor (GEM) report suggests in 2017.

Considering the total of the adult population, the percentage of women that were entrepreneurs was: in Europe just the 6.1%, in North America the 12.8%, in Asia & Oceania the 15%, in Africa the 16.1%, and the highest in Latin America with the 22.4%. These results were suggested by the Total early-stage entrepreneurial indicator (TEA) that consider difference in the culture, opportunities, innovation and job creation of the different countries involved in the GEM research.

The VC investments contribute to the job growth in 2017, just in the US creates approximately 209.300 new jobs. And approximately the 60% of the angel exits were by merge or sale.

## Chapter 3

# Analysis of the Business Angels and the Informal Venture Capital Market

This section is with the aim to provide the methodological approach used in order to fulfil the objectives planned in this master dissertation, from the data searching and compilation to the results analysis and discussion. Also, is taken in consideration some methodological assumption, and the selection process of the literature theory used to analyse the Business Angels (BAs) characteristics and the Informal Venture Capital Market (IVCM) environment.

### 3.1 Methodology and Variables description

The analysis and conclusions suggestions of this study are supported by a business angels database, different reviews made from the last three decades scholar's principal findings in the BAs literature, and some of the recent research reports made by the organizations that leads the IVCM.

The database is based on a random sample of 1000 business angels names, from an overall 5000 names list, assigned by the tutor professor that follow this research. For each one of those profiles was necessary, in order to complete their personal information, to check their names on some online sites. The principal sources for this aim were the LinkedIn and the CrunchBase websites, where was necessary to create a premium account to could get unlimited access to the information.

From LinkedIn (<https://www.linkedin.com/>); the leader professional network that connect more than 546 million professionals around the world and make visible their personal and career information that is crucial for their professional growth, specially at the moment to get into a contractual relationship with other members of the network. From these pages was possible to get the information related with their geographical location, education level, professional career path, size of their network connections, and some personal descriptions.

Instead, from CrunchBase (<https://www.crunchbase.com/>), an online world database community that collect the trends, investments and news of the innovative companies, their funders and investors, and based on its machine learning systems could maintain reliable and actual its data information. This make possible from the angels investors profiles to collect the data related to their investments activity, experience and roles, their investment partners, and from their personal information: the age, gender and birth place.

In some cases, was possible to confirm the data obtained between the two platforms, but also were the situation where wasn't possible to find some of the information needed and was required to search in other online sources as Wikipedia ([www.wikipedia.org](http://www.wikipedia.org)), Bloomberg executive profiles ([www.bloomberg.com](http://www.bloomberg.com)), Angel List ([angel.co](http://angel.co)), and some other similar web sites.

But considering the nature of the BAs, were expected difficulties at the moment to know their general characteristics and pose their market scope. This is due to the size of our

database (1000 BAs profiles), that is smaller in front to the overall BAs population and the sample size used in others international researches, making possible that our result was less representative and have a reduced level of confidence.

For that reason, was necessary to create a reliable analysis that could increase the confidence of results, taking into consideration some of the most representative research papers, journals articles, books, and in general the findings from the scholars with more contributions in the BAs literature. In order to explore and synthetizes their different definitions, characteristics, hypothesis and thoughts related with the BAs and the IVCN.

This was used to do the theoretical structure that guide this study. As the purpose of this thesis is to give an overall view of the BAs and the IVCN, while mention the principal market actors characteristics and roles; the government policies environment; the different investment methods available; and the evolution of the market during the last decade.

Some of the representative papers taken into consideration will be presented in the flows: “The Scale of Informal Capital Markets”(Gaston, 1989); “Closing the Regional Equity Capital Gap: The Role of Informal Venture Capital” (Mason and Harrison, 1995); “Angel Financing and public policy” (Lerner, 1998); “False expectations: Reconsidering the role of informal venture capital in closing the regional equity gap” (Avdeitchikova, 2009); “How does entrepreneurial activity affect the supply of informal investors?” (Burke, Hartog, 2010); those were related with the IVCN environment, conditions, and evolution. Instead a couple of the papers related with the BAs profiles and investment characteristics were the next ones: ““Technology angels’ and other informal investors” (Erikson and Sørheim, 2005); and “Determinants of long-distance investing by business angels in the UK” (Mason and Harrison 2010).

The selection process started with a general research of the publications related to the keywords “Business angels” or “Informal Venture Capital Market”. Then, after reading the abstracts or introductions of the documents, were selected the ones that allowed to have a chronological evolution of the market and its definitions, as long as, were made subject of large representative data sample of the historical well know innovation hubs or countries. Then each one of the selected documents were studied, synthetized, compared, and commented their principal contributions. In order to could express our thoughts and discussions on the subject, especially on the theoretical section of this thesis.

Also, to be able to reduce the data inaccuracy were taking in consideration the updated information from some research reports of the leader organizations in the BAs market around the world. The more representative data for our analysis were taken from the follows: The Global Entrepreneurship Monitor (GEM) survey report, that provides world-class data on the entrepreneurial activity and the attitudes societies have towards this; The European Business Angel Network (EBAN) 2016 statistics compendium report, that provide the information related with the Europe overall BAs and BANs activity’s; The Angel Capital Association (ACA) report, in collaboration with the Wharton university, provides a general picture of the main characteristics of the BAs in the US; And the last eight KPMG “Venture Pulse” report, that provides the global and regional perspective of the trends in the venture capital investments data.

However, the intentions to use well known researches findings based on BA’s large data samples with the aim to make our data reasonably reliable and increase the confidence on our analysis conclusions, don’t put completely away the difficulties to track the IVCN scope. And, also should be considered the existing information misinterpretation risk.

### 3.1.1 Structure of the BAs Database

In order to could analyse the findings related to the list of business angels name given by the tutor, it was necessary to translate the information found into standards and measurable variables to could then be able to fill out the thesis database. And the process or steps used for this purpose, were the following.

First were identified the variables that could represent the information needed from the BAs that could describes their characteristics and the scope of the IVC. Then, after the angel investor profiles were found on internet, the interested information was saved into some files of Microsoft Word (word processor), including there the links from where were taken to could be able to corroborate or prove the data when necessary. Then the information was coded and transferred to a Microsoft Excel (spreadsheet program) file into variables (columns) that allowed an easy data comprehension and identification for each one of the BAs (rows).

The variables used during the development of this study and facilitated the descriptive and statistical analysis, are mentioned in the following paragraphs.

On the Excel database the first two columns have the aim to identify the BAs with a code in number and the investor complete name using tow variables, respectively called as "CODE\_INV" and "Investor Name". Then the variables (columns) "Investor Continent", "Investor State", "Birth Place", and "Investor Actual Country" store the information related with the BAs actual location and nationality.

While "Bachelor", "Bachelor Type", "University Bachelor", "Master/Post\_Grad", "Master/Post\_Grad\_Type", "University Master/Postgrad", "Mba\_Grad", "Mba\_Type", "University\_Mba", "Phd", "Phd\_Type", and "University\_PhD" variables have the aim to measure the level, quality, and area of the BAs education. Then the variables that describe their investment, entrepreneurial and professional experience are respectively the "year of first investment; the "Experience years"; the "Entrepreneur\_ (1/0)"; and the "Serial\_Entrepreneur\_ (1/0)". And the lasts demographics variables, in order to identify their age and gender, are "age", "Female", and "Male".

Also, were taken into consideration some variables that help to measure the BAs participation, relations, and contributions in the IVC. By collecting the follow information: The number of startups funded (N\_start-ups); the quantity of the investment made during their investor experience (Investment Number); the quantity of follow up investment in the later stage of the same companies (Invested Companies); the industry sector of experience and their participation on the invested companies ("Sector1", "Sector2", "Sector3", "JOB\_TITLE1", "JOB\_TITLE2", "JOB\_TITLE3", "JOB\_TITLE4"); And their influence and leadership in the market measured by their presence in online platforms and the size of their professional network ("LinkedIn", "CrunchBase", and "LinkedIn Contacts").

However, it is wrong to assume that the BAs population have virtual identical characteristics, as some scholars had said (e.g. Gaston 1989). Also, should be remember that the data collection has its limitations, as the information couldn't be updated or is just representative for one region and not the global BAs population.

## 3.2 Description and Analysis of the data

### 3.2.1 Database size and available data analysis

The first analysis made to the BAs database was addressed to know the validity of all the business angels names and data. After this was found that should be removed 89 business angels from our database, approximately the 9% from the total 1000. And for the remaining weren't available on internet, in some case, the information necessary to analyse some variables. So, one of the assumption made in this study was to analyses the variables with the available data on each case, as long as the quantity were representative for the new database of 911 BAs.

In order to remove the BAs from the database were taken into consideration the following arguments: first when they have incomplete information, this mean that more than half of the variable information weren't available, this reason represent 45% of the BAs removed; Follows by the 20% that were actually company names and the 17% that didn't have presence on internet, making more difficult to find all the information required; the other 20% approximately were distributed between 3 BAs that had passed away, 3 that were repeated on our database and 10 that were missing. Is possible to see the complete distribution of the data removed in the following tables.

Table 3.2.1-1 Database size analysis

	Quantity	Percentage
<b>Initial Database size</b>	1000	100%
<b>Total Removed BAs</b>	89	9%
<b>New Database Size</b>	<b>911</b>	91%

Table 3.2.1-2 Analysis of removed BAs

Reason	Frequency	Frequency percentage
<b>1.Incomplete.Info</b>	40	45%
<b>2.Company.Name</b>	18	20%
<b>3.No Information</b>	15	17%
<b>4.Missing Name</b>	10	11%
<b>5.Repeated Name</b>	3	3%
<b>6.Passed Away</b>	3	3%
<b>Total =</b>	<b>89</b>	100%

In the case of the available data analysis, were counted per each variable the quantity of BAs that have that information available, but if it were unavailable the investor no longer

take part for the analysis of that variable. Another consideration taken was that the variables with more than the 20% of unavailable data, should not be consider to representative the results. The following table represent the variables with unavailable information, were it is possible to appreciate that the BAs don't share on internet their birth information as the birth place (93.85%) or date (21%). On the appendix is possible to see all the variables available data analysis.

### 3.2.2 Geographical location

To this end was taken into consideration the distribution of the BAs around the world, starting with the continents distribution, follows by the countries distribution and finalizing with the distribution across the united states of America, as approximately the 64% of the business angels are located in USA. Then the birth place analysis took place, but just to receive an additional insight of the relation with their birth region and their actual investing one.

From the continent distribution was possible to establish that approximately the 67.62% of the business angels are located in North America, with a 95% of them live in USA, followed by Europe with the 20,97%. The other 11.42% where located between Asia, South America, Oceania, and Africa. Instead from the country distribution was finding that more than half of the BAs are in USA, while just an approximately 14% were distributed across UK, Germany, Spain, France and Switzerland, the economic leaders of Europe.

Table 3.2.2-1 Investor continent analysis

<b>Investor Continent</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>NA - North America</b>	616	67,62%	67,62%
<b>EU - Europe</b>	191	20,97%	88,58%
<b>AS - Asia</b>	67	7,35%	95,94%
<b>SA - South America</b>	17	1,87%	97,80%
<b>OC - Oceania</b>	16	1,76%	99,56%
<b>AF - Africa</b>	4	0,44%	100,00%
<b>Total =</b>	911	100,00%	

Table 3.2.2-2Investor Actual Country

<b>Investor Country</b>	<b>Actual</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>USA</b>		583	64,00%	64,00%
<b>UK</b>		51	5,60%	69,59%
<b>Canada</b>		32	3,51%	73,11%
<b>Germany</b>		24	2,63%	75,74%
<b>Spain</b>		20	2,20%	77,94%
<b>India</b>		20	2,20%	80,13%
<b>France</b>		19	2,09%	82,22%
<b>Israel</b>		15	1,65%	83,86%
<b>Australia</b>		15	1,65%	85,51%
<b>Switzerland</b>		11	1,21%	86,72%
<b>Other Countries (# of BAs&lt;10)</b>		121	13,28%	100,00%
<b>Total =</b>		911	100,00%	

From the 64% of BAs in USA, the 80% approximately is concentrated just 4 of the total 51 states that compose the country, between California (CA) with the 50,60%, New York (NY) with the 18%, Washington D.C (WA) with 6.17%, and Massachusetts (MA) with 4.63%. This result confirms those states as world innovation and economic hubs, attracting a high number of entrepreneurs, tech-companies and investors.

Table 3.2.2-3Investor – USA States distribution analysis

<b>Investor State</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>CA</b>	295	50,60%	50,60%
<b>NY</b>	105	18,01%	68,61%
<b>WA</b>	36	6,17%	74,79%
<b>MA</b>	27	4,63%	79,42%
<b>TX</b>	19	3,26%	82,68%
<b>PA</b>	17	2,92%	85,59%
<b>FL</b>	15	2,57%	88,16%
<b>IL</b>	10	1,72%	89,88%
<b>CO</b>	9	1,54%	91,42%
<b>Other States (# of BAs&lt;9)</b>	50	8,58%	100,00%

<b>Total =</b>	583	100,00%
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In the appendixes is possible to find an extended analysis of the countries and the state distribution of the business angels, as well the birth country analysis, that is not showed here to be not to representative as just the 6% of the data were available. But in the follow table is showed the continent of birth analysis, as it confirms in part the actual continent BAs location.

Table 3.2.2-4 Birth Continent Analysis

<b>Birth Place (Continent)</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>NA</b>	36	64,29%	64,29%
<b>EU</b>	15	26,79%	91,07%
<b>AS</b>	4	7,14%	98,21%
<b>AF</b>	1	1,79%	100,00%
<b>Total =</b>	56	100,00%	

### 3.2.3 Age and Gender

The demographic variables Age and Gender were analysed respectively with the 80% and the 100% from the total (911) BAs data. The results show that approximately the 3,84% of them are women and the remaining 96,16% are men. While the average angel investor age is 46 years, with approximately the 72% of them being between 36 and 56 years. The followings tables describe the statistics analysis of the Age variable and the frequency distribution between nine age intervals, and the gender analysis.

Table 3.2.3-1 Gender Analysis

<b>Gender (Values = 1)</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Female</b>	35	3,84%	3,84%
<b>Male</b>	876	96,16%	100,00%
<b>Total =</b>	911	100%	

Table 3.2.3-2 Age Statistic description

<b>Mean</b>	<b>46</b>
<b>Median</b>	45
<b>Mode</b>	45
<b>Standard Deviation</b>	9,62
<b>Variance</b>	92,63
<b>Minimum value</b>	23
<b>Maximum value</b>	84
<b>Range</b>	61
<b># of Classes</b>	9
<b>Class Amplitude</b>	6

Table 3.2.3-3 Age distribution analysis

# of Classes	Class Intervals		Frequency	Percentage %	Cumulative Percentage %
	limit inferior	limit superior			
<b>1</b>	23	29	19	2,61%	2,61%
<b>2</b>	29	35	84	11,54%	14,15%
<b>3</b>	36	42	177	24,31%	38,46%
<b>4</b>	43	49	217	29,81%	68,27%
<b>5</b>	50	56	127	17,45%	85,71%
<b>6</b>	57	63	69	9,48%	95,19%
<b>7</b>	64	70	30	4,12%	99,31%
<b>8</b>	71	77	4	0,55%	99,86%
<b>9</b>	78	84	1	0,14%	100%
<b>Total =</b>			728	100%	

### 3.2.4 Education level, quality, and knowledge area

To analyse the BAs educational level was consider university grades that they have either a bachelor, postgrad/master, and/or a PhD. The quality of the education was analysed considering the rankings that have the universities with more BAs frequency. And the knowledge area by the graduation types they usually choose.

The results show that at least the 95% of the BAs have a bachelor's degree, and approximately the 24% have a Master of Business Administration (MBA). The following table shows that the 47.23% of BAs have just a bachelor's degree, while approximately the 39% decide to complete their studies with a postgraduation master or an MBA. Also shows that the 8.67% have a PhD the maximum level of education available. There were approximately the 5% that don't have a professional education level or just don't have the information available on internet, and for that reason the analysis was made on the total 866 BAs (95%) data.

Table 3.2.4-1.Education level analysis

<b>BAs Education level</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Bachelor</b>	409	47,23%	47,23%
<b>Bachelor &amp; Master_PostGrad</b>	160	18,48%	65,70%
<b>Bachelor &amp; MBA</b>	175	20,21%	85,91%
<b>Bachelor &amp; PHD</b>	30	3,46%	89,38%
<b>Bachelor; Master_PostGrad; &amp; MBA</b>	43	4,97%	94,34%
<b>Bachelor; Master/PostGrad; &amp; PHD</b>	40	4,62%	98,96%
<b>Bachelor; MBA; &amp; PHD</b>	6	0,69%	99,65%
<b>Bachelor; Master/PostGrad; MBA; &amp; PHD</b>	3	0,35%	100,00%
<b>Total =</b>	<b>866</b>	<b>100%</b>	

Another analysis made to understand the level of education was to the number of different universities where they studied. As a result, it is possible to see in the next table that approximately the 71,59% of the BAs did their studies in just one university, while the ones that decided to do a postgrad, master and/or MBA had studied in two (2.19%) or three (17.9%) different universities. Those changes on the education methods and environments increase their so called soft skills and the exchange also is considered to be a catalyst of an open mind thinking way. In the appendixes is possible to find the data table related with this analysis.

The following table shows the universities with more graduates BAs, it's important to note that at least the 30% of the universities are located in the USA, this could be because the 64% of the business angels actually live in US. The top more frequented universities on our results are in the top 10 "QS World Universities Rankings", that measure different aspects to describe the quality and opportunities of universities. Approximately the 20% of our data were between the Stanford University, Harvard University, University of California, and Massachusetts State University; all of those are considered in the world top 20. Instead from Europe is possible to see that the universities chosen for actual BAs are located in UK, and for Asia are located in Israel. Then the 61.35% of the available universities are selected for less than the 1% of the actual BAs.

Table 3.2.4-2.Universities Analysis

<b>University</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>University of California</b>	88	6,21%	6,21%
<b>Stanford University</b>	88	6,21%	12,41%
<b>Harvard University</b>	68	4,80%	17,21%
<b>Massachusetts State University</b>	35	2,47%	19,68%
<b>University of Pennsylvania</b>	32	2,26%	21,93%
<b>Columbia University</b>	27	1,90%	23,84%
<b>Cornell University</b>	20	1,41%	25,25%
<b>University of Illinois</b>	19	1,34%	26,59%
<b>Wharton Business School</b>	19	1,34%	27,93%
<b>North-eastern-Kellogg University</b>	16	1,13%	29,06%
<b>Oxford University</b>	16	1,13%	30,18%

<b>New York University</b>	14	0,99%	31,17%
<b>Brown University</b>	14	0,99%	32,16%
<b>Yale University</b>	13	0,92%	33,07%
<b>Queens University</b>	12	0,85%	33,92%
<b>Princeton University</b>	12	0,85%	34,77%
<b>London Business Administration School</b>	12	0,85%	35,61%
<b>Tel Aviv University</b>	11	0,78%	36,39%
<b>Indian Iowa State University</b>	11	0,78%	37,17%
<b>INSEAD</b>	11	0,78%	37,94%
<b>University of Washington</b>	10	0,71%	38,65%
<b>Other University (#BAs&lt;10)</b>	870	61,35%	100%
<b>Total =</b>	1418	100%	

The following table suggest that the top 10 subjects of interest or knowledge areas for BAs are approximately the 19.15% for Business Administration, the 12.70% correspond to the Computer Science, studies in Economics obtain the 6.96% of attention, then other 21.88% is share by the majors in finance, Law, Electrical and Mechanical Engineering, Political Science, Marketing, and some other majors of science and arts. Then the 35.94% of BAs had different subjects of interest, with less than the 3.29% sharing them.

Table 3.2.4-3Types of Education Analysis.

<b>Subjects</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Business Administration</b>	267	19,15%	19,15%
<b>Computer Science</b>	177	12,70%	31,85%
<b>Economics</b>	97	6,96%	38,81%
<b>Electrical Mechanical Engineering</b>	61	4,38%	43,19%
<b>Finance</b>	48	3,44%	46,63%
<b>Law</b>	45	3,23%	49,86%
<b>Mechanical Engineering</b>	41	2,94%	52,80%
<b>Bachelor of Arts</b>	30	2,15%	54,95%
<b>Political Science</b>	28	2,01%	56,96%
<b>Bachelor of Science</b>	27	1,94%	58,90%
<b>Marketing</b>	25	1,79%	60,69%
<b>Physics</b>	16	1,15%	61,84%
<b>Mathematics</b>	16	1,15%	62,98%
<b>Philosophy</b>	15	1,08%	64,06%
<b>Other Subjects types (#BAs&lt;30)</b>	501	35,94%	100%
<b>Total =</b>	1394	100%	

### 3.2.5 Business Angels Market Activity

To the BAs investment information analysis were unavailable the 0.3% of the total database. So, the results that are presented in continuation are based on 908 BAs information. The first analysis that was made is the number of investments made by BAs, then the quantity of companies in order to understand if they made follow up investments in the same companies, and then the year of first investment to understand their experience as investors.

From the following tables, related to the number of investments it's possible to infer that the 81.28% of BAs invests between 1 and 5 companies, the 9.91% invests between 5 and 11 companies, while the rest more expert investors approximately the 10% of them had invested in at least 11 companies. The average investor could be considered as inexpert or amateurs as they have invested only in one company (Mode = 1).

Table 3.2.5-1 Statistical "investments number" description

<b>Mean</b>	<b>4</b>
<b>Median</b>	<b>2</b>
<b>Mode</b>	<b>1</b>
<b>Standard Deviation</b>	<b>6,20</b>
<b>Variance</b>	<b>38,41</b>
<b>Minimum value</b>	<b>1</b>
<b>Maximum value</b>	<b>54</b>
<b>Range</b>	<b>53</b>
<b># of Classes</b>	<b>10</b>
<b>Class Amplitude</b>	<b>5</b>

Table 3.2.5-2 “Investment Number” analysis

# of Classes	Class Intervals		Frequency	Percentage %	Cumulative Percentage %
	limit inferior	limit superior			
1	1	5	738	81,28%	81,28%
2	5	11	90	9,91%	91,19%
3	11	16	31	3,41%	94,60%
4	16	21	19	2,09%	96,70%
5	21	27	13	1,43%	98,13%
6	27	32	7	0,77%	98,90%
7	32	37	6	0,66%	99,56%
8	37	42	1	0,11%	99,67%
9	42	48	2	0,22%	99,89%
10	48	54	1	0,11%	100%
<b>Total =</b>			908	100%	

Then the average BAs invest on 3 different companies, but the mode of investments continue to be one, this could be due by bad investments experience. Then the investment company data results reflect the number of investments description saw previously. This is due that just the 13.72% of the BAs actually do some follow-up investments in the same company. The flowing tables describe de frequency distribution of the quantity of companies invested by BAs, their statistical analysis and the market analysis that reflect the follow up investments that where made between the 1985 and 2015 years.

Table 3.2.5-3 Statistical “Invested Companies” description

<b>Mean</b>	<b>3</b>
<b>Median</b>	1
<b>Mode</b>	1
<b>Standard Deviation</b>	5,18
<b>Variance</b>	26,88
<b>Minimum value</b>	1
<b>Maximum value</b>	48
<b>Range</b>	47
<b># of Classes</b>	9
<b>Class Amplitude</b>	5

Table 3.2.5-4. "Invested Companies" analysis

# of Classes	Class Intervals		Frequency	Percentage %	Cumulative Percentage %
	limit inferior	limit superior			
1	1	5	773	85,13%	85,13%
2	5	10	74	8,15%	93,28%
3	10	16	29	3,19%	96,48%
4	16	21	14	1,54%	98,02%
5	21	26	8	0,88%	98,90%
6	26	32	4	0,44%	99,34%
7	32	37	4	0,44%	99,78%
8	37	42	0	0,00%	99,78%
9	42	49	2	0,22%	100%
<b>Total =</b>			908	100%	

Table 3.2.5-5. BAs market Analysis.  
BAs Market (1985-2015) - Result Analysis

total Bas =	908	Quantity of Data	%
<b>Variable</b>			
<b>Investments</b>		3609	100%
<b>Number of Invested Companies</b>		3114	86,28%
<b>Follow up investments</b>		495	13,72%

The "year of first investment analysis shows the experience of investor in years and the evolution of the BAs market. There are active BAs since 1985, and the business angel data were collected until the 2015, to make easy their analysis. The 64% of the actual BAs started their investor activity between 2009 and 2015, with 2011 as the more common year between them. This could reflect the recent innovation technology changes that are disrupting all kinds of industries, and the new business ideas are emerging. Also, for the following Tables is possible to said that the 32.49% of the investors have between 1 and 4 experience years, the 31.50% have between 4 and 7 experience years as investors, while the rest 36% have more than 7 experience years.

Table 3.2.5-6. Statistical “Year of 1st investment” description

<b>Mean</b>	<b>2009</b>
<b>Median</b>	2010
<b>Mode</b>	2011
<b>Standard Deviation</b>	4,90
<b>Variance</b>	24,04
<b>Minimum value</b>	1985
<b>Maximum value</b>	2014
<b>Range</b>	29
<b># of Classes</b>	10
<b>Class Amplitude</b>	3

Table 3.2.5-7. Statistical “Number of investor experience years” description

<b>Mean</b>	<b>6</b>
<b>Median</b>	5
<b>Mode</b>	4
<b>Standard Deviation</b>	4,90
<b>Variance</b>	24,04
<b>Minimum value</b>	1
<b>Maximum value</b>	30
<b>Range</b>	29
<b># of Classes</b>	10
<b>Class Amplitude</b>	3

Table 3.2.5-8. "Number of investor experience years" analysis

# of Classes	Class Intervals		Frequency	Percentage %	Cumulative Percentage %
	limit inferior	limit superior			
1	1	4	295	32,49%	32,49%
2	4	7	286	31,50%	63,99%
3	7	10	154	16,96%	80,95%
4	10	13	67	7,38%	88,33%
5	13	16	53	5,84%	94,16%
6	16	19	26	2,86%	97,03%
7	19	22	11	1,21%	98,24%
8	22	25	7	0,77%	99,01%
9	25	28	4	0,44%	99,45%
10	28	31	5	0,55%	100%
<b>Total =</b>			908	100%	

### 3.2.6 Entrepreneurship

In the current study the vast majority, approximately the 81%, of the business angels had previous experience as entrepreneurs. With the 76.69% of them as serial entrepreneurs, that means they had founded more than one enterprises. From the next tables is possible to infer that just the 19% of them don't have entrepreneurial experience, also that the average BAs had founded between two and three companies as entrepreneur, with the 81,03% of them had founded between 1 to 5 startups, the 15.31% of them between 4 to 8 startups, and the remaining 3.66% more than 8 startups. This means that one characteristic shared among the 80% of BAs is to be also former entrepreneurs, and the data reflects and confirm the results obtained in previous research (Lahti, 2011). Was consider important to analyse how is distributed the creations of startups with 23.31% of them had entrepreneur experience with just one company, possibly with some good exit revenues that made able them to invest as angels in the present. The 23.44% of them had experience respectively with 2 and 3 startups. The expanded analysis of the “number of founded startups analysis could be found on the appendixes.

Table 3.2.6-1. Entrepreneur analysis

<b>Entrepreneur</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Serial_Entrepreneur (Values = 1)</b>	566	76,69%	76,69%
<b>Entrepreneur (startups = 1)</b>	172	23,31%	100,00%
<b>Total =</b>	738	100%	

Table 3.2.6-2. Statistical “Number of founded Startups” description

<b>Mean</b>	<b>3</b>
<b>Median</b>	3
<b>Mode</b>	2
<b>Standard Deviation</b>	2,40
<b>Variance</b>	5,76
<b>Minimum value</b>	1
<b>Maximum value</b>	32
<b>Range</b>	31
<b># of Classes</b>	9
<b>Class Amplitude</b>	3,3

Table 3.2.6-3. "Number of founded Startups" analysis

# of Classes	Class Intervals		Frequency	Percentage %	Cumulative Percentage %
	limit inferior	limit superior			
1	1	4	598	81,03%	81,03%
2	4	8	113	15,31%	96,34%
3	8	11	18	2,44%	98,78%
4	11	14	5	0,68%	99,46%
5	14	17	2	0,27%	99,73%
6	17	21	1	0,14%	99,86%
7	21	24	0	0,00%	99,86%
8	24	27	0	0,00%	99,86%
9	27	30	0	0,00%	100%
10	30	34	1	0,14%	100%
<b>Total =</b>			738	100%	

### 3.2.7 Job Titles

From all the BAs (911) were taken the information related with their current and previous 3 job titles, in order to know their experiences as professionals, all of them at least had one current job. The following tables reflects that the 46.65% of them have just one job title, the ones with two current jobs are the 40.29% and the rest with 3 and 4 job titles (13%). Also, that the 15.42% have experience as CEOs of the companies, another 15% approximately is shared between Board members and Chairmen. The directors, presidents and consultants job titles get an important share (19.69%). And there are the investors that consider their investors activities as a profession and way of life, and this is reflected that approximately the 30% of BAs consider themselves as active investors (founder, co-founder, investor). A previous research finding confirms the share of BAs that have a board seat or chair (Mason and Harrison, 2002).

Table 3.2.7-1. Work activity level analysis

BAs	Frequency	Percentage %	Cumulative Percentage %
1 JOB Title (JOBS = 1)	425	46,65%	46,65%
2 JOB Title (JOBS = 2)	367	40,29%	86,94%

<b>3 JOB Title (JOBs = 3)</b>	111	12,18%	99,12%
<b>4 JOB Title (JOBs = 4)</b>	8	0,88%	100,00%
<b>Total =</b>	911	100%	

Table 3.2.7-2. Job Titles analysis

<b>All-JOBs</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>CEO</b>	235	15,42%	15,42%
<b>Founder</b>	168	11,02%	26,44%
<b>Co-Founder</b>	150	9,84%	36,29%
<b>Board Member</b>	137	8,99%	45,28%
<b>Partner</b>	131	8,60%	53,87%
<b>Director</b>	125	8,20%	62,07%
<b>Investor</b>	102	6,69%	68,77%
<b>Chairman</b>	84	5,51%	74,28%
<b>Consultant</b>	76	4,99%	79,27%
<b>President</b>	53	3,48%	82,74%
<b>Vice-President</b>	46	3,02%	85,76%
<b>CTO</b>	21	1,38%	87,14%
<b>COO</b>	13	0,85%	87,99%
<b>Project Manager</b>	11	0,72%	88,71%
<b>Other Job Title (#BAs&lt;10)</b>	172	11,29%	99%
<b>Total =</b>	1524	100%	

### 3.2.8 Industry Sector

The following tables shows the industry sectors where the BAs have experience or presence, where they had worked or invested. The 91.22% of them are relation with 3 different sectors at the same time, while the remaining 9% have presence between 2 and 1 market sectors. Taking a close look to the distribution among the different sectors were found that their sector of interest is dispersed, with the 8,48% of them in the Technology sector, the 8.13% in Marketing, the 7.87% in Venture Capital, the 5.56% in Internet, the 5.30% also related with internet but focused on the electronic commerce, and other representative sectors where the ones related with Mobile Applications, software, digital media and financial services.

Table 3.2.8-1. Industry sector experience analysis

<b>Sector Experience Level</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>One Sector</b>	10	1,10%	1,10%
<b>Two Sectors</b>	70	7,68%	8,78%
<b>Three Sectors</b>	831	91,22%	100,00%
<b>Total =</b>	911	100%	

Table 3.2.8-2. Industry sectors analysis

<b>Sectors</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Technology</b>	224	8,48%	8,48%
<b>Marketing</b>	215	8,13%	16,61%
<b>Venture Capital</b>	208	7,87%	24,48%
<b>Internet</b>	147	5,56%	30,04%
<b>E-commerce</b>	140	5,30%	35,34%
<b>Mobile Applications</b>	129	4,88%	40,22%
<b>Software</b>	127	4,81%	45,02%
<b>Digital Media</b>	114	4,31%	49,34%
<b>Financial Services</b>	113	4,28%	53,61%
<b>Consulting</b>	110	4,16%	57,78%
<b>Social Platforms</b>	91	3,44%	61,22%
<b>Entertainment</b>	74	2,80%	64,02%
<b>Telecommunication</b>	69	2,61%	66,63%
<b>Health Care</b>	55	2,08%	68,71%
<b>Innovation</b>	49	1,85%	70,56%
<b>Information Technology</b>	47	1,78%	72,34%
<b>Big Data</b>	46	1,74%	74,08%
<b>Education</b>	45	1,70%	75,79%
<b>Strategy Services</b>	42	1,59%	77,37%
<b>Video Games</b>	38	1,44%	78,81%
<b>Real Estate</b>	30	1,14%	79,95%
<b>Other Sectors (#BAs&lt;30)</b>	530	20,05%	100%
<b>Total =</b>	2643	100%	

### 3.2.9 Years of experience

In order to analyse this variable was taken into consideration the year of the BAs first job. Just the 2.2% of the angels don't have this information available on internet, and for this reason the data analysis was made with a total of 891 BAs information.

Have been seen that the average BAs have 20 years of experience and considering the previous finding of the experience as investors could be said that the BAs before starting the investment activity had in average 14 years of previous experience as workers or entrepreneurs, this could be confirmed by the mode of years of experience that is 16 years. The 29.63% of them have between 13 and 28 years of experience, the 25.48% between 18 and 24 years, while approximately the 28% of them are distributed in equal proportion between the experience ranges from 7 to 13 years and from 24 to 30 years.

Table 3.2.9-1. Years of experience statistical description

<b>Mean</b>	<b>20</b>
<b>Median</b>	19
<b>Mode</b>	16
<b>Standard Deviation</b>	8,45
<b>Variance</b>	71,35
<b>Minimum value</b>	1
<b>Maximum value</b>	53
<b>Range</b>	52
<b># of Classes</b>	9
<b>Class Amplitude</b>	6

Table 3.2.9-2. Years of experience analysis

# of Classes	Class Intervals		Frequency	Percentage %	Cumulative Percentage %
	limit inferior	limit superior			
<b>1</b>	1	7	23	2,58%	2,58%
<b>2</b>	7	13	120	13,47%	16,05%
<b>3</b>	13	18	264	29,63%	45,68%
<b>4</b>	18	24	227	25,48%	71,16%
<b>5</b>	24	30	124	13,92%	85,07%
<b>6</b>	30	36	91	10,21%	95,29%
<b>7</b>	36	41	25	2,81%	98,09%
<b>8</b>	41	47	14	1,57%	99,66%

<b>9</b>	47	53	3	0,34%	100%
<b>Total =</b>			891	100%	

### 3.2.10 Internet Presence – Networks

As the total information where taken from internet networks and database, were analysed also the presence that the BAs have on internet and their market influence. To this end where analysed their presence on the two major sources of this study in terms of data information, that were LinkedIn and CrunchBase, online platforms. This result that the 94.62% of the BAs have presence on both web sites, the 4.83% just in CrunchBase and the 0.55% just in LinkedIn. The level of influence in the market was measured by the number of connections in the LinkedIn network, was found that the 85.93% of the actual BAs have a LinkedIn account with more than 500 people connections, and the approximately the 2% of the total BAs are considered real Influencers, a distinction given by LinkedIn to the world's foremost thinkers, leaders, and innovators.

Table 3.2.10-1. Presence on internet networks analysis

<b>Presence on Internet Networks</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Just LinkedIn</b>	5	0,55%	0,55%
<b>Just CrunchBase</b>	44	4,83%	5,38%
<b>LinkedIn and CrunchBase</b>	862	94,62%	100,00%
<b>Total =</b>	911	100%	

. Size of BAs LinkedIn network – analysis

<b>LinkedIn Level</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>LinkedIn (#Connections&lt;500)</b>	107	12,34%	12,34%
<b>LinkedIn (#Connections&gt;500)</b>	745	85,93%	98,27%
<b>LinkedIn Influencer</b>	15	1,73%	100,00%
<b>Total =</b>	867	100%	

## Chapter 4

### Conclusions

The results obtained from this thesis dissertation permit to conclude the follows. Principal that the demographic characteristics of the business angels shows that the men rate participation in the informal venture capital market still higher, but nonetheless the low percentage of women in the BAs market, they are gaining force and increasing year by year their contributions to the market development whit new ideas and suggesting that should be taking into consideration the social and ecological impact of the business ideas, before the decision to make an investment is taken. We also see that the average BAs is represented by the age between the 43 and 49 years.

Also, have been found that the vast majority of business angels had a previous entrepreneur background or experience. This could be related with their location, as the demand for venture financing increase in the technological, economic, and innovative hubs. The study reports a high concentration of the BAs in well-known economics core areas, as California in the USA and London in the UK. While the minority (3%) of them where concentrated in underdevelopment or development regions in South America and Africa. Suggesting that the socioeconomic environment have an important impact in the BAs market development.

Also, could be consider that the university city and quality of the education have a relevant impact on the informal venture capital market, as the universities chosen by actual BAs are ranked in the world top 10 Universities and are located on the innovative hubs and the economic leader regions. The basic level of education among the BAs is the bachelor's degree, while the subjects of interest that lead are the business administration and the computer science. An important share of them consider doing a postgrad or MBA, usually in a different university from the one that they took the bachelor's degree. And this suggest that they get an additional exchange experience that could be related with the characteristics of the BAs.

The average BAs have between 4 and 6 years of experience as investors and during that time in average they invest in 3 different companies. But a minority of the BAs actually do follow-up investments, in the case of this study was found that just the 13.72% invest more than one time in the same company. This could be due to bad exit experience or the interest to diversify their investment portfolios instead to put their money on just one venture. Also, is noted that a high proportion of the Business angels get a board seat in the invested companies and that the vast majority of them had previous experience as CEO or other executive position.

The technology sector remains the more attractive for the BAs investments, following by the internet related applications and innovation. The policy makers should consider and take precautions to the risk that are with some of the new technologies, as some of their policies could catalyse a crisis similar to the "dot.com" one during the 2000's.

So, this thesis had showed and analysed the empirical results taking in consideration the previous findings of the scholars related with the Business Angel market. For this reason, in in the follows are listed some future suggestions and hypothesis that could be used by researchers in order to expand the scope of information available and to could understand

better the characteristics, market failures and the externalities that affect positively or negatively the business angel activity.

The policy makers and researched should complete an analysis on different measures that the underdeveloped and developing countries are taking in order to encourage the private angel investments, no matter if they are of low value quantities, but could be taken in consideration or as inspiration to replicate their efforts in order to increase the private investment in the low growth rate developed countries. This is due by the reason that many of the good ideas on the under developing countries don't have succeed due more by the socioeconomic and cultural environments but is possible that with different conditions they could have succeed.

Another analysis that should be taken into consideration is the relation existing with the R&D investments percentage in front of the total internal product of the countries with more business angels. To then could compare also the quantity of patents registered and the quantity of business ideas or start-ups that are based or used a patent. In order to understand is the investment decision by the BAs is changed, and if the countries that generates more patents are also the same that have more business ideas using them or are other countries with a higher economic power. Just some ideas to address in the future researches

And the last one is to measure the quantity of public laws and policies of each country in order to extimulated the informal venture capital market and compare them with the number of actual business angel networks and groups. To could know the real impact that they are generating in the creation of new investments with the creation of new policies.

To conclude this study, contribute to fill some space of the Business Angel and Informal Venture Capital Market literature, by presenting the analysis of the previous scholar thought and the results of the representative sample of BAs. And should help to generate new studies and hypothesis on the future researchers interested in this field.

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## Chapter 6

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## Chapter 7

### Appendix

Appendix 1. Variables with unavailable data - Result Analysis

<b>total BAs=</b>	<b>911</b> 100%	<b>Quantity of Unavailable Data</b>	<b>Unavailable data %</b>	<b>Real quantity of data</b>
<b>Variable</b>				
<b>Birth Place</b>		855	93,85%	56
<b>Age</b>		183	20,09%	728
<b>Investments Number</b>		3	0,33%	908
<b>Invested Companies</b>		3	0,33%	908
<b>Experience Years</b>		20	2,20%	891
<b><u>Bachelor type</u></b>		24	2,63%	842
<b>year of 1st investment</b>		3	0,33%	908
<b>number of years investment</b>		3	0,33%	908

Appendix 2. Data quantity of the variable "Investor State"

<b>Data quantity of the variable "Investor State"</b>		
<b>(dependent from "investor actual country"="USA")</b>		
<b>BAs from "USA"</b>	583	100%
<b>Available "Investor State" data</b>	583	100%
<b>Unavailable "Investor State" data</b>	0	0%

Appendix 3. Data quantity of the variable "LinkedIn Contacts"

<b>Data quantity of the variable "LinkedIn Contacts"</b>		
<b>(dependent from "LinkedIn"="1")</b>		
<b>BAs with a LinkedIn account</b>	867	100%
<b>Available "LinkedIn Contacts" data</b>	867	100%
<b>Unavailable "LinkedIn Contacts" data</b>	0	0%

Appendix 4. Data quantity of the variables "University Bachelor" and "Bachelor Type"  
**Data quantity of the variables "University Bachelor" and "Bachelor Type"**

<b>(dependent from "Bachelor"="1")</b>		
<b>BAs with a Bachelor</b>	866	100%
<b>Available "University Bachelor" data</b>	866	100%
<b>Unavailable "University Bachelor" data</b>	0	0%
<b>Available "Bachelor Type" data</b>	842	97%
<b>Unavailable "Bachelor Type" data</b>	24	3%

Appendix 5. Data quantity of the variables "University MASTER/POSTGRAD" and  
"MASTER/POST GRAD type"

**Data quantity of the variables "University MASTER/POSTGRAD" and  
"MASTER/POST\_GRAD type"**

<b>(dependent from "MASTER/POST_GRAD"="1")</b>		
<b>BAs with a Master or Postgrad</b>	244	100%
<b>Available "University MASTER/POSTGRAD" data</b>	244	100%
<b>Unavailable "University MASTER/POSTGRAD" data</b>	0	0%
<b>Available "MASTER/POST_GRAD type" data</b>	244	100%
<b>Unavailable "MASTER/POST_GRAD type" data</b>	0	0%

Appendix 6. Data quantity of the variables "University MBA" and "MBA Type"

**Data quantity of the variables "University MBA" and "MBA Type"**

<b>(dependent from "MBA_GRAD"="1")</b>		
<b>BAs with a MBA</b>	220	100%
<b>Available "University MBA" data</b>	220	100%
<b>Unavailable "University MBA" data</b>	0	0%
<b>Available "MBA Type" data</b>	220	100%
<b>Unavailable "MBA Type" data</b>	0	0%

Appendix 7. Data quantity of the variables "University PHD" and "PHD Type"

<b>Data quantity of the variables "University PHD" and "PHD Type"</b>		
<b>(dependent from "PHD"="1")</b>		
<b>BAs with a PHD</b>	79	100%
<b>Available "University PHD" data</b>	79	100%
<b>Unavailable "University PHD" data</b>	0	0%
<b>Available "PHD Type" data</b>	79	100%
<b>Unavailable "PHD Type" data</b>	0	0%

Appendix 8. Data quantity of the variable "N\_start-ups "

<b>Data quantity of the variable "N_start-ups "</b>		
<b>(dependent from " Entrepreneur_(1/0)"="1")</b>		
<b>BAs that were Entrepreneurs</b>	738	100%
<b>Available "N_start-ups " data</b>	738	100%
<b>Unavailable "N_start-ups " data</b>	0	0%

Appendix 9. Data quantity of the variable "Serial\_Entrepreneur\_(1/0)"

<b>Data quantity of the variable "Serial_Entrepreneur_(1/0)"</b>		
<b>(dependent from "Entrepreneur_(1/0)"="1" and "N_start-ups "&gt;"1")</b>		
<b>BAs that were Entrepreneurs</b>	738	100%
<b>Available "Serial_Entrepreneur_(1/0)" data</b>	738	100%
<b>BAs whit more than one Startup (#&gt;1)</b>	566	200%
<b>Available "Serial_Entrepreneur_(1/0)" data</b>	566	100%
<b>Unavailable "Serial_Entrepreneur_(1/0)" data</b>	0	0%

Appendix 10. Other Countries with less than 10 BAs (# of BAs<10)

**Other Countries with less than 10 BAs (# of BAs<10)**

<b>Country</b>	<b>Frequency</b>	<b>%</b>
<b>Russia</b>	9	0,99%
<b>Singapore</b>	9	0,99%
<b>Turkey</b>	9	0,99%
<b>Sweden</b>	8	0,88%
<b>Brazil</b>	7	0,77%
<b>Argentina</b>	6	0,66%
<b>Italy</b>	6	0,66%
<b>Denmark</b>	5	0,55%
<b>Japan</b>	5	0,55%
<b>Ireland</b>	5	0,55%
<b>Finland</b>	4	0,44%
<b>Hong Kong</b>	4	0,44%
<b>Netherlands</b>	4	0,44%
<b>South Korea</b>	4	0,44%
<b>South Africa</b>	4	0,44%
<b>Slovenia</b>	3	0,33%
<b>China</b>	3	0,33%
<b>United Arab Emirates</b>	3	0,33%
<b>Chile</b>	2	0,22%
<b>Czech Republic</b>	2	0,22%
<b>Poland</b>	2	0,22%
<b>Ukraine</b>	2	0,22%
<b>Malta</b>	1	0,11%
<b>Colombia</b>	1	0,11%
<b>Thailand</b>	1	0,11%
<b>Saudi Arabia</b>	1	0,11%
<b>Romania</b>	1	0,11%
<b>Georgia</b>	1	0,11%
<b>Mexico</b>	1	0,11%
<b>Belgium</b>	1	0,11%
<b>Monaco</b>	1	0,11%

<b>New Zealand</b>	1	0,11%
<b>Norway</b>	1	0,11%
<b>Jamaica</b>	1	0,11%
<b>Croatia</b>	1	0,11%
<b>Lebanon</b>	1	0,11%
<b>Lithuania</b>	1	0,11%
<b>Total =</b>	121	13,28%

Appendix 11. Other States with less than 9 BAs (# of BAs<9)

**Other States with less than 9 BAs  
(# of BAs<9)**

<b>Country</b>	<b>Frequency</b>	<b>%</b>
<b>UT</b>	6	1,03%
<b>MI</b>	6	1,03%
<b>OR</b>	5	0,86%
<b>DC</b>	5	0,86%
<b>NV</b>	5	0,86%
<b>CT</b>	3	0,51%
<b>IN</b>	3	0,51%
<b>RI</b>	2	0,34%
<b>GA</b>	2	0,34%
<b>ID</b>	2	0,34%
<b>NE</b>	1	0,17%
<b>NC</b>	1	0,17%
<b>LA</b>	1	0,17%
<b>VA</b>	1	0,17%
<b>TN</b>	1	0,17%
<b>HI</b>	1	0,17%
<b>KY</b>	1	0,17%
<b>MO</b>	1	0,17%
<b>MD</b>	1	0,17%
<b>OH</b>	1	0,17%
<b>MN</b>	1	0,17%
<b>Total =</b>	50	8,58%

Appendix 12. "Birth Place" Data Analysis

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**"Birth Place" Data Analysis**

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<b>Birth Place (Country)</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
USA	33	58,93%	58,93%
Spain	3	5,36%	64,29%
Sweden	3	5,36%	69,64%
Canada	3	5,36%	75,00%
Ireland	2	3,57%	78,57%
India	2	3,57%	82,14%
Netherlands	2	3,57%	85,71%
Other Countries (# of BAs<2)	8	14,29%	100,00%
<b>Total =</b>	56	100,00%	

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Appendix 13. "Bachelor" Data Analysis

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**"Bachelor" Data Analysis**

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<b>Bachelor</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Bachelor (Values = 1)</b>	866	95,06%	95,06%
<b>No Bachelor (Values=0)</b>	45	4,94%	100,00%
<b>Total =</b>	911	100%	

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Appendix 14. "Master/Post-Grad" Data Analysis.

**"Master/Post-Grad" Data Analysis**

<b>Master/Post Grad</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Master/Post_Grad (Values = 1)</b>	244	26,78%	26,78%
<b>Master/Post_Grad (Values = 0)</b>	667	73,22%	100,00%
<b>Total =</b>	911	100%	

Appendix 15. "MBA\_GRAD" Data Analysis

**"MBA\_GRAD" Data Analysis**

<b>MBA Grad</b>	<b>Frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>MBA_Grad (Values = 1)</b>	220	24,15%	24,15%
<b>MBA_Grad (Values=0)</b>	691	75,85%	100,00%
<b>Total =</b>	911	100%	

Appendix 16. "PHD" Data Analysis

**"PHD" Data Analysis**

<b>PHD</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>PHD (Values = 1)</b>	79	8,67%	8,67%
<b>PHD (Values=0)</b>	832	91,33%	100,00%
<b>Total =</b>	911	100%	

Appendix 17. Education Exchange Experience - Level - Data Analysis

**Education Exchange Experience - Level - Data Analysis**

<b>Exchange (different Universities)</b>	<b>Level</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Studied at One University</b>		620	71,59%	71,59%
<b>Studied at Two Universities</b>		19	2,19%	73,79%
<b>Studied at Three Universities</b>		148	17,09%	90,88%
<b>Studied at Four Universities</b>		79	9,12%	100,00%
<b>Total =</b>		866	100%	

Appendix 18. "Year of 1st investment" Data Analysis

**"Year of 1st investment" Data Analysis**

<b># of Classes</b>	<b>Class Intervals</b>		<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
	<b>limit inferior</b>	<b>limit superior</b>			
<b>1</b>	1985	1988	5	0,55%	0,55%
<b>2</b>	1988	1991	4	0,44%	0,99%
<b>3</b>	1991	1994	7	0,77%	1,76%
<b>4</b>	1994	1997	11	1,21%	2,97%
<b>5</b>	1997	2000	26	2,86%	5,84%
<b>6</b>	2000	2003	53	5,84%	11,67%
<b>7</b>	2003	2006	67	7,38%	19,05%
<b>8</b>	2006	2009	154	16,96%	36,01%
<b>9</b>	2009	2012	286	31,50%	67,51%
<b>10</b>	2012	2015	295	32,49%	100%
<b>Total =</b>			908	100%	

Appendix 19. "Entrepreneur" Data Analysis

**"Entrepreneur" Data Analysis**

<b>Entrepreneur</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Entrepreneur (Values = 1)</b>	738	81,01%	81,01%
<b>No Entrepreneur (Values=0)</b>	173	18,99%	100,00%
<b>Total =</b>	911	100%	

Appendix 20. Entrepreneur - Startups Analysis

**Entrepreneur - Startups Analysis**

<b>Entrepreneur level</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Entrepreneur (#Startup=1)</b>	172	23,31%	23,31%
<b>Entrepreneur (#Startup=2)</b>	173	23,44%	46,75%
<b>Entrepreneur (#Startup=3)</b>	173	23,44%	70,19%
<b>Entrepreneur (#Startup=4)</b>	80	10,84%	81,03%
<b>Entrepreneur (#Startup=5)</b>	70	9,49%	90,51%
<b>Entrepreneur (#Startup=6)</b>	23	3,12%	93,63%
<b>Entrepreneur (#Startup=7)</b>	20	2,71%	96,34%
<b>Entrepreneur (#Startup&gt;=8)</b>	27	3,66%	100,00%
<b>Total =</b>	738	100%	

Appendix 21. "JOB\_TITLE1" Data Analysis

<b>"JOB_TITLE1" Data Analysis</b>			
<b>JOB_TITLE1</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>CEO</b>	183	20,09%	20,09%
<b>Director</b>	97	10,65%	30,74%
<b>Partner</b>	88	9,66%	40,40%
<b>Founder</b>	69	7,57%	47,97%
<b>Chairman</b>	58	6,37%	54,34%
<b>Investor</b>	56	6,15%	60,48%
<b>Board Member</b>	55	6,04%	66,52%
<b>Co-Founder</b>	47	5,16%	71,68%
<b>President</b>	37	4,06%	75,74%
<b>Vice-President</b>	35	3,84%	79,58%
<b>Consultant</b>	33	3,62%	83,21%
<b>CTO</b>	16	1,76%	84,96%
<b>COO</b>	10	1,10%	86,06%
<b>Other JobTitle (#BAs&lt;10)</b>	127	13,94%	100%
<b>Total =</b>	911	100%	

Appendix 22. "JOB\_TITLE2" Data Analysis

<b>"JOB_TITLE2" Data Analysis</b>			
<b>JOB_TITLE2</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Co-Founder</b>	85	17,49%	17,49%
<b>Founder</b>	82	16,87%	34,36%
<b>Board Member</b>	64	13,17%	47,53%
<b>CEO</b>	44	9,05%	56,58%

<b>Investor</b>	37	7,61%	64,20%
<b>Partner</b>	35	7,20%	71,40%
<b>Consultant</b>	31	6,38%	77,78%
<b>Director</b>	20	4,12%	81,89%
<b>President</b>	15	3,09%	84,98%
<b>Chairman</b>	14	2,88%	87,86%
<b>Other Job Title (#BAs&lt;10)</b>	59	12,14%	100%
<b>Total =</b>	486	100%	

Appendix 23. "JOB\_TITLE3" Data Analysis

**"JOB\_TITLE3" Data Analysis**

<b>JOB_TITLE3</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Founder</b>	17	14,29%	14,29%
<b>Co-Founder</b>	17	14,29%	28,57%
<b>Board Member</b>	16	13,45%	42,02%
<b>Consultant</b>	12	10,08%	52,10%
<b>Chairman</b>	11	9,24%	61,34%
<b>Other JobTitle (#BAs&lt;10)</b>	46	38,66%	100%
<b>Total =</b>	119	100%	

Appendix 24. "JOB\_TITLE4" Data Analysis

**"JOB\_TITLE4" Data Analysis**

<b>JOB_TITLE4</b>	<b>frequency</b>	<b>Percentage %</b>	<b>Cumulative Percentage %</b>
<b>Board Member</b>	2	25,00%	25,00%
<b>Chairman</b>	1	12,50%	37,50%
<b>Co-Founder</b>	1	12,50%	50,00%
<b>Director</b>	1	12,50%	62,50%
<b>Investor</b>	1	12,50%	75,00%
<b>Partner</b>	1	12,50%	87,50%
<b>Vice-President</b>	1	12,50%	100,00%
<b>Total =</b>	8	100%	

Appendix 25. "LinkedIn Contacts".

**"LinkedIn Contacts"**

<b>Mean</b>	465
<b>Median</b>	500
<b>Mode</b>	500
<b>Standard Deviation</b>	103,62
<b>Variance</b>	10736,31
<b>Minimum value</b>	1
<b>Maximum value</b>	501
<b>Range</b>	500
<b># of Classes</b>	10
<b>Class Amplitude</b>	56

Appendix 26. Entrepreneur startups analysis.

**"LinkedIn Contacts" Data Analysis**

# of Classes	Class Intervals		frequency	Percentage %	Cumulative Percentage %
	limit inferior	limit superior			
<b>1</b>	1	57	18	2,08%	2,08%
<b>2</b>	57	112	14	1,61%	3,69%
<b>3</b>	112	168	8	0,92%	4,61%
<b>4</b>	168	223	13	1,50%	6,11%
<b>5</b>	223	279	8	0,92%	7,04%
<b>6</b>	279	334	15	1,73%	8,77%
<b>7</b>	334	390	16	1,85%	10,61%
<b>8</b>	390	445	15	1,73%	12,34%
<b>9</b>	445	501	745	85,93%	98%
<b>10</b>	501	556	15	1,73%	100%
<b>Total =</b>			867	100%	