Abstract

Startups are one of the key growth drivers of our economy. The growth of startups depends on how well the ecosystem provides them with the support they need. Startups have very high failure rates, due to a lack of resources, financial or not, contacts, reputation, credibility or knowledge of marketing to develop and sell their products. In recent years, a new player has appeared in the ecosystem that supports the birth and growth of startups: startup studios. As mentioned, this is a recent phenomenon which is still not much covered in literature. Consequently, the first part of the Thesis will focus on the description of the phenomenon and on highlighting the differences between it and the other ecosystem players. Subsequently, the research will focus on measuring the impact of the startup studios on the performance of startups, based on a quantitative approach. The performance measurement criteria will be based on financial valuation reached at the exit and the time required for exit. The expected result will provide an overview of the impact of startup studios on the startups performance, and on which factors most influence the performance of the startups that startup studios build and / or support.

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Evaluating the Impact of Startup Studios on Startup Performances

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Contents

Acknowledgements

Chapter 1 – Introduction

1.1 Objectives

This Thesis will focus on determining whether startup studios improve startup performance and how startup studios impact those new ventures, compared with a baseline of startups “grown-up” by venture capital firms, accelerators and incubators. Performance evaluation will be based on company market value, using, if needed, number of employees and web traffic as proxy. In order to better isolate the contribution of the startup studios, additional variables will be taken into consideration such as whether or not startups made use of services provided by accelerators and incubators and the stage in which the startup was when it joined the startup studio. Furthermore, this research will also try to define how startup studios contribute to the growth and development of new ventures.

1.2 Scope

That of startup studios is a young and relatively small industry, if we consider that the number of startup studios registered in the Global Startup Studio Network (GSSN) is a few dozen. In order to build a sample as balanced as possible, the startups built or co-built by startup studios will be compared with those raised by venture capital focused in the Seed and Early Stage phases, taking into consideration only the startups exited as of October 2020. By exit, we mean the resale of a company's shares, either by listing in the stock market, or by their acquisition by another company, fund or other actors (Caillard, 2018; Diallo, 2015). In other words, exit means the process of separation between the startup and the studio. The different nature of startup studios and venture capital firms, in fact, means that the former produce a smaller number of ventures, investing more in each of them than venture capital firms do. In particular, both startup studios and venture capital firms were selected on the basis of the number of deals completed, in order to "reward" those most active in the aforementioned investment phases. The sample itself is necessarily global, as a limitation to the United States, the

only one possible without data becoming too scarce, would cut out a considerable part of the startups exited by important startup studios such as Rocket Internet, based in Germany.

1.4 Approach

On Literature Review

The approach used in this Thesis is a combination of deductive and exploratory approach. Deductive research is a type of research which starts with a general theory to a more specific problem and tests it by using several hypotheses. Meanwhile, exploratory research is a research approach used when there is limited information (Sekaran & Bougie, 2016). In the first step, Thesis objective, main research question, research sub-questions are defined based on initial literature review and based on problems identified in theoretical and practical context. This research objective and the research question will be the guidance to conduct the whole Thesis. After the Thesis objective and questions have been selected and formulated, in the second step, a deductive approach is used to select previous research to establish hypotheses and initial conceptual model. The initial conceptual model will be developed to include all relevant variables based on the literature reviews in startup and ecosystem characteristics.

Literature review will cover all the entrepreneurial ecosystem actors definitions, characteristics and performance. The second concept is the nature of venture capital. The description of the nature of venture capital will cover venture capital definition, category, and services to understand the concept of venture capitalism, how venture capital firms select their investments and their potential impact on startup performance. Lastly, the review will focus on the startup studio process. In this case, the research will focus on how they create new ventures, participate in their growth, build several startups following a repetitive process and build an infrastructure that enables an efficient venture building process. In this process, startup participation and perception over startup studios are explored to understand their action as a company to improve their business processes by utilizing the capital provided by the studio. In the fifth step, a discussion on data analysis results will be combined and supported with the literature

review to interpret the data analysis result and to interpret eventual correlations. Finally, the conclusion is derived from the research result.

On Data Analysis

After data has been collected using external databases provided by CB Insights and Crunchbase, data will be processed and analyzed by using statistical methods.

Demographic data covers, in this case: exit date, total funding raised, number of employees, organic web traffic, industry, sector and sub-sector of activity. The evaluation at the exit, whether obtained from official press communications or from the number of employees and web traffic using appropriate proportionality coefficients, and the time required for the exit itself will be treated as dependent variables. Use or not of business acceleration or incubation services and the investment stage in which the startup was at that time when it joined the startup studio will instead be considered independent variables.

1.5 Outline

Chapter 1 will serve as an introduction to the objectives, the approach and the methods used in the Thesis. Chapter 2 will cover the literature review. Chapter 3 will cover the methodology for data collection and handling of the data collection result. Chapter 4 will cover the statistical data analysis used to evaluate startups performance. Chapter 5 will elaborate the findings of the result of the data analysis to answer the research question. Lastly, in chapter 6, the conclusion of the research, the critical reflection on the research will be presented along with the contribution on future research.

Chapter 2 – Literature Review

2.1 The Startup Ecosystem

2.1.1 Entrepreneurs and Startups

In English, the term "entrepreneur" has been used interchangeably with “adventurer” (Carlen, Joe, 2016), words like Venture Capital and Venture Building probably share the same root in that word. The political economist Richard Cantillon was the first to provide a definition of an entrepreneur as *a risk taker, who maximizes financial return allocating resources - usually money provided by the owner - exploiting economic opportunities*. Joseph Schumpeter emphasized the role of entrepreneurs as individuals who acquire new information about the optimal allocation of resources to better profitability before others, thus spotting opportunities in markets and industries served by inferior and obsolete offerings, through the creation of new products and business models (Schumpeter, Alois, 1976). An analysis made by Choi and Shepherd in 2004 showed how entrepreneurs tend to pick up opportunities in industries where they had more knowledge of customer demand for the new product, a proper technology available, feel comfortable to work in, and were – or feel themselves - able to gain stakeholder support in the process.

Moreover, the study suggested that entrepreneurs looked more favorably at those opportunities whse expected development time was short. Looking at the psychological traits which could make the “identity card” of successful entrepreneurs, a research made by McClelland in 1987 identifies, first, proactivity. Entrepreneurs do things before they have to and they don't let things lag. Second, they desire for self-fulfillment, mastering of skills, control, and high standards. As team leaders, they usually define sub-goals and a way to reach them, so to have constant feedback on the progress being made. Monitoring, indeed, involves holding people to high standards of work, although it also entails a certain degree of assertiveness in dealing with other team members. It is not enough, however, just to be proactive and result-oriented. One must be also concerned

about customer satisfaction. Successful entrepreneurs are obsessed with maintaining what has been promised, in a way to establish good relationships with customers in the long run. These are, we could say, a sort of cliché of the core competencies associated with entrepreneurs, what indeed is surprising are the traits not included in the set. Self-confidence is one of the characteristics most attributed to the successful entrepreneur, yet in this study it appeared not so significant for a successful one. The same for persistence, here has been provided also a possible explanation in a greater ability of an entrepreneur to look at his or her chances and persevere only if it's reasonable.

In 1984, Van de Ven et al. identified the entrepreneur as the ideal founder and promoter of a new organization. In other words, a startup. *Startup companies are newly born companies which struggle for existence* (Salamzadeh and Kesi, 2015).

Given their complex nature, a research by Salamzadeh and Kesi (2015) has tried to describe their lifecycle. The stages are as follows:

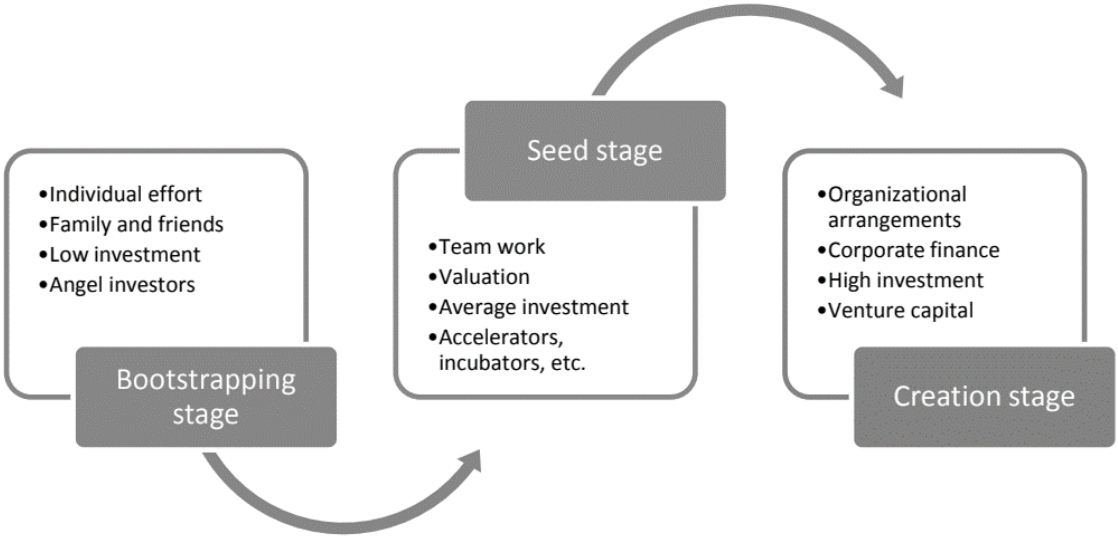

Fig 1 : Startup lifecycle (Salamzadeh and Kesi, 2015)

Bootstrapping is a way of life in entrepreneurial companies (Harrison et al. 2004) and can be defined as a highly creative way of using resources without acquiring or borrowing them (Freear et al., 2002). In this stage the objectives are market identification and team building (Brush et. al., 2006). This is usually the investment playground of Angel Investors (see next paragraph). The Seed Stage is mostly concerned with product/market fit (Manchanda & Muralidharan, 2014). Here, founders usually look for support within accelerators, incubators or similars. In this stage, when

product and market have been identified, it is possible to do some sort of valuation of the company.

Finally, the Creation Stage starts with the first sales and hirings (Salamzadeh, 2015) and some scholars believe that the kind of activities taken after this stage is ended refer more to management than entrepreneurship (Ogorelc, 1999).

Startups fail roughly 75% of the time[1]. The table below lists the key factors in startup failure, according to CB Insights[2], listed under the top five startup success factors[3] identified by Bill Gross of Idealab, acknowledged as the first startup studio.

Team 32%	Idea 28%	Funding 14%	Business 24%	Timing 42%
Incorrect team	Poor market fit	No funding/ investor interest	Legal challenges	No market need
Lose focus	Pricing/cost issues	Ran out of cash	Didn't use network	Product mistimed
Disharmony among team/investors	Poor UX		Outcompeted	Failed geographical expansion
Lack passion	Poor marketing		Lacking business model	
Ignore customers			Failure to pivot	

Fig 2 From "The Rise of Startup Studio", published by the Global Startup Studio Network in March 2019

In order to avoid failure and finance its further growth, startups usually turn to funding organizations and support institutions. These organizations and institutions will be the subject of the next paragraphs.

2.1.1 Funding Organizations

Venture Capital Firms

Venture Capital firms are investment funds, often arranged in limited partnerships, providing startups with capital and, sometimes, some kind of mentorship and access to a formal or informal network.

[1] Du-y, James. "Startup Failure Rates: 3 out of Every 4 Venture-Backed Startups (75%) Eventually Fail." More Than Accountants, 13 Dec. 2018

[2] The Top 20 Reasons Startups Fail." CB Insights Research, 15 Mar. 2019

[3] Gross, Bill. "The Single Biggest Reason Why Start-Ups Succeed." TED, Mar. 2015

A sort of tradition sets the foundation date of the first Venture Capital firm for 1946. That year Georges Doriot, now regarded as the "father of venture capitalism" with Ralph Flanders and Karl Compton founded ARDC - American Research and Development Company - to give soldiers returning from World War II money to start their own businesses. VC have historically focused on elements such as screening, contracting, monitoring, and supporting their investees (Gompers and Lerner, 2001).

From the end of the 80s, they started to take an active role in the startups' strategic development, sometimes even in their operational activities (Berger and Udell, 1998). In 1988, Warne, for instance, defined a Venture Capital firm as a mix between a funding organization and a consulting company. Some of them focus on a specific niche, making it easier to monitor their portfolios (Barry, 1994). The industries targeted are often characterized by information asymmetries in favor of VCs (Gompers, 2005).

VCs can also be labeled as either traditional venture capital or corporate venture capital. This distinction has been discussed by Hellmann in 2002. The author claims that, in addition to the financial incentives exhibited by traditional VC investors, corporate venture capitalists have a strategic motivation for investing.

Business Angels

Angels are typically associated with early stage startups, but they usually invest in business of any maturity, at any stage of development and in many different industries. They most frequently become shareholders of the companies they invest in (Ibrahim, 2008), investment targets are usually geographically near, private, and even outside the circle of friends and relatives. Capital raised from this kind of investor ranges from $10,000 to $250,000 (Hornuf and Schmitt, 2016). Business angels also provide strategic advisoring, as well as access to their professional network and know-how related to entrepreneurship and management (Bonnet and Wirtz, 2011). They maintain close interactions with the founders, often taking positions on the board of directors (Politis, 2008). Also Politis (2008) ascribes four characteristics to their role in startup development: a strategic role, a supervision and monitoring role, a resource acquisition role, and a mentoring role. The strategic role is where a business angel provides strategic input resulting from his or her experience. The supervision and monitoring role manifests itself when angels try to protect their investment from supposed wrongdoing by entrepreneurs they invest on. The problem here is that the interests of the angel,

those of the startup as an entity and finally those of the entrepreneur(s) as individuals could not be aligned, thus generating agency costs. The third role employs the network of the angel in order to facilitate talks with investors and suppliers. In the role of mentor, the business angel provides not only a professional, but also a personal guidance to the entrepreneur, doing this in a more "human" way, difficult to obtain by other funding organizations.

Crowdfunding

Basically, through crowdfunding platforms, entrepreneurs are able to connect with potential investors over the Internet (Griffin, 2013). Derived from crowdsourcing and microfinance, crowdfunding emerged as a means to finance projects not likely to be appealing for more "institutionalized" investors (Hervé et al., 2016). Crowd-investors are usually men (Hervé et al. 2016). Wallmeroth (2016) also finds that most comes from people who invest less frequently but with larger amounts.

Based on the type of return provided to the investors, platforms can be collocated in four sub-categories: donations-based, reward-based, lending-based, and equity-based crowdfunding (Griffin, 2013). The donation-based is basically what it seems, a donation. The investor will not receive anything in return. However, the venture seeking financial support could be profit-oriented. The reward model provides the investor with a reward that is not financial, so it's not an interest payment or a share of the venture, but could be for instance the product itself, at the end of the campaign. The third model, the lending-based one, entails loans that could include interest payments. The last form of crowdfunding, the equity-based form, provides some form of value sharing with the venture. Equity-based crowdfunding involves the sale of securities like shares, so it is highly dependent on regulatory differences between countries (Fraser et al., 2015). In Venture Capital and Angel Investment, the capital seeker and the capital provider are face to face, in crowdfunding, their relationship is mediated by an intermediary, the platform. Platforms earn their revenue essentially from these three sources: the interest earned by the investors, additional services and transaction fees. Usually platforms do some form of screening of the venture, although the way they do it is very diversificated.

Drover et al. (2017) shows how crowdfunding has also post-investment implications, although they have not been yet studied in dept.

2.1.2 Universities and Research Organizations

Historically, the role of universities in the entrepreneurial ecosystem have been those of educating human capital and produce new knowledge. In the recent years, especially in the aftermath of the financial crisis, when entire ecosystem had to be reinvented, universities have started to engage with their own socio-economic context in the so-called *third mission* activities, like technology commercialization, entrepreneurial activities, advisoring for large companies and startups, collaboration with the private sector in academic research, student placement, curriculum alignment and social networking. (Molas-Gallart, 2002). A study by Calcagnini et al. (2014) has tried to evaluate the effect of these three “missions" on location decisions by startups. In other words, the hypothesis was that startups might choose to locate close to universities in order to gain access to external knowledge and human capital at a lower cost. Moreover, start-ups are increasingly interested in collaborating with universities, considering a powerful driver of innovation. Results show that positive externalities created by universities are positively correlated with the creation of innovative start-ups. Furthermore, the presence of human capital in the form of graduates and research quality, especially in the social sciences area, attracts innovative start-ups, while third-mission activities show to have a weak impact on location decisions, with the exception of spin-offs. This choice is also sensitive to the types of knowledge produced - with respect to its codificability - and spillover mechanisms (human capital, spin-offs, patents, collaboration agreements).

Other results show that the some characteristics of the region where the academic institutions are located also favor the the start-ups’ locational choice, such as the presence of high levels of social capital - in the form of interpersonal relationships, a shared sense of identity, understanding, norms, values; trust, cooperation, and reciprocity - and innovation intensity, as well as a large market. Finally, the study shows that, even for innovative start-ups, industrial districts are still more attractive than clusters of knowledge and human capital close to academic institutions.

2.1.3 Incubators and Accelerators

Founders look at incubators and accelerators in search of help to grow their business and improve their chances of attracting funding for their venture. However, business incubators and accelerators have very different operational models, in order to make startups able to achieve success. Generally, accelerators help already established startups, at the end of the product/market fit phase, to grow, while incubators work on ideas, even before the definition of a business model. Below, the two models will be analyzed individually and then compared.

Accelerators

Since accelerators are a recent phenomenon, while incubators have been operating for longer, there is much more material on the latter in the literature. However, it is possible to isolate some key characteristics among them. Accelerators are mostly for-profit, managed by entrepreneurs or angel investors, aimed at achieving a Return on Investment (ROI) and provide mentorship, technical support, education, networking with investors and even finance (mostly seed capital) in some cases. Selection is typically made through competition and is cyclical. Programs usually have a duration of 3-4 months and end with a demo day that states the "graduation" of the startup.

A study by Del Sarto et. al. (2020) analyzed 38 accelerated startups from five Italian accelerators, compared with a control group of 38 non-accelerated Italian startups. Findings suggest that participation in accelerator programs, by its own means, does not have a direct impact on firm survival. However, there is an improved chance of survival for technology-based and service startups that do not expand their activities abroad and maintain a small number of employees

Incubators

Business Incubators are funded by a sponsor (e.g. government or corporation) and/or fund themselves taking rent for the office space they provide or equity (less frequently) from the startups.

In searching and selecting startups, incubators use as a primary measure: quality of the idea (in terms of potential market) and experiences and skills of the founders. Secondly, they differentiate between the use of a strict set of criteria in order to identify few potentially successful startups before the incubation period, and the application of more loose criteria, accepting a larger number of startups(Bergek and Norrman, 2008). When

it comes to choosing to specialize or not, it should be considered that startups in specialized incubators are often active in the same industries, so they fear competition and do not share information and network contacts with other fellow startups. (Schwartz and Hornych 2008).

Bergek and Norrman (2008) find also that some incubators have a very close relationship with startups, even supplying them with managerial support or requiring them to do specific training. In contrast, other incubators perceive themselves as external facilitators of a process that startups should build by themselves from scratch (Bergek and Norrman, 2008).

When trying to compare incubated with non-incubated startups, it is interesting to note that incubators managers have an incentive to select firms that have an increased probability to succeed and filter out weaker startups. As a result, the portfolio of incubated firms is not representative of the overall startup population and such selection bias may lead to overestimate the actual effect of the incubation process in the success of the single startup (Stokan et al. 2015). In any case, without considering the fact that the incubators carry out a selection of the startup candidates for admission, we would end up underestimating the real contribution of the latter to the ecosystem.

Colombo and Delmastro (2002) evaluated the effectiveness of Italian technology incubators. They compare a sample of 45 incubated startups to a control sample of non-incubated startups. These results show that incubated firms have better human capital on board and grow more. They also find these startups spend more in R&D and adopt faster new technologies and technological tools.

Rothaermel and Thursby (2005) find that a closer link with an academic institution reduces failure rates, but delays the firm's exit from the incubator. Lasrado et al. (2016), moreover, show after graduation from university incubators, startups deploy more units of personnel and have greater revenues than non-incubated firms.

Main Differences

The usual elements of differentiation are the duration of the programs, the legal status of the entity, the types of startups admitted and graduated (Isabelle, 2013). The table below, taken from the above mentioned research, gives the fundamental elements of differentiation between incubators and accelerators using a Business Model Canvas

map, the blue writing is mostly specific for incubators, the red ones for accelerators, black are shared.

<table>
<tr><th colspan="5">BUSINESS MODEL OF INCUBATORS AND ACCELERATORS</th></tr>
<tr><td colspan="2">---- Special for incubators</td><td>---- Common</td><td colspan="2">---- Special for accelerators</td></tr>
<tr><th>PARTNERS</th><th>KEY AKTIVITIES</th><th>VALUE</th><th>COSTUMER RELATIONSHIP</th><th>COSTUMER SEGMENTS</th></tr>
<tr><td rowspan="3">Universities
Governments
Venture Capitals
Angel Investors</td><td>Technical Assistance
Monitoring
Mentoring
Education
Financial Assistance</td><td rowspan="3">Maturation/Growth
Fast Validation</td><td>Personal working spaces
Low fees
Networking</td><td rowspan="3">Entrepreneurs
Start Ups
Companies
Investors</td></tr>
<tr><th>KEY RESOURCES</th><th>CHANNELS</th></tr>
<tr><td>Fund
Office
Investors
Networking with social capital
Seed capital
Investment</td><td>Social Media
Entreğpreneur ecosystem
Web
Universities</td></tr>
<tr><th colspan="2">COST STRUCTURE</th><th colspan="3">REVENUE FLOW</th></tr>
<tr><td colspan="2">Rental
Salaries
Equity</td><td colspan="3">Shares
Fees
Rental</td></tr>
</table>

Fig 3: Comparison between accelerator and incubator business models (Mustafa Torun, 2016)

As shown in the table, key activities of incubators and accelerators are the same. In terms of duration of the programs, those of acceleration programs seem to be shorter on average compared to the long-term nature of incubators. Finally, a table taken from Cohen (2013), can be found a summary of the differences between incubators, angel investors, and accelerators.

	Incubators	Angel Investors	Accelerators
Duration	1 to 5 years	Ongoing	3 months
Cohorts	No	No	Yes
Business Model	Rent; non-profit	Investment	Investment, can also be non-profit
Selection	Non-competitive	Competitive, ongoing	Competitive, cyclical
Venture Stage	Early, or late	Early	Early
Education	Ad hoc, human resources, legal, etc.	None	Seminars
Mentorship	Minimal, tactical	As needed, by investor	Intense, by self and others
Venture location	On site	Off site	On site

Fig 4 Cohen, S. G., Hochberg, Y. V, Gilani, A., Henikoff, T., Kamath, K., Quann, K., & Robb, A. (2014)

2.1.4 Incumbents

Product, component and R&D projects, one time put in place only within a single company, are increasingly accomplished via partnerships or other contractual agreements between more companies (Ma et al., 2012). This kind of approach to innovation is commonly known as open innovation (Chesbrough, 2003). In this perspective, startups can be a resourceful partner, especially when looking for radical innovations and new technologies (Jackson and Richter, 2017). When incumbent and startups join together in innovation activities, the startup gains access to the incumbent's financial resources and broader knowledge base (O'Connor, 2006), a brand boost (Eisenhardt and Schoonhoven, 1996), while the incumbent can improve its own innovation performances thanks to startup's agility (Hogenhuis et al., 2016). However, integration problems could arise (Das and He, 2006). About this, complementary resources and knowledge are key requirements (Miotti and Sachwald, 2003). These requirements are very difficult to achieve because the partners tend to have different organizations, stakeholder goals and cultures (Hogenhuis et al., 2016). Moreover, the larger open innovation partners can face the problem of overly scattered attention, which can lead to a lack of commitment and resources. The results show that these

problems are less present in companies where positions with open innovation as the primary focus of the job description exist. In many companies, it is not possible to define jobs that are entirely devoted to open innovation. However, even partly separating individuals involved in open innovation projects from routine tasks and daily business can help to establish better working processes for these projects. Traditional models of engaging with startups through equity can be considered, according to Weiblen and Chesbrough (2015), Corporate Venture Capital and Corporate Incubators. In corporate venture capital, the incumbent focal firm takes equity stakes in promising external investments in order to have a look on interesting technologies and markets. Its most common implementation form is as a separate entity funded by the incumbent firm. This in order to guarantee the flexibility and speed required by its managers to successfully operate in the fast-moving venture capital world. At the same time, however, CVC entities should not only pursue financial performance, but also act keeping into consideration their corporate parent's strategic goals (e.g., by backing startups making complementary products and services). Such a relationship with the focal firm takes some risk for the startups engaged. While the large firm's capital and market knowledge can facilitate the startup, its ability to pivot and collaborate with or exit to competitors could be limited or forbidden by the focal firm. Nothelsess, the corporate investor could have a hidden agenda that contradicts the startup's goals, and corporate agendas can change over time as well. On the other hand, however, corporate backing might increase the credibility of the startup in the market or provide access to experts and specialized equipment, even better if these are complementary assets.

Corporate Incubators have emerged as a means to bring ventures that do not fit with the current core business or business model of the focal company to market as new companies. Like independent incubators, corporate one provide venture with space, funding, industry experts and contacts. The objective is to give them a startup-like environment in which they can grow better than in the parent organization, often so slow and bureaucratic. If successful, the spin-off will be able to go independently as a startup or be re-integrated as a corporate division. Corporate incubators, like the 'traditional' one, have been associated with increased probability of survival and higher growth. On the other hand, there is a risk that the parent company could provide more funding than it could be considered 'reasonable', keeping the spin-off alive even when it would be better to unplug it. Further, close relationships to the parent company could

prevent startups from pursuing partnerships with competitors of the mother company or developing products that could cannibalize those of it.

There are also new models of engaging with startups, also according to Weiblen and Chesbrough, Startup Programs and Platform Startup Programs. These new models are different from traditional models in that equity stakes are not usually involved. In addition, these programs are structured to allow the focal firm to engage with a larger number of startups, at the expense of the economies of scope and a less suited approach for any single startup. The programs are designed in order to complement the existing startup support ecosystem and do not provide incubation or acceleration services. This 'lighter' approach lets incumbents move faster working with startup firms. Startup Programs serve to make existing startups' technology accessible and integrable with the sponsor while Platforms serve to promote the use by other businesses of the corporation's technical platform in developing technologies and products.

In Startup Programs, the focus is on enabling multiple startups to elaborate and deliver their technologies and product keeping in consideration their use by the sponsoring company. The focal company profits on having an edge over its competitors and can profit from external innovation. The format allows the corporation to pursue multiple interesting projects in parallel via each of the many startup companies it works with, which leads to faster learning on both sides and a more wide exploration capability for the sponsoring corporation than it could archive with its own internal R&D resources. Platform Startup Programs try instead of integrating startups with the corporate's platform as technology suppliers. In the platform model, the goal is to make startups develop their product using the same technologies that the incumbent uses for it, so integration is easier as the focal firm can expand its market more efficiently. The startups, on the other hand, can accelerate their product development activities and have access to key and costly technologies.

Finally, the study shows the many different goals behind the different models described above, illustrated by the exhibits below.

EXHIBIT 2. Typology of Corporate Engagement Models with Startups and Their Key Goals

Equity Involvement	Direction of Innovation Flow: Outside-In	Direction of Innovation Flow: Inside-Out
Yes	**Coporate Venturing** Participate in the success of external innovation and gain strategic insights into non-core markets.	**Corporate Incubation** Provide a viable path to market for promising corporate non-core innovations.
No	**Startup Program (Outside-In)** Insource external innovation to stimulate and generate corporate innovation.	**Startup Program (Platform)** Spur complementary external innovation to push an existing corporate innovation (the platform).

Fig 5: Typology of Corporate Engagement Models (Weiblen, T., & Chesbrough, H. W., 2015)

2.2 A Closer Look on Venture Capital

This section aims to provide an understanding of the selection, evaluation and post-investment stages in Venture Capital.

2.2.1 Startup Selection and Evaluation

In terms of deal flow sources, Cooper (1985) shows that 60% to 70% of entrepreneurs founded a venture in a field in which they had previously been employed. Gompers (2005) also finds that a significant portion of these entrepreneurs implemented ideas emerged during their prior work experience. Findings by Bengtsson (2013) show that one in ten investments leads to a repeat investment with the same entrepreneur, and that one in three entrepreneurs receives a second funding source for a different venture.

Gompers et al. (2008) investigates the role of network among Venture Capital firms (VCs), highlighting its importance especially for industry-focused funds where stronger contacts are crucial. However, as shown by Ruhnka and Young (1991), VCs could use their network more as a source of information than investment opportunities, due to the

high risk connected with their activities, where information - especially financial – is often very scarce. Norton and Tenenbaum (1992), moreover, note that VCs objective to reduce risk in their portfolio is aimed at building a reputation that will enable them to enter such networks.

When it comes to venture selection, Tyebjee and Bruno (1984) find that VCs, in order to limit the number of ventures in their usually set minimum and maximum investment amount. Moreover, VCs are usually familiar with the industry. Gupta and Sapienza (1992) found that VCs focusing on early stage ventures have a narrower scope in terms of industries and also they choose to invest locally. In terms of risks, VC evaluate managerial capabilities and environmental threat, while in terms of expected rate of return, they look at market attractiveness and product differentiation. MacMillan et al. (1985) decompose the risk component in six aspects: the risk of the investment failing, the risk of not being able to divest, the risk of failure to implement, the risk of competition, the risk of management failure and finally the risk of leadership failure. Regarding these six risks, the authors identify three types of VCs. The first group is more concerned on competition and implementation. The second focuses on the ability to exit the investment. The third and last group focuses broadly on all the six. Ruhnka and Young (1991) found they are closely linked with the stage of the investment, namely seed stage, start-up stage, implementation stage and competitive stage. During the seed-stage, VCs look at market potential and product feasibility. In more mature stages, they consider the risk of not reaching a market share large enough to ensure economic sustainability to be the major risk. In the implementation stage, there is rsk of bad management, especially in financial control activities and facing competition. The fourth stage is concerned with increasing sales or market share.

In the European context, Knockaert et al. (2010) place venture capital investors in three groups depending on the fact they put emphasis on a proprietary technology, a well-composed team of entrepreneurs or financial aspects. Also the background of the fund managers is very important. In fact, managers with academic experience are more likely to look first at technology, while financial professionals place more importance on people.

Finally, an attempt has been made in understanding how VCs “predict” success or failure in startups during the evaluation. MacMillan et al. (1987) finds that success is a matter of protection from competition and product-market fit. In particular, screening criteria all revolve around the ability and experience of the team in facing competition,

especially if their product is the right one, but difficult to "protect", for instance, from copy-cats made by competitors.

2.2.2 Post-Investment Behavior

Hellmann (1998) found that VCs seek to employ CEOs who they think are better suited for the startup and capable of adding more value to it. The main result is that the lower the equity share and the more wealth-constrained the venture is, the more investor control the VCs will exercise. Hellmann (2006) shows that VCs tend to prefer acquisitions over IPOs because more cash flow rights go to tem during an acquisition than during an IPO.

Lerner's (1995) first indicated that when the CEO of the venture changes, VC board representation increases. The "quality" of the venture capital firm is also important in determining how much the advice is kept in consideration by CEOs, in fact, these advice are ranked as indifferent compared with that of outside board members.

Moreover, Gray and Nattrass (1993) report that in more than 75% of the start-ups, VCs replace the CEO within 18 months from their investment, and the change is not always consensual (Hellmann and Puri, 2002). The help provided by VC board members is more influential and has a greater impact in early-stage start-ups, in particular when concerning financial and managerial monitoring, recruiting and board decisions, personnel appointments, incentive schemes and executive compensation, with the effects being more marked as the funding amount increases. These findings are not confirmed in a European context, where the funding amount only influences CEO hiring and the venture's investment planning.

Gorman and Sahlman (1989) found that VCs spend 100 hours on average per year communicating with their investors. Hellmann (1994) notes that, unless the VC takes a considerable stake in the venture, they usually provide staged financing in order to "wait and see" considering the option to exit at any stage, this method can produce short-termism from the entrepreneur.

Bottazzi et al. (2008) also identify some of these behavioral traits and assess their effect on venture performance. They find that the portfolio company's performance is higher when the VC is involved in selecting senior management, hiring outside directors, and raising additional capital for the venture. Interestingly, regular communication between

the firm and the VC does not contribute to better performance. This, the authors explain, is probably because communication is passive, whereas acquiring personnel and hands-on aiding the venture are active by nature.

Audretsch and Lehmann (2004) show that VC-backed startups perform better than non-VC-backed ventures, even post-IPO. Puri and Zarutskie (2012) show that the failure rate of VC-backed startups is lower than non-VC-backed but these firms, although they scale more, are not more profitable at exit than non-VC-backed firms.

2.2.3 Impact

When assessing the influence that traditional VC funding has on a venture's ability to succeed, Dutta & Folta (2016) highlight three broad streams of research that explain the relationship and role that this type of financing plays in adding value to the firm. The first area of research suggests that the VC firm serves as a 'quality signal and information intermediary'. The involvement of VC funding not only provides capital in the form of cash, but also brings with it an extended network of industry information and contacts that are invaluable for early stage startups in getting opportunities within an industry (Dutta & Folta 2016). In addition to the valuable networks that VC investors bring to their investments, their involvement in a project also serves as an endorsement which is claimed to improve the chances of the venture attracting partnerships as well as human capital (Hsu 2006). Finally, VCs also function as information intermediaries, who are able to provide their investments with privileged industry information access during the process of searching for resource partners, enabling the venture to form stronger strategic alliances (Gans et al 2002). The second area of research by Dutta & Folta (2016) suggests that the involvement of VC's provides ventures with a higher and more structured level of governance through structured contract covenants as well as board membership, which allows for a greater level of monitoring the activities of the firm. Baum & Silverman (2004) highlight that this increased influence and involvement by the VC is beneficial to the venture as they provide 'business intelligence', which can improve the startups core business functions, as well as increasing the chances of identifying the potential threats as well as opportunities in the business environment, to a greater degree than the original founders of the venture.

The final area of research by Dutta & Folta (2016:42) is in the VC's role as a financial intermediary, where the authors claim that the ventures capability and speed to innovate is positively influenced by the fact that VC's are exit driven within a specific timeframe. As the business model of the traditional VC is derived from generating a specific return, usually in a specific timeframe, this time orientated approach is claimed to 'expedite' the innovation and development capability of the venture, by 'spurring' innovation intensity and reducing the commercialization time of the startups innovations (Dutta & Folta 2016: 43). However, although some evidence shows that the nature of this relationship between the VC fund and the venture may indeed influence the launch time of a venture, more current trends in research reveal that this approach has led to a situation where VC financing, especially in tech startups, has created a model of 'extreme growth' which has some serious implications for young ventures (Paley 2017). There is, however, evidence that startups receiving venture capital (VC) perform better than non-VC-backed startups across employee and sales growth (e.g., Bertoni et al. 2011; Engel and Keilbach 2007). The better performance of VC-backed companies has been attributed to the effect of selection criteria defined by VCs; the financial resources provided, which enable investment opportunities necessary to power the growth of the venture (Bertoni et al. 2010, 2013) and services like mentorship, networking, and signaling. In their work, Quas et al. (2020) have focused on this third contribution of VC, referred to as "the ability to add non-financial resources"; in the literature usually called the VCs` "non-financial value added". A lot of research effort has been made (e.g., Baum and Silverman 2004; Chemmanur et al. 2011) to quantify how much of the improved performance of VC-backed startups is due to the fact that VCs are good in picking winners, or to the direct effect of VC involvement and support. The VC contribution in adding non-financial resources is hugely documented in literature (Large and Muegge 2008). Most of these papers are based on the American VC market, which is a lot more developed with respect to the rest of the world. For instance, Sørensen (2007) highlights that experienced VCs not only select startups that grow more, but also increase startups' probability to go public. Chemmanur et al. (2011) shows the efficiency improvement in startups monitored by VCs. Bernstein et al. (2016) find that when the introduction of a new airplane connection makes it easier for VCs to visit their investees, the startups' performance improves. Hsu (2004) has proved that founders are willing to leave more equity to reputed VCs. However, Proksch et al. (2017) highlight that value-adding activities are diverse and highly complex, and thus depending on

context and environment. Croce et al. (2013), although the evidence on the existence of non-financial value of VC in Europe is limited, analyze the effect of the non-financial resources added by European VCs on startups performance by means of the total factor productivity. In the research it is claimed that total factor productivity is solely influenced by non-financial resources, accounting for financial resources is by the increase in cash and employees. However, Quas et al. (2020) argue that the financial injection could also be used by startups to improve their efficiency, not only by increasing production factors, but also by acquiring better technologies or improving the quality of their human resources, like engineers and managers. Thus, they consider total factor productivity the wrong measure to isolate the non-financial contribution added by VCs. Also Quas et al. (2020) note that existing literature clearly shows that non-financial resources added by VCs are real. However, their impact on startups performance has not yet been directly quantified. Moreover, non-financial support is specific to VC and deals, and almost totally absent in other traditional financial institutions. Quas et al. (2020) have proposed an interesting approach in order to identify non-financial contribution, isolating it from purely financial resources added by VCs. Specifically, instead of the common approach of comparing the performances of VC-backed startups with those of ventures that did not raise any external funding (for instance, Engel and Keilbach 2007), they compared them with private equity (PE)-backed ventures, in order order to identify what is "special" in the VC approach beyond pure money, compared with other financing actors. They took a representative sample of Spanish startups receiving VC and PEs between 2005 and 2013. Quas et al. (2020) considered two characteristics of VCs approach: experience and portfolio management strategy. Researchers found that most-experienced VC firms are better able to give a decisive contribution to startup growth. However, the research has underlined that the quality of the coaching and monitoring function largely exceeds the number of managers dedicated to mentor and support portfolio startups. Thus, the results imply that VCs' experience (Clarysse et al. 2013) and portfolio management strategy (Balboa and Martí 2007; Cumming 2006) clearly influence the ability of VC firm to add a non-financial contribute and not only their efficiency in deal and startup selection (Sørensen 2007).

Chen and Lang (2016) have examined the operating performance of VC-backed ventures after their initial public offering (IPO). The assistance of VC appears to enhance IPO firm performance by certifying and monitoring the firms across all their

processes (Brav & Gompers, 1997; Jain & Kini, 1995, 2000; Lam, 1991; Megginson & Weiss, 1991; Morsfield & Tan, 2006; Sahlman, 1990). However, several studies exploring IPOs outside the U.S. find that VC backed firms do not experience better performance than non-VC backed firms (Coakley, Hadass, & Wood, 2007; Hamao, Packer, & Ritter, 2000; Rindermann, 2004; Wang, Wang, & Lu, 2003). Three possible explanations are suggested in these papers. First, the conflicting findings may be explained by the heterogeneity of venture capitalists in different countries. For example, VCs in the UK market do not strongly focus on firms in the high technology industry as they do in the U.S. Second, the underperformance may be driven by a hot market in which low quality firms take advantage of investor sentiment to go public. Third, young VC firms want to enhance their reputations and thus are more likely to conduct IPOs prematurely even though these IPO firms may not be ready to do so (Gompers, 1996; Lee & Wahal, 2004; Rindermann, 2004). Admati and Pfleiderer (1994) argue also that the staged financing of firms may result in overinvestment problems. Given that staged financing is often used in VC backed IPOs, it can be expected that these VC backed IPOs are more likely to overinvest in order to obtain more external financing. Moreover, managers with high excess cash tend to invest it wastefully rather than pay it out to shareholders (Jensen, 1986; Richardson, 2006). Gompers and Lerner (2000) find that a surge of money entered the VC industry after the 1990s and argue that there is too much money chasing too few worthy projects. Substantial capital from both VC backing and going public may make managers of VC backed IPOs less prudent in their investments. Using 3,771 US IPOs, including 1,591 VC backed IPOs and 2,180 non-VC backed IPOs, from 1970 to 2007, Chen and Lang (2016) found that VC backed firms experience operating performance inferior to that of non-VC backed firms across a variety of measures. They further compare the operating performance of VC backed IPOs with that of non-VC backed IPOs, sorted by excess cash and investment opportunity, finding that the operating performance of VC backed IPOs is significantly inferior to that of non-VC backed IPOs when the excess cash is higher and the growth opportunity is smaller. This result is consistent with the findings of Freund, Prezas, and Vasudevan (2003) who argue that the negative relation between operating performance and free cash flow is stronger for firms with fewer growth opportunities.

In conclusion, it can be stated that VC's business model of rapid growth within a short timeframe, could be not compatible with that of the startup, and a misalignment of vision can potentially lead to the disaster situation where the venture founders and the

board disagree on the strategy or direction of the venture. This situation, one in which Paley (2017) describes VC influence as ‘toxic’ to the startup, can occur in situations where performance measuring metrics required by the VC firm and the startup, differ on fundamental levels, where VC firms measure performance usually based on financial/revenue metrics, whereas many promising startups in early stages rely on other usually more qualitative metrics, or financial metrics such as ‘burn rates’, which better depict the performance of the venture in the early stages. The misalignment of performance metrics between investors and investees has the potential to lead to situations where management of the ventures get a kind of ‘tunnel vision’ in regards to directing the strategy of the venture that promotes these misleading KPI’s.

2.3 Startup Studios

We have just analyzed the “traditional” actors of the startup and entrepreneurial ecosystem and focused our attention on how venture capital firms work with their investees. All these actors were defined and briefly discussed, which allowed us to point out their main differences. In this part, the startup studio model will be discussed in depht. Startup Studios, also referred to as ‘company builders’, ‘start-up factories’ and ‘venture builders’ are *companies that create start-ups, repeatedly, by providing human and financial capital* (Baumann et al., 2018), operating in the early-stage phase, a crowded space characterized by the highest uncertainty.
This analysis is intended to be descriptive, and will be done in three parts: emergence, description and impact.

2.3.1 Emergence

In the literature, the American studio Idealab, created in 1996 by Bill Gross, is widely considered to be the pioneer of the startup studio model (Ehrhardt, 2018; Lawrence et al., 2019; Scheuplein & Kahl, 2017; Szigeti, 2019). Idealab, for a decade, laid the foundations for a model that, at that time, was not considered to be an integral part of the startup ecosystem. It will take 11 years for the model to see the first wave of new startup studios.
Lawrence et al. (2019) identified three distinct waves. The first came in 2007 and was carried by less than ten studios. The three most big of them are Betaworks, goKart Labs (now part of the consulting firm West Monroe) and Rocket Internet (Caillard, 2018). In the second wave, in 2013, there were approximately 80 studios including Sciences Inc. and eFounders, both established in 2011 (eFounders, 2020; Science Inc., 2020). The last wave, attributed to 2018, would list more than 200 startup studios. In a report published in May 2019, the startup studio Sparkling Partners argued that in 2007, the total number of startup studios was only 1% of the total number of incubators and accelerators (Sparkling Partners, 2019). This percentage has been equal to 8% for the year 2018. It is interesting to note that between 2013 and 2018, the biggest increase had been in Europe, where there was approximately half of existing startup studios (Montgomery,

2017). In view of this considerable growth, it is legitimate to question the reasons for it. Lawrence et al. (2019) identify four factors that could explain this growth in interest.

First, studios are exiting an increasing number of startups and this is helping to raise awareness of their existence, thanks to the media coverage derived from those exits. Looking at data provided by CB Insights and Crunchbase, the first ten startup studios for deals number have exited more than 180 ventures. The community aspect is also to be taken into account to explain the emergence of studios. Like the Global Startup Studio Network - GSSN - created in 2018 which aims to bring together all the studios under one community, there are more and more initiatives to create a community in order to offer mutual resonance. In parallel, there are also more and more articles and papers on the subjects (Lawrence et al., 2019).

Finally, one of the reasons for the growing interest in the startup studio model is due to the too high failure rate of the current ecosystem, notoriously equal to 10% (Kotsch, 2017; Szigeti, 2019; von Windheim, 2020). Therefore, it seems logical that a model which ensures a certain stability in this perilous exercise, is more and more considered.

According to Diallo (2015), the growth of such a model finds its explanation in the advent of the sharing economy that has redefined society's access to resources. Startup studios bring together the necessary resources within the right environment to build a startup. Below an idea of the distribution of startup studios around the world. We can note that the United States and Europe share almost all existing studios.

Fig. 6: World Map of Startup Studios (Enhance Ventures, 2020)

Estimates on the emergence of this model in the coming years predict continuous growth across the world (Alvarenga et al., 2019; Diallo, 2015; Gutmann et al., al., 2017; Szigeti, 2019). Lawrence et al. (2019) go so far as to estimate that the total number of studios could be tripled by 2023. However, while traditional incubators and accelerators are seeing several thousands of startups per year, studios still only create a few hundred startups per year (Caillard, 2018).

The principle at the base of startup studios is continuous creation of new ventures. A consequence of this is that the more startups the studios will build, the more they will acquire experience and, ultimately, the cost of launching a new startup will decline (akin to the principle of economy of scale). In this way, over time, startup studios will speed up its creative process and will gain a comparative advantage over the entrepreneur wanting to go alone.

But who founds a startup studio? Traditionally, studios are created by entrepreneurs with a lot of experience (Szigeti, 2019). To prove this statement, it is possible to take several existing examples: founders of the San Francisco-based Obvious Corp. studio, Ev Williams and Biz Stone, are both co-founders of Twitter (Rao, 2013). Same kind of experience for Mike Jones and Peter Pham, founders of Science Inc.. The first was a business angel and invested in many startups (Jones, 2020), the second worked in different incubators and is notably the co-creator of the startup Color (Pham, 2020). Thibaud Elzière, co-founder of the startup studio eFounders, among many, created in 2005 the startup Fotolia (eFounders, 2020). The founder of Studio Expa, Garrett Camp, is an Uber co-founder (Ha, 2014). The three Samwer brothers (Marc, Oliver and Alexander) all set up successful ventures and invested very early on startups such as Facebook or LinkedIn before founding the giant Rocket Internet (Baumann et al., 2018). Bill Gross before founding Idealab in 1996, had launched several successful startups including Loudspeakers and Knowledge Adventure (Farmer et al., 2004). Even if the entrepreneurial experience is not presented as a necessary condition, it still seems very important, in view of the examples above. Szigeti (2019) argues that previous entrepreneurial experience of the founders leads two considerable advantages. First, it allows a certain quality in the expertise provided by the founder. Second, it helps attract capital more easily. Indeed, a founder with experience will have a credibility that can be used as an argument to convince investors, and therefore to raise more money faster.

However, it should also be noted that there are not only studios founded by individuals: there are also studios launched by companies. We will see this in more detail in the next paragraph.

2.3.1 Description

Characteristics

First, capital. Szigeti (2019) identifies five existing sources to bring capital to the creation of a studio: the founders of a studio may be able to bring in the initial funding for the studio on their own through their entrepreneurial previous ventures (I). Venture capital companies and funds could provide it (II): by definition, venture capital funds are very close to the start-up studio model since they all act two in an early-stage. Therefore, it is obvious that a venture capital fund is interested in investing in a studio. The difficulty lies in the credibility of the studio, and of its founders. Indeed, given that the startup studio model is still little known, these funds will be more reluctant to invest. It was then up to the founders to prove the effectiveness of their studio. Startup studios can be found by companies (III): this is the case of studios which are launched by large incumbents. The goal here is to create startups that generate innovation in the industry of the company who has founded (and funded). Business Angels and other private investors (IV): from an investor perspective, the startup studio model is attractive for two reasons. Firstly, the share of capital is greater than for a traditional investment. Secondly, the risk is more diversified given that the studio's vocation is to create several startups in the chain. Finally, a studio could be bootstrapped (V).

In terms of financing structure to be adopted, Lawrence et al. (2019) and Nickmans (2019) identify two possible structures for a studio: the corporate entity method, and the sidecar fund method.

The corporate entity refers to the fact that the studio is created by its own means. He acts autonomously by raising the necessary funds himself to finance all operations, run the studio and the startups within it. The returns on investment belong to the studio.

Investing in a studio represents an opportunity for investors. Given that the studio itself invests in several startups, this offers a greater diversification for the studio's investors and, ultimately, a consequent reduction in risk (Szigeti, 2019). The amount of capital provided by the studio to startups is a component that varies also from studio to studio.

However, through its study based on 23 startups studios around the world (10 American studios and 13 others), the GSSN estimates that the capital average contribution per studio to each startup is around $ 232,000 (GSSN, 2020). The studio's annual budget would be $ 2,273,000. Regarding the income structure, it represents a dilemma for the studio. Be the studio opts for a quick exit in order to generate cash quickly, either the studio is placed on a long-term vision and keep the startup within it as long as possible in order to generate more returns on investment (Caillard, 2018; Szigeti, 2019).

Set up the studio, most of them get their ideas internally, but there are also studios that accept external ideas (Alvarenga et al., 2019; Gutmann, 2019; Szigeti, 2019). If the studio only focuses on internally generated ideas, it will mainly depend on the personal background and the convictions of the founders and the team (Caillard, 2018). If the studio turns to outside ideas, it will be about being open to proposals from entrepreneurs who are not members of the studio. In what concerns startup studios founded by companies, they mainly meet the needs of or problems related to the market in which the company operates (Lawrence et al., 2019). As an example, we can take Idealab which relies on three sources of idea creation: its founder Bill Gross, members of the studio team, and sometimes entrepreneurs outside the studio (Farmer et al., 2004). Regarding the type of ideas, the studios generally focus on market studies targeting needs or opportunities in order to create their startups (eFounders, 2015; Meijer, 2019). Most studios are targeting a specific industry at the image of Rocket Internet, eFounders or even Make It which respectively create start-up in e-commerce, SaaS (software as a service) and internet items.

From an operational point of view, developing a startup requires a multitude of skills. Therefore, for a studio to function, the team must be multidisciplinary. This is why building up the studio team is a real challenge (Szigeti, 2019). Also according to Bill Gross, (Farmer et al., 2004), founder of Idealab, startups need 4 different people profiles in order to be successful: the entrepreneur, the producer, the administrator and the integrator. Even though her statement dates back to 2004, she is still topical. The entrepreneur generates ideas and brings them a long-term vision. It also allows the ship afloat in stormy weather. The producer is like an engineer who turns ideas into products. The administrator makes it possible to put in place procedures and a solid structure within the studio. The role of the integrator is to take all the pieces of the puzzle brought in by the team, and put it in order. Szigeti (2019) identifies three strategies regarding the attribution of the studio team to incubated startups. There is the case of studios which

appoint a specialized team for each startup, the studios which centralize certain resources and which slowly initiate the recruiting of an external CEO and CTO, and others who work with a team fully central that is not attributed to a specific startup. In the latter case, only an external CEO is selected for the startup.

Regarding the type of remuneration awarded to the studio team and talents recruited for startups, studios provide most of the time a competitive salary (Szigeti, 2019). This allows you to have a certain comfort that an entrepreneur would not have in launching alone in the creation of a startup (eFounders, 2015).

We have seen it previously, from an operational point of view, startup studios go much deeper than other forms of incubation. In other words, they offer an "all-in-one" pack to the startups they incubate. Among other things, they mobilize the capital / human resources, develop the business model, build and refine the minimum viable product - or more commonly known as MVP, recruit managers of development, and take care of the marketing aspect (Caillard, 2018; Diallo, 2015; Szigeti, 2019). The operational process of a startup studio is defined as follows:

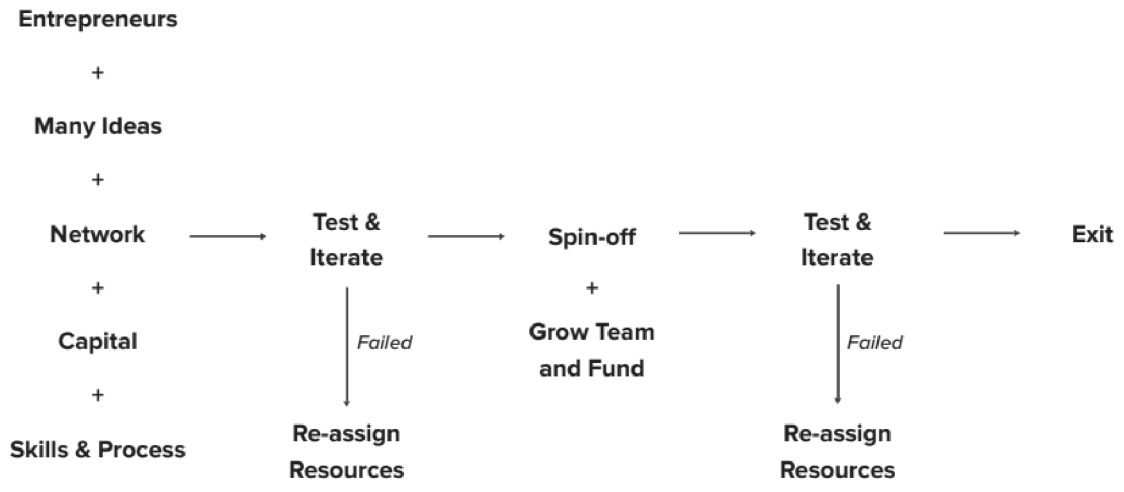

Fig. 7: Startup Studios' Operational Model (Lawrence & Al., 2019)

As illustrated in the diagram above, the operational aspect that best defines the startup studio model is the principle of repetition. To do this, the startup studios are based on the famous lean startup method which consists, among other things, of a process of iterative testing (Hwang & Shin, 2019). This method, widely used by startups, is articulated differently within the studio as it is applied on a portfolio, instead of a single

startup. This would make the iteration process more efficient according to Lawrence et al. (2019).

At a first sight, startup studios can appear similar to accelerators due to the fact that they take equity in portfolio companies, providing mentorship and networking (Baumann et al., 2018). However, startup studios tend to actively collaborate with an entrepreneur at the venture (Baumann et al., 2018). Mindset and intentions of the startup studio and accelerators seems also to differ. Accelerators have been criticised for living on the fees paid by small companies instead of make them grow (Miller & Bound, 2011). Startup studios seem to have more interest in scaling a business over a lengthier period of time as they hold a larger equity position (Kreusel, Roth & Brem, 2018). Startup studios are built around multi-disciplinary teams that provide support to startup teams. This opens the door to significant synergies, both in sharing industry knowledge and customers, and in sharing costs through human resource pooling and learning economies. Some projects are also aimed at developing technology that may be used by other studio start-ups.

Another key element of the startup studio is its attitude towards risk. Traditional VCs has traditionally relied on a few successful investments in order to repay the money "lost" in the others while startup studios are usually willing to pivot and redistribute resources (including teams) between ideas, this is a good way to attract entrepreneurs that may not be fully committed to develop a single idea (as would be the case in VC), but are rather looking for broad exposure to entrepreneurship.

Compared to corporate accelerators and incubators, startup studios again appear to be less risk-averse. It is true that corporate accelerators often provide incentives for employees to develop their ideas, while keeping their contracts on hold with possibility to return to the position should the venture fail, however, they only provide venture funding against strictly defined milestones.

Startup studios also differ in terms of typical deal size and invest significantly more time and resources in their ventures than the other players. The reasons are, first, the fact that they invest heavily in early-stage ideation, for instance screening patents, brainstorming with founders, shaping the business model, and seeking partners. Moreover, they could shape the founding team and choose the CEO or fully incubate in-house the idea and then entrust a management team sourced from the startup studio's network. The table below shows at a glance the key differences between the models.

	Start-up Studio	Accelerator	VCs
# of start-ups / year	2 – 4	10 – 20 & more	5 - 10
Maturity of projects	Idea	Development	Commercialization
Duration of relationship	3 – 7 y	3 - 12 months	2 – 3 y
Formatted programs	-	++	+
Level of staff support	++	+	-
Relationship with the managers	++	+	+
Size of internal team	++	+	-
Ecosystem and network effect	++	+	+
Average equity investment	100 – 600 k€	20 – 100 k€	> 500 k€ -1M€
Initial level of capital ownership	++	-	+
Level of specialisation	Strong	Weak	Medium

Fig. 8: From "The Rise of Startup Studio", published by the Global Startup Studio Network in March 2019

The studio model differs from accelerators and incubators also in the share of capital it retains in the startups it develops (Rao, 2013; Szigeti, 2019). This acquisition of a stake in the startup capital differs greatly from one studio to another. The Global Startup Studio Network has carried out a study on 23 startup studios around the world, and found that these studios take on average 36% of the capital of developed startups (GSSN, 2020). However, this equity participation can reach very high levels like that of Rocket Internet which can reach 95% in some cases (Baumann et al., 2018; Raynal, 2015).

This considerable hold in capital is partly explained by the fact that the costs required in the creation of a startup are high (Scheuplein & Kahl, 2017). It also implies that the relationship between the startup and the studio continues over time.

Models

The first case to be studied in depth had been that of Idealab, by Farmer, Gong, Munõz, and Wong (2004). In 1996, Idealab aimed to provide three essential elements to startups: substantial funding for operations, access to consultancy for technical experts, as well as continuous support in all the tasks of the startup. On top of that, Bill Gross was (and is) surrounded by a network of engineers, entrepreneurs, scientists, and researchers to assess and optimize startup technology, as well as reduce the time and

cost of their development. The big key distinguishing characteristic of Idealab that differentiated it from all other kinds of support services providers at the time, was the fact that he operated (and currently operates) in the very early stages of a startup, even before that the product and the market are defined. It was about testing and confronting several ideas internally in order to choose the most promising. Then, a team was recruited with a mission to transform this idea into a startup first, and then to develop this startup within the studio. In return for all the help we have described above, to which also were added office space and administrative assistance, Idealab takes a share in the capital of the startup, hoping that it will be a great success in the future.

In any case, Idealab's goal is for startups to be able to walk on their own legs as soon as possible. When they’re able to do so, Idealab spun-off the venture.

However, Idealab keeps a stake in these startups. In its early days, Idealab created one startup per month focusing on quantity over quality. Quickly, the studio changed its strategy by placing more importance on research, selection of ideas and quality of development. Therefore, the studio slowed down the rate to a number of around four startups per year. By this strategic adjustment, the studio wanted to create more ambitious startups, with better premises, and having a more significant impact (Supplyframe, 2018). Today, Idealab is still present and continues to be an important player among startup studios. Since its creation in 1996, the company has created more than 150 startups, including almost a third who have experienced an initial public offering (IPO) or acquisition (Idealab, 2020).Startup studios provide a multidisciplinary and operational support system for idea generation, startup growth and team development.

However, there’s not an unique way for them to operate, some, for instance, have a very strong technical know-how while others leverage on financial and back-office support. To deliver their support activities, start-up studios with internal teams provide certain levels of support while others are leveraged on partners through their network. For the technical aspects, for example, some internalise know-how and development activities, while other start-up studios rely on external suppliers and design professionals. Relationships between startups and studios last very long on average, often several years from the generation of the idea to the exit of the startup. To ensure high performances and efficiency within their operational teams, start-up studios mostly specialise in a single industry. The multidisciplinary nature of the support provided makes necessary a very close relationship with startups’ CEOs.

They leverage standardised processes available for all portfolio companies, therefore allowing them to setup and execute faster and reduce risk (Baumann et al., 2018), so they are in the right position to capitalise on the enhanced opportunity recognition capabilities which arise from prior start-up experience (Politis, 2005).

A single typology that would encompass all forms of startup studios is very complex to set up as the studios are articulated in different ways as they see fit seems (Gutmann, 2019). Based on literature currently available, it is possible to identify some recurrent typologies of startup studios (Alpha, 2020; Carter, 2017; Gutmann, 2019; Lawrence et al., 2019; Mocker & Murphy, 2014; Saba, 2014; Sparkling Partners, 2019). It is clear that some studios do not fit in any of the following models, others mix several models. Others still evolve from one model to another over time.

The first mobel identified is the so-called “classic” model (Gutmann, 2019). Startup studios that follow this model are founded by successful entrepreneurs, create a startup based on an idea most often internal to the studio, and then developed by an internal team. As the progress progresses, external resources are attributed to the startup. The studio is both the creator and co-developer of the project. This is the model that first emerged and is the most popular to date.

Other studios will grab an outside project which is in the early-stage phase, invest in it and move resources to develop it. When it joins the studio, the startup has already been founded, defined its product but not completely fitted it with the market. This type of studio is very close to the venture capital model.

Studios created by an entity such as a university, venture capital fund, or business may differ depending on the type of entity who funds them. Szigeti (2019) emphasizes the importance of maintaining an excellent communication between the parent entity and the studio in order to collaborate efficiently. The interest for universities is in doing research and generating knowledge through the startups created. Recently acquired patents or new results from research within the university are then the sources of idea generation for the studio (Bariller, van Verseveld, Locke, Wyma, & Spirov, 2018). Regarding venture capital firms, starting their own studio allows them to integrate the creation process and no longer settle for investing in early-stage startups. In other words, it allows venture capital firms to no longer stay on the surface by acting only on the investment. In addition, a studio decreases the risk investment given that the portfolio is diversified. The venture capital firm will usually provide itself the capital for setting up the studio. For a large company, it makes a lot of sense to launch his own

studio; there's enough money to provide sufficient funding, knowledge of the industry as well as an important network to support the startups created (Szigeti, 2019). There are two main reasons for an incumbent to launch its own startup studio and make a significant investment (Caillard, 2018; Kullik et al., 2018; Szigeti, 2019): First, the studio will be able to evolve and create startups in an independent way, which is much faster than generating innovation within the parent company. Indeed, there are many challenges within a large company, which can fundamentally slow the speed of innovation. In addition, in terms of reputation, it is better for startups to fail in a studio outside the company than within this business. Second, it seems to be much cheaper to create a separate entity and develop innovation, than having to bear the internal costs generated through internal innovation. The studio will build startups, some will result in a failure and others will represent an interesting innovation for the industry in which the parent company operates and will be integrated into its activity.

2.3.2 Impact

"Being part of the High Alpha platform, you have access to finance, HR, recruiting — this enabled us to focus on our early product and customers, I'm not even sure how to measure it. Having that expertise at a level that we wouldn't have prioritized as an early company helps all of us think bigger and execute more aggressively, and makes our investors feel more comfortable. If we add all of that up, it translates to speed. It lets us go far faster than we could on our own. I will never do it another way."

— Scott McCorkle, CEO, MetaCX (taken from "Disrupting the Venture Landscape", 2020)

By definition, the startup studio model is based on the idea that a team of talents is more effective in creating a startup than an individual entrepreneur. Moreover, it is not a question of forming a team that will create a single startup, but a multitude of startups. Thibaud Elzière (2015), founder of the eFounders studio, compares the human capital contribution of startup studios which he defines as the non-financial contribution made by individuals or teams, with that made by business angels, accelerators and venture capital funds. According to him, startup studios bring more human capital than the other actors of the startup ecosystem.

"Studios are not for everybody. There is no single model that works for everybody. What people don't understand about eFounders is that they are literally working right there with you. On the first day you sit down with your co-founder and on the other side of the room from you is the core team. Second, being at eFounders is different. It's not getting advice or mentorship from eFounders, but they're actually working hands-on with you to grow. eFounders takes so much time in being with you to refine your product quickly, know what your customers are saying and help you. eFounders forces and pushes its teams to work with and talk to its users, otherwise you'll be developing a product that no one wants. Just by being an eFounders company doesn't mean you are great, but there is a curiosity about your company being affiliated with the studio brand. eFounders has a great network of angels and investors which significantly simplifies the fundraising process. We were able to raise our pre-seed round in just a few days. It's important to be as efficient as possible in the fundraising process so that you can focus your time on the business."

—Alexandre Louisy, Co-Founder & CEO at Upflow (taken from "Disrupting the Venture Landscape", 2020)

Szigeti (2019) studied the question of the strengths and weaknesses of startup studios. Speaking of strengths, from an investor perspective, startup studios are very beneficial. Indeed, they allow investment to be diversified since the studio is building a varied startup portfolio over time, and therefore reduce the risk. When an entrepreneur embarks on the creation of a startup alone, if the latter fails, it most likely means the end of the game. Indeed, the resources used are lost and you have to start over. On the contrary, in a studio, failure makes part of the process and does not have a significant impact. The resources mobilized are transferred to another startup. In addition to reducing the risk for investors, the return on investment is more higher than the other models since the studio captures a considerable in the capital of the startups it develops. We have seen it previously, this part can even rise in some cases up to 95%.

"Every day I get to work with people (i.e., Science partners and employees) who have built, run, and sold companies worth hundreds of millions of dollars. Their experience in areas from design, to financing, to architecture is invaluable, and their networks are blue-chip… Equally special is getting to work side-by side with some of the best

entrepreneurs in California. Even though Science companies are separate entities, there's a wonderful, cross-pollinating effect happening everyday between them."

—Mike Dubin, Co-Founder & CEO of Dollar Shave Club (taken from "Disrupting the Venture Landscape", 2020)

In order to assess the effectiveness of the startup studio model, Szigeti compared the 21 startups from the most prolific accelerators with the 21 best startups released by a studio. He found that startups that went through an accelerator earned 105% more funds than those of the studios. However, the average growth rate of startups created by a studio is 26% higher than that of startups having transited by an accelerator. According to this study, we can state that the studio model generates high-growth startups, which makes it an effective model at first view. However, Alvarenga et al. (2019) point out that more studies of this gender in order to be able to draw conclusions about the effective effectiveness of this model. Still concerning the effectiveness of startup studios, the GSSN in its study on out of 23 American and other startup studios (2020), it appears that the average value of the portfolio reached $ 148,152,153. It is interesting to see the big difference between recently established studios and the most experienced ones. Indeed, while the portfolio of the youngest of them is worth $ 2,718,342, that of the more experienced is worth $ 210,480,929. Ultimately, studios would be intrinsically linked to job creation. Indeed, according to Scheuplein and Kahl (2017), startup studios have a significantly positive effect on growth in the employment rate. Strangely enough, such an effect could not be proven for private accelerators. The GSSN (2020) found that the 23 studios create an average of 115 jobs.

"High Alpha is really unique because they're more than just an investor. In so many ways, they're a co-founder. They, very quickly, say 'we' instead of 'you,' and 'us,' and 'our team.' Really quickly, you feel like you have this big team who's really invested in the success of your company and what you're building together."

—Paige McPheely, CEO, Base (taken from "Disrupting the Venture Landscape", 2020)

In terms of weaknesses, given the large share taken by the studio in the capital of startups, there is necessarily little capital for the team that actually develops startups. In fact, there may be problems with team motivation.

Baumann et al. (2018) qualify this statement by relying on the case of Rocket Internet. This studio can capture up to 95% of startup capital in some cases, and yet he manages to attract entrepreneurs who are willing to operate in this way. The reason would be that having a small slice of a big cake can turn out to be more interesting than having a bigger slice of a smaller cake. If the studio manages to be efficient through the resources it mobilizes, and that it manages to come out of very large prolific startups, then the studio team will be interested in staying within the studio. In view of its activity, the studio needs a lot of resources to be able to develop several startups at the same time. Therefore, the capital requirement of a studio is much higher than average. This represents a barrier considerable to the creation of a studio that will need a lot of investment to get started. Szigeti asks about a possible internal competition at the studio. What is going on when one startup shines better than another and needs more attention from the studio? The difficulty will lie in the balance to be adopted in the face of this situation. Also according to Szigeti (2019), mechanisms can be put in place to mitigate these weaknesses. First, regarding the considerable capital captured by the studio, he suggests that the latter must be very transparent, so that the teams be aware of the part taken by the studio, and ultimately, do not feel aggrieved. Secondly, still concerning the risk of the lack of motivation of the teams, Szigeti proposes that the studios remain involved in the startups even after making an exit. This will allow teams to always feel concerned, even from afar, in a startup that the studios will have created. Third, concerning a possible internal competition between startups in the studio, Szigeti argues that the studio should have clear instructions for objectives and priorities, update them constantly and of course stick to them.

"When I think about the studio services, it's more than just the back office. It's more than an outsourced vendor. High Alpha established a best-in-class foundational element, and I don't think we'd be where we are today without it."

—Eric Christopher, CEO, Zylo (taken from "Disrupting the Venture Landscape", 2020)

Regarding the exit strategy of the studios, Szigeti (2019) differentiates the strategy of short term to long term. Studios that are moving towards a short strategy term aim to rapidly develop their startups, orient them towards a profile that would be subject to rapid acquisition. The main advantage of this strategy is that the exit will bring quick money at the studio. A long-term strategy, on the contrary, will bring studios to develop its startups in a more sustained manner. The studio will work more in depth on synergy, and ensure that the startup has considerable weight in the market. The fantasy of a long-term studio is to hatch a "unicorn" startup, English term meaning a private company with a valuation of over 1 billion dollars (CB Insights, 2020). The difficulty with a long-term strategy lies in the need to support startups that will require the mobilization of resources over a long period. As pointed out by Baumann et al. (2018), some studios do not have a strategy predefined as to the desired exit. These studios are waiting for the first results before deciding which strategy to adopt, like the giant Rocket Internet. There is also the question of "after exit", or more precisely, the question of separation transition between the studio and the startup. In the literature, three approaches are presented (Baumann et al., 2018; Caillard, 2018; Diallo, 2015; Elzière, 2015; Szigeti, 2019). Some studios "drop" their startup drastically without ensuring follow-up after exit. Others remain fully active in the spin-off. Finally, other studios provide a more or less pronounced follow-up, often in the form of consultancy.

Chapter 3 – Methodology

3.1 Data Collection

3.1.1 Data Handling

Data has been collected using databases provided by CB Insights and Crunchbase – the most comprehensive database of international startups, investors, accelerators and incubators – to gather data on startup exits. The final dataset analyzed contains 186 exits for startups built or co-built by startup studios, and 607 exits from early stage venture capital firms. VC-backed startups have been selected from the exit portfolio of the first 10 VC firms for deals made and startup studio backed startups from the first 12 startup studios for deals made. The research has been conducted worldwide, nonetheless, due to the general distribution of startups, most of those analyzed are located in the United States. Dataset provides information about founding date, exit date, total amount of funding raised, information.each of the parties in the transaction, such as the location (city, district and country of incorporation), the fields of activity and valuation at the time of exit. Unfortunately, data about the prices of acquisitions is not frequently disclosed, specifically when the acquirer is a private company, it has been possible to gather information and valuation for 63 exit from startup studios and 112 exits from venture capital firms.

3.1.2 Sample Description

The selected startup studios and venture capital will be described below.

Idealab

Formerly known as idealab! and based in Pasadena, California Idealab was founded by Bill T. Gross in March 1996. Gross has an experience in founding an audio equipment

manufacturer and an educational software company, later acquired by Cendant (Wikipedia, 2020).

Betaworks

Betaworks is an American startup studio and seed stage venture capital company, founded in 2007 by John Borthwick and based in the United States. Betaworks invests in consumer and media ventures. Its hybrid investor/builder model has led to both investments in fast-growing startups like Tumblr, Airbnb, Groupon and Twitter as well as more exclusive stakes in internally built startups such as Chartbeat, Bitly and SocialFlow. Betaworks was (Wikipedia, 2020).

Rocket Internet

Rocket Internet is a German startup studio. The company has a long track record in founding successful e-commerce startups. The studio provides IT support, marketing services, access to investors and office space at its headquarters in Berlin.

In 2008, Rocket Internet founded Zalando, inspired by the American online fashion retailer Zappos.com. Rocket Internet follows the strategy of building startups on the basis of Internet-based business models that have had success abroad. According to Rocket Internet's financial statements, the company especially concentrates on eCommerce businesses (Wikipedia, 2020).

eFounders

eFounders is a startup studio located in Paris and Brussels, focused on enterprise software startups, especially Software-as-a-Service (SaaS) startups addressing an enterprise function or issue. It was founded in 2011 by Thibaud Elziere and Quentin Nickmans. Usually, the startup they found became independent within 18 months.

Entrepreneur First

Entrepreneur First proclaims itself as an international Talent Investor, as it seeks out individuals to invest in, rather than existing companies, supporting them in building technology companies. It has offices in Toronto, London, Berlin, Paris, Singapore, Hong Kong, and Bangalore. Founded in 2011 by Matthew Clifford and Alice Bentinck,

as of 2019 the company has had 1000+ founders go through its programme, creating more than 200 companies (TechCrunch, 2019).

Many candidates have post-graduate degrees in specialist areas or have hands-on experience working in tech companies. Individuals who have had successful careers in industry are also taken into consideration. Candidates usually don't already have a business idea or a team in place before applying, but are assessed exclusively on the basis of their ambition and talent (Wikipedia, 2020).

Prehype

Prehype is a venture builder that centers on building products and companies through collaboration with organizations and venture capitalists. The firm permits large companies to leverage entrepreneurship from the outside without losing the organizational domain expertise and control. Prehype has offices in New York City, London, Copenhagen, and Rio de Janeiro, and was established by Henrik Werdelin in September 2010 (Wikipedia, 2020).

Science Inc.

Science Inc. is a Los Angeles-based startup studio that creates,and invests in, startups and new ventures. Science Inc. contributes money and offers expertise to grow startups in established companies. In 2011, Michael Jones founded the company and is the current chief official officer (Los Angeles Times, 2016).

Atomic

Atomic has been founded by Peter Thiel and Marc Andreessen. They essentially conceptualize ideas internally, then seek out founders and early employees for these companies. After that, they go for larger investments from conventional venture capital firms to grow them into sustainable businesses.

Atomic has employees who handle accounting, finance, public relations and human resources for these ventures (Wikipedia, 2020).

Expa

Expa is a startup studio founded by Garrett Camp in 2013, integrating his ten years of start-up experience into a system for building new companies. Expa creates and

launches new companies, providing them with early-stage capital, office space, and technical support. Companies that partner with Expa work from locations in San Francisco, Los Angeles, New York, Vancouver and London (Computerworld, 2020).

Human Ventures

Human Ventures is a New York based venture fund and startup studio founded in 2015 by Michael Hartnett, Megan O'Connor and Joe Marchese. The firm specializes in seed-stage investments and focuses on the internet industry (Wikipedia, 2020).

Juxtapose

Juxtapose is a New York based venture fund and studio (Juxtapose, 2020).

3.2 Data Analysis

The two research variables that have been chosen are (monetary) valuation and time for exit. The reason lies in the impartiality guaranteed by these measures, as in the literature there is often a tendency to measure the performance of startups using variables usually used by a particular ecosystem actor, quite often, the same subject of the research.
Results from the analysis conducted using these two variables will be mediated using the eventuality of the use of the services provided by accelerators and incubators, the growth stage of the startups exited and finally on the basis of demographic characteristics.

3.2.1 Research Variables

Valuation

Valliere and Peterson (2007) show how, regardless of the level of experience, entrepreneurs from the USA, Canada, and the UK consider valuation as the primary discriminant for an investment deal.
The method used for the valuation of a startup can be quite decisive for the resulting valuation. In particular, the range within which a final valuation will be the object of

negotiation will be significantly affected by the method chosen (DeAngelo 1990; Wright and Robbie 1996). Thus, it should not come as a surprise that VCs apply multiple valuation methodologies and then often prioritize one particular method (Wright and Robbie 1996). Interestingly, Dittmann et al. (2004), working on a sample of German venture capital firms, show that VCs employing a large range of valuation methodologies enjoy substantially higher investments success rates. Manigart et al. (1997) and Pintado et al. (2007) among others, show that in line with finance theory, greater perceived risk prompts VCs to demand higher required returns, which should ceteris paribus lead to a lower valuation. In expansion to the over, Lockett et al. (2002), Manigart et al. (2000), and Wright et al. (2004) discover that the utilization of particular valuation strategies shifts over organization situations.

Here is a summary of the methodologies most commonly used:

- ***The real option method (ROM).*** The real option method (ROM) comes from the financial option theory made by Black & Scholes (1973), and afterward it found applications in other financial ranges (Andalib et al., 2018). Concurring to this show, managers' choices can be comparable to a financial option (put or call). Hence, the ROM is able to capture management's adaptability to adjust and reexamine afterward choices in reaction to unforeseen market developments (Wardani & Fujiwara, 2018).
- ***The Venture Capital Method.*** The venture capital method (VCM) originated in the work of Sahlman & Scherlis (1987). The VCM is inspired by the DCF method (Keeley et al., 1996). started within the work of Sahlman & Scherlis (1987). The VCM is propelled by the DCF strategy (Keeley et al., 1996). It surveys a company's value basing on the net present value of future cash flows within the most likely situation (success scenario), with a specific time-horizon and an interest rate that reflects the high investment risk (Smith et al., 2011). Compared to the DCF, the VCM takes into account the commercial risk in its valuation. The VCM calculates a startup's value by assessing future cash flows using company comparables and a market multiple approach. Then, the startup's valuation is discounted based on the investment date, using a very high discount rate
- ***The First Chicago Method.*** The name of this method comes from the first fund that used it, the Chicago Corporation. It is a model that combines elements of the expected results approach and the market-oriented approach (Hashemi,

2015). The first Chicago method (FCM) is is an advancement of the VCM, from which it contrasts by employing a lower discount rate and the terminal value is substituted by the net present value of investment calculated as the average of the startup's value in different scenarios (Majercakova & Mittelman, 2018). The peculiarity of the FCM lies in considering three conceivable scenarios (Achleitner & Lutz, 2005): the best guess‖, i.e., the foremost likely circumstance (for the most part, an halfway case), the best scenario (optimistic) and the worst scenario (pessimistic). A subjective likelihood of occurrence is assigned to every scenario (Steffens & Douglas, 2007). Finally, the FCM considers diverse scenarios, assesses the probability of occurrence for each one, and it calculates the net present value of expected cash flows, weighted by probability, using a lower discount rate than that used by the VCM.

- ***The Rule of Thirds.*** This strategy is regularly utilized by business angels to rapidly value a startup. Given its effortlessness and discretion, the rule of thirds (RoT) is considered more of a valuation screen than a genuine valuation strategy (Mothersill et al., 2009). Sperimentations show that, in general, startups are made of three parties: the founders who had the business idea and provided the initial equity, the external investors that contribute financially in exchange of equity, and the managers that run the business and eventually get shares through stock option plans (used by shareholders to motivate managers in reaching the required KPIs). In light of this and supposing that each part has one-third of total equity, the result is the RoF, according to which amid each financing round, the post-money value of a startup is equal to the triple of the equity offered during the round.
- ***The Berkus Method.*** Made by Dave Berkus in 1996, this method was modified by both Berkus and other business angels. The Berkus strategy (BM) is appropriate for a startup in a pre-revenue stage; it is the best choice for startups supposed to reach 20 million dollars in revenue within five years (Berkus, 2012). The last version of the BM identifies five common risk factors for innovative startups. Each of them is assigned a score from 0 to 0,5 million dollars (Berkus, 2016). Risk components are risk associated with the business idea, technology risk, execution risk, market risk and production risk. The maximum score of 0,5 million dollars for each risk factor means that the startup's estimated valuation cannot go above 2.5 million dollars. The BM is

valuable for focusing on a few critical variables influencing startup life and its chance of success (Payne, 2016). This strategy is considered a great complement to VCM (Kowlessar, 2016). In any case, the BM too has important limits, such as high subjectivity within the financial valuation of the five considered risk variables.

- ***The Risk Factor Summation Method.*** This method was created by Ohio TechAngels (Rahardjo & Sugiarto, 2019). In comparison with the Berkus methods, the risk factor summation strategy (RFSM) considers a larger list of variables that are critical for evaluating a startup's valuation in a pre-revenue stage (Kowlessar, 2016). The RFSM incorporates diverse exogenous risk variables that a company ought to oversee to induce a highly valued exit‖ (Payne, 2011).

Time to Exit

In an inductive study of 12 technology-based ventures, Graebner and Eisenhardt (2004) demonstrate that some startups are greatly proactive in finding acquirers (e.g., they create lists, talk to potential buyers, and hold auctions), though others minimize these endeavors and indeed discourage deals. Graebner and Eisenhardt (2004) moreover give qualitative evidence that new companies have distinctive execution risks, which influences the number of years necessary for an exit.

Since the majority of the ventures analyzed has been acquired (we will see it later) it is important to note that Luo (2014) finds that both the best and the worst ventures are sold later but for distinctive reasons. Shareholders of high performing ventures tend to wait in order to appropriate more value from the acquisition. However, lower quality ventures cannot be sold earlier than the good ones, since potential buyers prefer to delay their investment until more data is available.

3.2.2 Mediating Variables

Growth Stage

Davila and Foster (2005) report a positive and noteworthy relationship between change in valuation and change in both incomes and the number of employees in non-biotech

ventures, while change in wage isn't significant, highlighting that within the early stages valuation is related to growth.

Use of Acceleration and Incubation Services

Accelerated startups, especially technology-based and service startups that do not expand abroad and maintain a small size, show an improved chance of survival (Del Sarto et. al., 2020). On the other hand, incubated startups have better human capital on board and grow more with respect to non-incubated startups (Stokan et al. 2015).

Demographics

On the startup-level, Houlihan (1998) finds that industry and location are decisive determinants of startup valuations. There are three primary advantages to being found in a startup-friendly area. “Talent pool” is the first. Once your company has reached a certain development stage, hiring is needed in order to scale operations. At the same time, startups try to attract new investors to fuel their growth. Finding investors is much easier if a startup is located closer to such a network of people. Personal contacts remain a powerful tool in this regard and being based in a country that gives easy access to important events where it is possible to network is invaluable. Finally, regulations and incentives can influence operations and give an extra or limitation to growth.

Milud, Cabrol and Aspelund (2012) confirm that industry growth is positively and significantly correlated with pre-money startup valuation. Results are also consistent with several other studies made by McDougall, Robinson and DeNisi’s (1992) study that concluded that the industry structure affects the performance of startups and the Zider’s (1998) finding that investors value more those startups that operate in high growing industries.

On the investor- level, Hsu (2004) shows that when entrepreneurs receive more than one offer in a funding round, they tend to prefer lower valuations from highly reputable VCs, indicating that entrepreneurs accept a valuation discount in expectation of better non financial/value-adding services venture capital firms with a strong reputation.

Chapter 4 – Comparative Study

This chapter will cover the data analysis and research result elaborations. In the first section, there will be a discussion of the demographic information collected on the startups. The second section will showcase the data analysis framework utilized in this Thesis. After that, the questions formulated in the first chapter will be answered thanks to the data collected.

4.1 Demographics

4.1.1 About Studios and Funds

The demographic analysis will begin with an overview of the startup studios and venture capital analyzed, in order to compare the two industries more closely and their respective ways of working and results, as we will see are very different.
The majority of the startup studios analyzed, as shown in Fig. 9, are concentrated in the United States. However, the exits produced by Rocket Internet, a German startup studio, alone constitute 30% of the sample.
Rocket Internet itself, together with Betaworks and Idealab, make up 73% of the total exits analyzed.

Startup Studio	Founding Date	Investments	Exits	% of Tot	exit rate	Country
Idealab	1996	76	20	11%	26%	United States
Betaworks	2007	194	59	32%	30%	United States
Rocket Internet	2007	216	55	30%	25%	Germany
eFounders	2011	20	3	2%	15%	France
Entrepreneur First	2011	321	15	8%	5%	United Kingdom
prehype	2011	40	9	5%	23%	United States
Science	2011	36	7	4%	19%	United States
atomic	2013	11	1	1%	9%	United States
Expa	2013	32	4	2%	13%	United States
Human Ventures	2013	16	2	1%	13%	United States
Juxtapose	2015	11	1	1%	9%	United States
Obvious	2015	96	9	5%	9%	United States
Median	2011	38	8		14%	
Average	2010	89	15	0	16%	
Total		1069	185			

Fig. 9: Summary Table for Startup Studios

The growth in the number of startup studios in the world, as we have seen, has been almost exponential over the years, so it should not be surprising that the average founding date for startup studios is 2010. The relatively small number of startup studios taken into consideration is not statistically significant to such an extent that it can derive insights on a correlation between startup studios' founding date and the number of investments they made. Moreover, the diversity in the operating models would make any kind of conclusion on this correlation even more forced, for example we can mention Entrepreneur First, which, despite having been founded fifteen years after Idealab, has closed almost five times its investments so far.

This finding also explains the fact that Entrepreneur First has the lowest exit rate among the startup studios considered (5%), compared to an average of 16%. The observed exit rates, calculated by dividing the investments made by the number of exits completed, range from a minimum of 5% to a maximum of 30%, obtained from Betaworks, the only startup studio, among those examined, to also operate as a venture capital firm. Apart from the aforementioned Entrepreneur First, no startup studio has an exit rate of less than 9%. Unsurprisingly, more experienced startup studios have higher exit rates.

VC	Founding Date	Investments	Exits	%	exit rate	Country
SOSV	1995	1126	25	4%	2%	United States
Innovation Works	1999	427	26	4%	6%	United States
Y Combinator	2005	3035	269	44%	9%	United States
Plug and Play Vent	2006	709	57	9%	8%	United States
500 Startups	2010	1498	187	31%	12%	United States
Speedinvest	2011	217	16	3%	7%	Austria
SFC Capital	2012	54	4	1%	7%	United Kingdom
Alumni Ventures (	2013	212	22	4%	10%	United States
Median	2008	568	25,5		8%	
Average	2006	910	76		7,86%	
Total		7278	606			

Fig. 10: Summary Table for Venture Capital firms

Looking instead at the early stage venture capital firms taken into consideration (Fig. 10), we also see here a clear prevalence of American firms. Y Combinator and 500 Startups, which operate, as we have seen, also as accelerators, alone constitute almost 75% of the sample. Average founding date here is less recent, 2006, but despite the greater experience obtained, the average exit rate is 8%, half of that shown by the startup studios and it is also possible to observe a negative correlation with founding dates, despite the limitations presented in the previous paragraph, linked to the small number of funds taken into consideration, remain valid.

4.1.2 Location and Taxonomy

Here is shown how the exits are distributed across geographical locations and industries (Fig. 11).

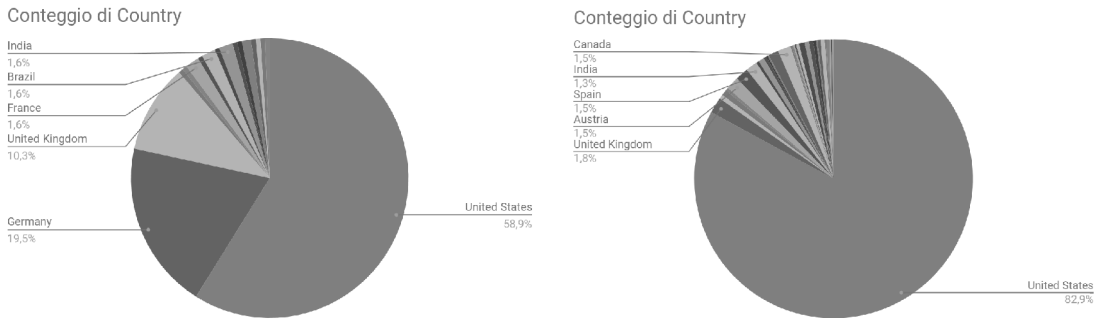

Fig. 11: Exits distribution across countries (left studios, right venture capital firms)

The sample of exit from venture capital is much more concentrated in the United States, while that relating to startup studios, thanks to the geographical locations of Rocket Internet and Entrepreneur First, includes a larger share of German and English startups, respectively.

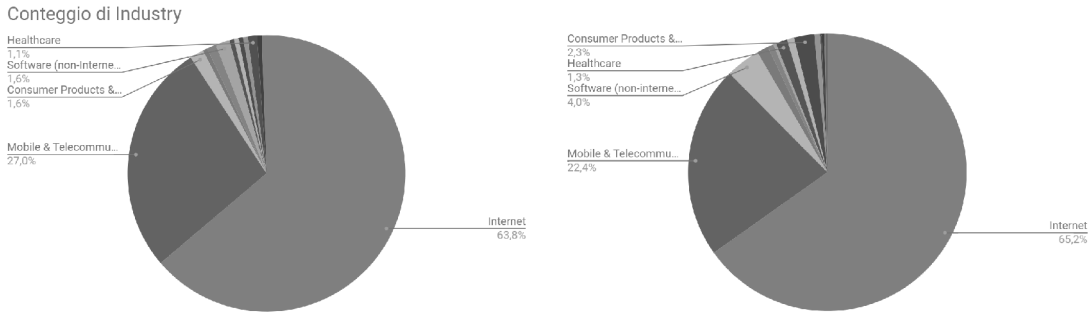

Fig. 12: Exits distribution across industries (left studios, right venture capital firms)

The distributions according to the industry (Fig. 12) to which they belong are instead very similar in highlighting a clear predominance of exits in the Internet and Mobile and Telecommunication industries, followed, with much lower percentages, by Healthcare and Consumer Products and Services.

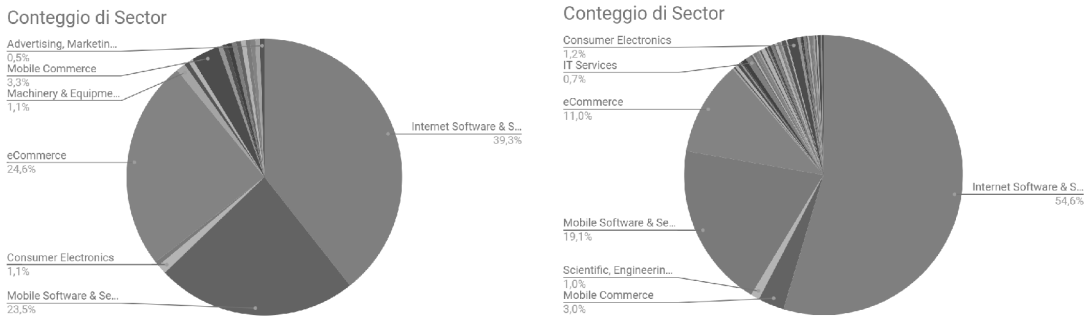

Fig. 13: Exits distribution across sectors (left studios, right venture capital firms)

Coming instead to the specific sectors (Fig. 13), Internet Software and Services (commonly known as "SaaS") constitutes the majority in both samples, followed by Mobile Software and Services (apps) and eCommerce.

4.1.3 Funding and Growth Stage

The trend that sees acquisitions prevail over IPOs is well known Hellmann (2006), but it is interesting to note that the percentage of exits from startup studios through public

markets is triple compared to that observed among the exits produced by venture capital (Fig. 14).

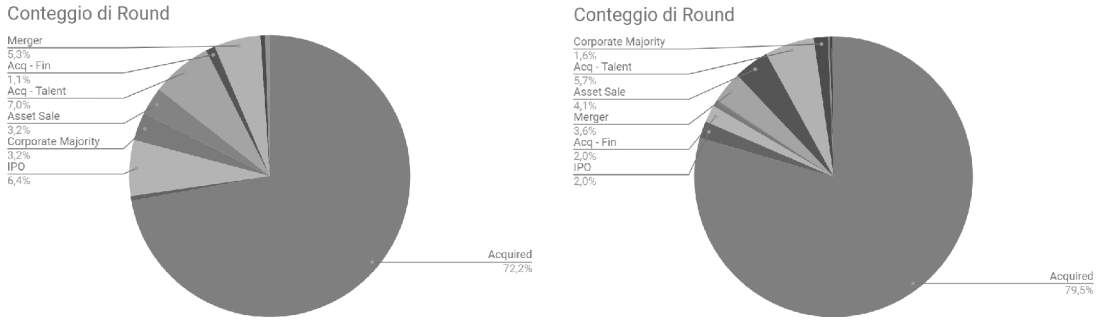

Fig. 14: Exits distribution across rounds (left studios, right venture capital firms)

The graph below (Fig. 15) shows in detail the distribution of exits based on the total amount raised prior to exit. As we can see, startup studios produce a greater portion of highly funded exits, and the advantage over the exits produced by venture capital is accentuated, raising the minimum total amount raised threshold. In general, the exits produced by the startup studios appear to be more funded than those produced by the comparison sample.

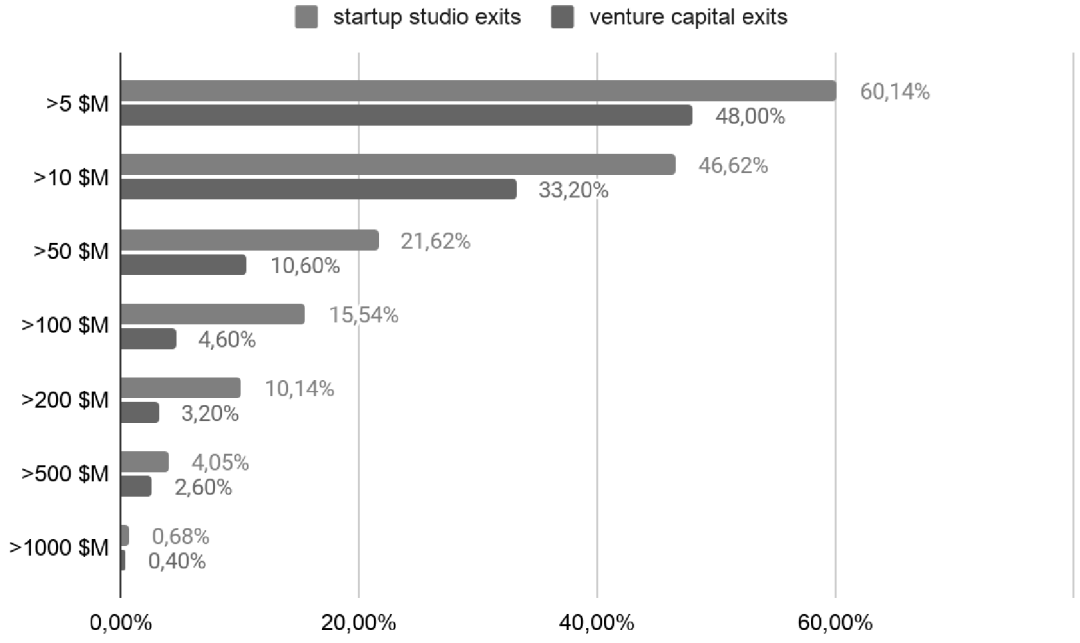

Fig. 15: Distribution of exits based on the total amount raised prior to exit

Same tendency can be seen if we see the number of exits (Fig. 16), weighted for the numerosity of the sample. Startup studios appear to produce more highly funded exits.

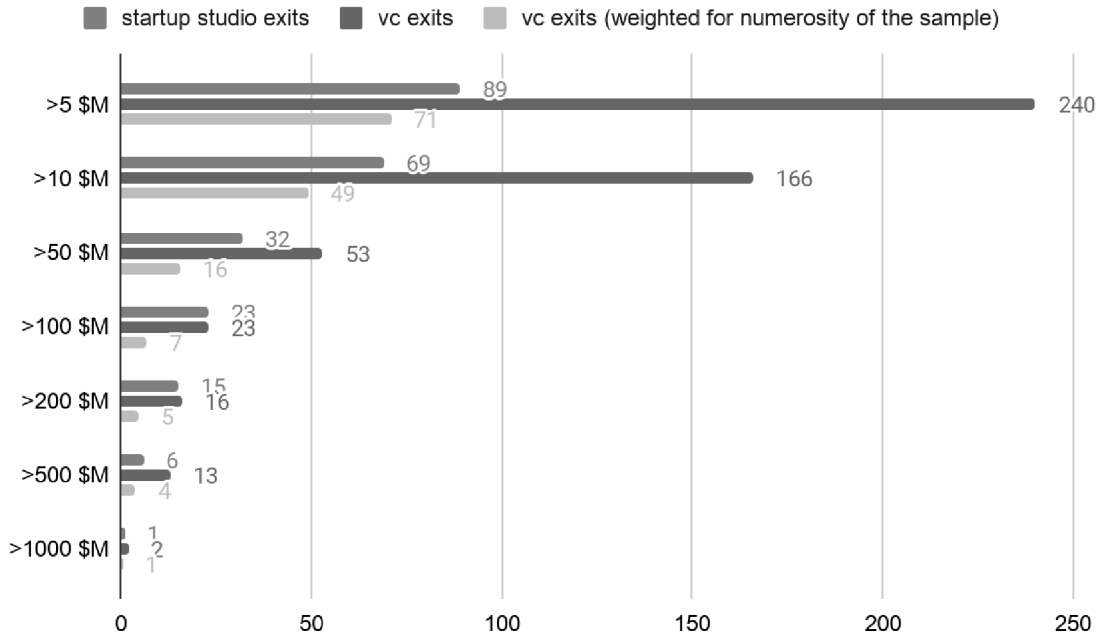

Fig. 15: Counting of exits based on the total amount raised prior to exit

4.2 Startup Performances

4.2.1 Valuation

This section will test the following hypothesis: Participation and involvement in startup studio activities entails better performances in terms of valuation.

Considering only the exits for which it was possible to find the valuation figure (Fig. 16), the median value of it was 74 M$ for the exit from the startup studio against 50 M$ for those from VC.

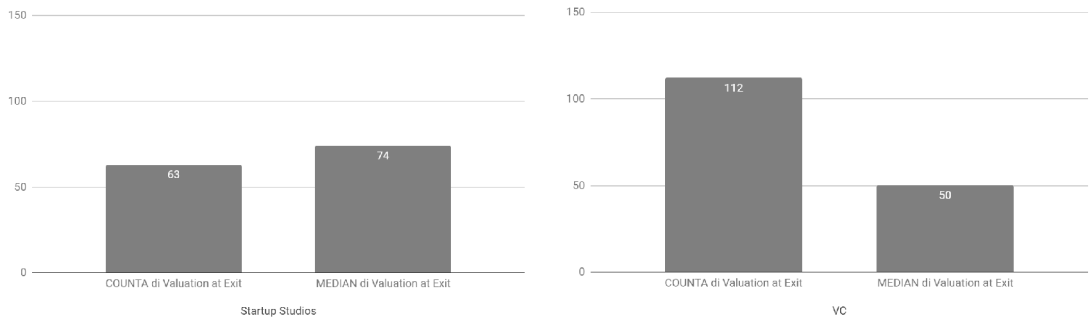

Fig. 16: Number of valuation figures available and median value (left studios, right venture capital firms)

The median valuation for the exits from startup studios has been calculated from a sample of 63 exits with an available valuation at exit. For the exit from venture capital, there were 112 valuations available.

Looking at the percentage distribution of the valuations (Fig.17), the percentages do not differ much, except for the range above $ 50M and, above all, above $ 1000M (the "unicorn" status), where the study exit rate of startups is 60% higher than that of venture capital. Outgoings above $ 100M are less than 40% of both samples and above $ 500M are less than 20% of samples.

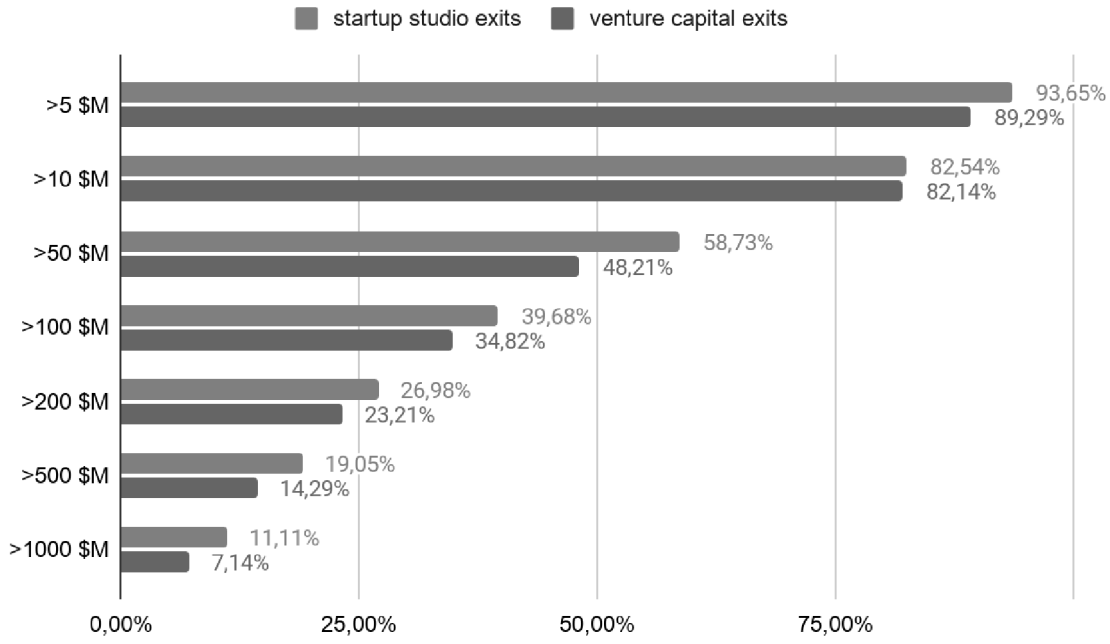

Fig. 17: Distribution of exits based on valuations

In terms of number of exits (Fig. 18), startup studios still produce more valuable exits (if we take in consideration the numerosity of the sample) and the difference increases with the height of the interval, reaching a peak at the unicorn status, where ss exits are 56% more than VC.

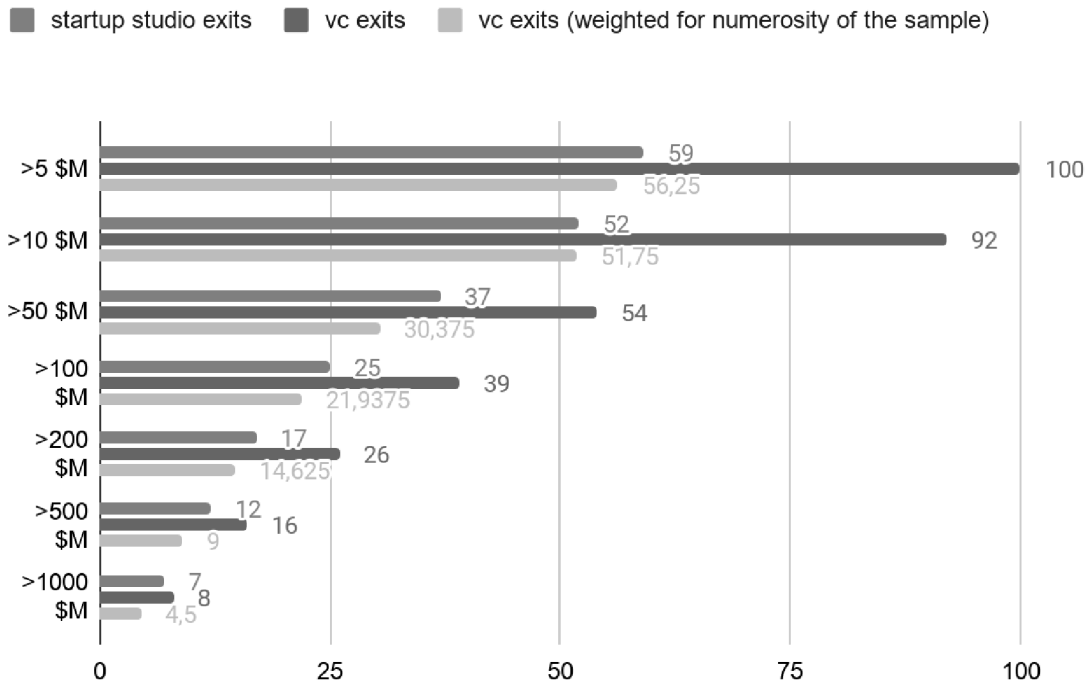

Fig. 18: Counting of exits based on the total amount raised prior to exit

4.2.2 Time to Exit

This section will test the following hypothesis: Participation and involvement in startup studio activities entails better performances in terms of time required for exit.
The distribution of startup studio exits according to the founding date (Fig. 19) peaks in 2011, the same for the counterpart. However, the distributions appear very different from each other, that of venture capital exits resembles a normal distribution, while that of startup studio exits seems to have different local maximums.

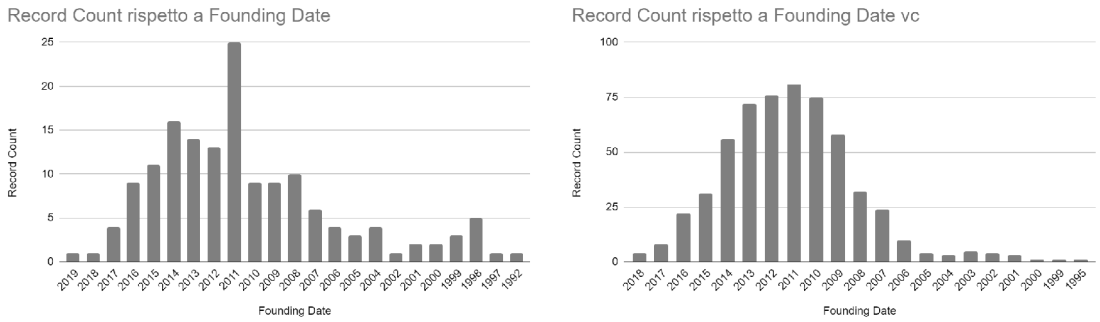

Fig. 19: Counting of exits based on founding date (left studios, right venture capital firms)

Looking instead at the exit dates (Fig. 20), here too the distribution of exits from startup studios seems to have different local maximums and an absolute maximum in 2016, while the distribution of venture capital exits has an absolute maximum in 2019. Interestingly, in both cases, the number of exits produced increases with time.

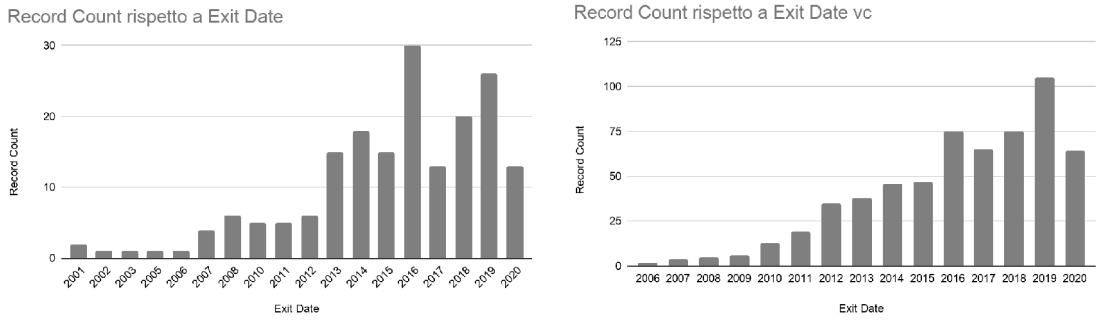

Fig. 20: Counting of exits based on exit date (left studios, right venture capital firms)

Considering only the exits for which it was possible to find data on founding date and exit date (185 exits from startup studios, 605 from venture capital, more than 80% of both the samples), the median value is 4 years for the exit from the startup studio against 5 years for those from venture capital funds.

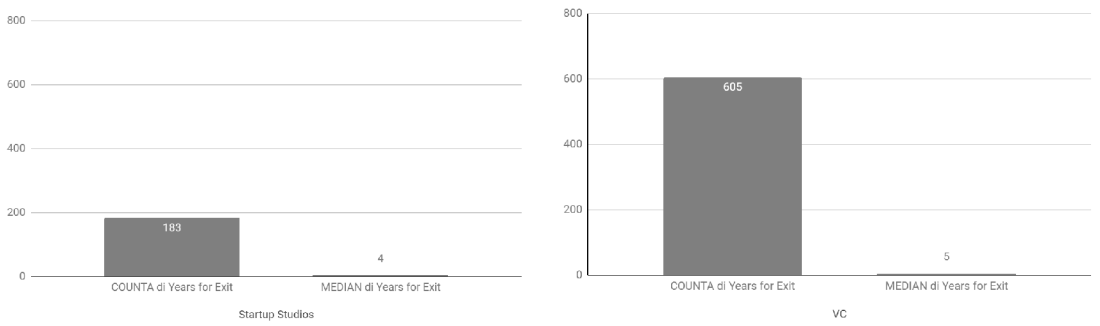

Fig. 21: Number of "years for exit" figures available and median value (left studios, right venture capital firms)

Most frequent value for years for exit is 4 years for studios' exits, followed by 3 years. Most frequent value for years for exit is 3 years for venture capital exits, followed by 4 years.

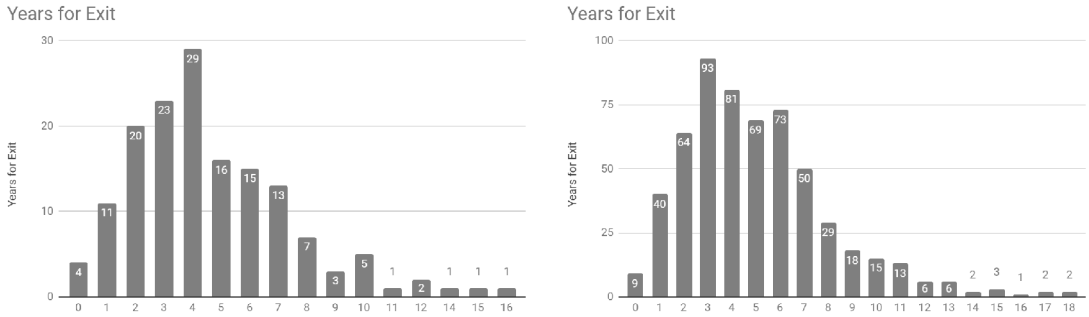

Fig. 22: Counting of exits based on "years for exit" values

Analysing median years required for exit for any founding date, we can see a decreasing trend in both samples, but that of studios' sample appears to have reached its final value (more or less the same of venture capitals') starting for lower values.

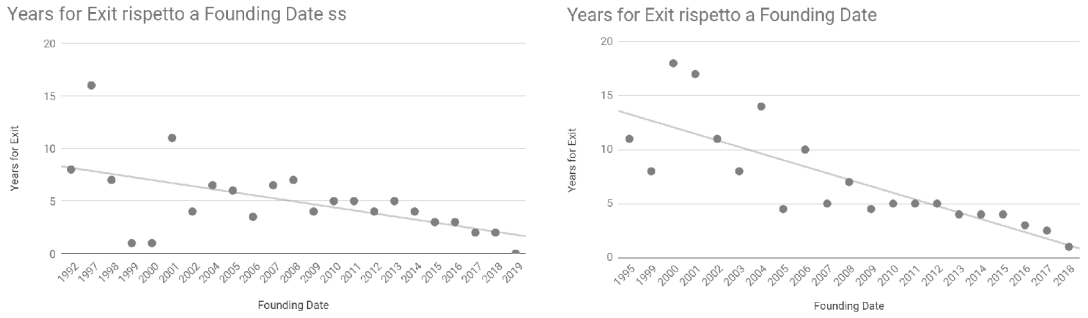

Fig. 23 Median value of "years for exit" for any founding date (left studios, right venture capital firms)

In the figure below, it is possible to see that startups exited in recent years seem to have done it in more years, in median. Tendency is increasing, roughly in the same way for both the samples.

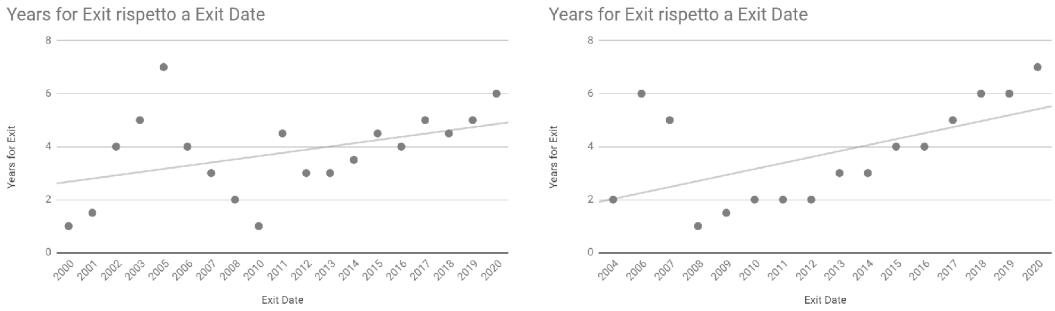

Fig. 24 Median value of "years for exit" for any exit date (left studios, right venture capital firms)

4.3 Relation with Mediating Variables

4.3.1 Relation with Growth Stage

This section will test the following hypothesis: Participation and involvement in startup studio activities entails better performances in terms of valuation for startups that have joined the studio in the Seed and Series A stages.

Observing the distribution of the exits produced by the startup studios (Fig. 25), it can be noted that more than 75% of the startups had joined the startup studio during its Pre-seed, Seed or Series A funding stage, proving that the sector you operate mainly in the early stage area.

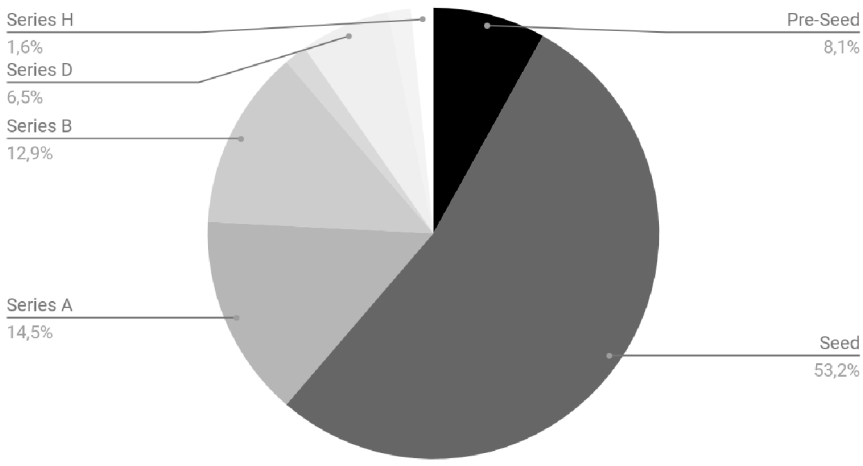

Fig. 25: Startup studios' exits distribution across growth stage

Considering only the exits for which it was possible to find the valuation (Fig. 26), the median value of it is 63 M$ for the exit from the startup studio against 50 M$ for those from VC and exit in 4 years in median, confirming the figure from the general sample.

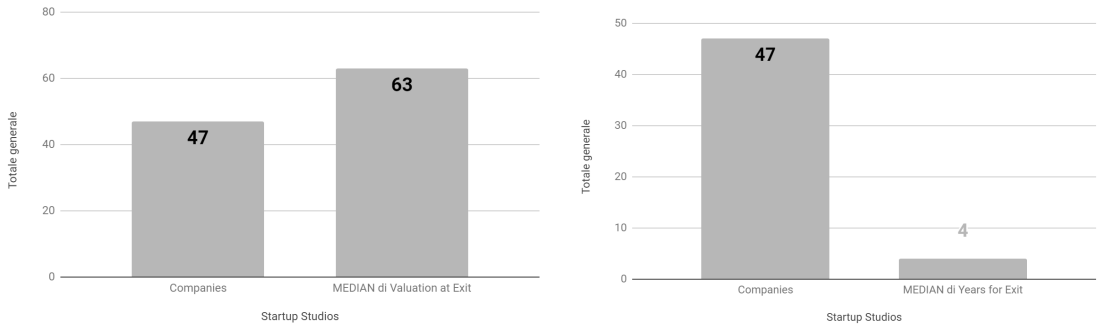

Fig. 26: (Left)Number of valuation figures available and median valuation, (Right) number of "years for exit" figures available and median value

4.3.2 Relation with Incubation and Acceleration Services

This section will test the following hypothesis: Participation and involvement in startup studio activities entails better performances in terms of valuation for startups, this effect is reinforced by the participation in incubation and acceleration activities.

By limiting the comparison sample consisting of exits from venture capital to only exits from funds that also offer acceleration and/or incubation services (Fig. 27, left) and instead excluding from the first sample the exits from startup studios that also operate as venture capital (Fig. 27, right), the gap between performance increases in terms of median values. In particular, it is observed how the limitation of the sample has an improving effect for the startup studios, vice versa worsening (albeit slightly) for the comparison sample. It is interesting to note also how, in terms of timing, the two limited samples end up by converging on the value of 4 years, in the median.

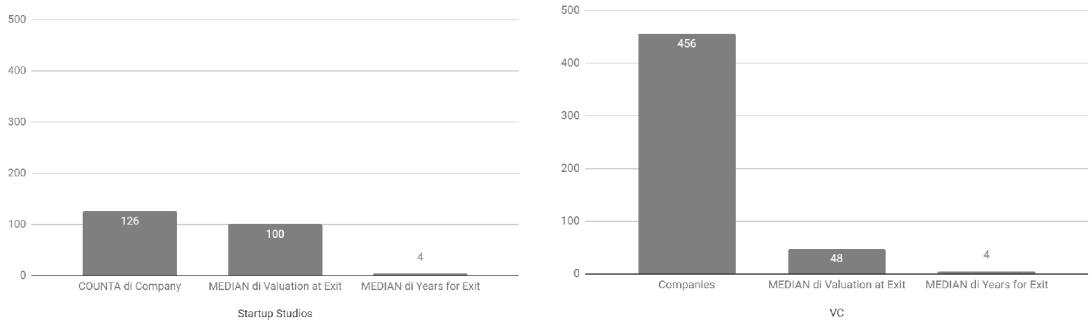

Fig. 27: (Left)Number of studios' exits and median values of valuation and "years for exit", (Right) number of venture capital exits and median values of valuation and "years for exit"

Further limiting the first sample to startups that have joined the studio in their Pre-Seed, Seed and Series A stage, figures do not change significantly.

4.3.3 Relation with Demographics

Location and Taxonomy

By limiting both samples to the United States only (Fig. 28), we can observe how, despite the performance of the exits from startup studios remaining better in terms of median evaluations achieved, the specific data observed is lower for the first and higher in the second, compared to the general median values. This means that the "rest of the world" constitutes an added value for the startup studios, in terms of performance.

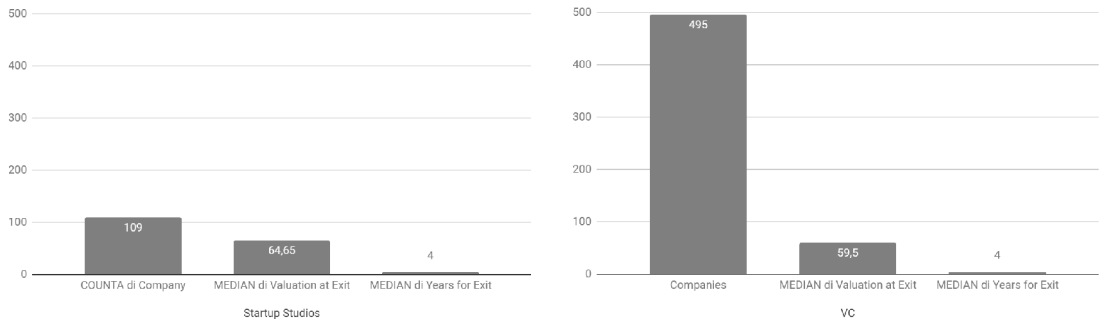

Fig. 28: (Left)Number of studios' exits and median values of valuation and "years for exit", (Right) number of venture capital exits and median values of valuation and "years for exit"

In the following images, it will be possible to see an industry by industry comparison between the sample of exits from startup studios and the comparison one. The first

sample outperforms, in median, the second both as regards the Internet industry (Fig. 29) And the Mobile industry (Fig. 30) in terms of median evaluation at exit, with almost double values in this case. The median value of years for exit instead settles on the value of 4 in both cases, which means that the value of 5 years measured comparing the samples without doing it industry by industry is "caused" mainly by the "minority" industries that make up the sample of exit from venture capital, incubators and accelerators. Conversely, returning to the median valuations, it can be seen that the minority sectors tend to worsen the performance of the sample of exit from studios.

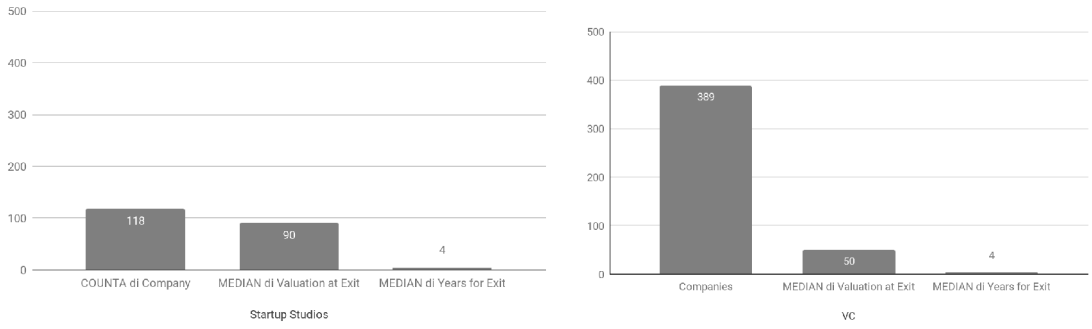

Fig. 29: (Left)Number of studios' exits and median values of valuation and "years for exit", (Right) number of venture capital exits and median values of valuation and "years for exit"

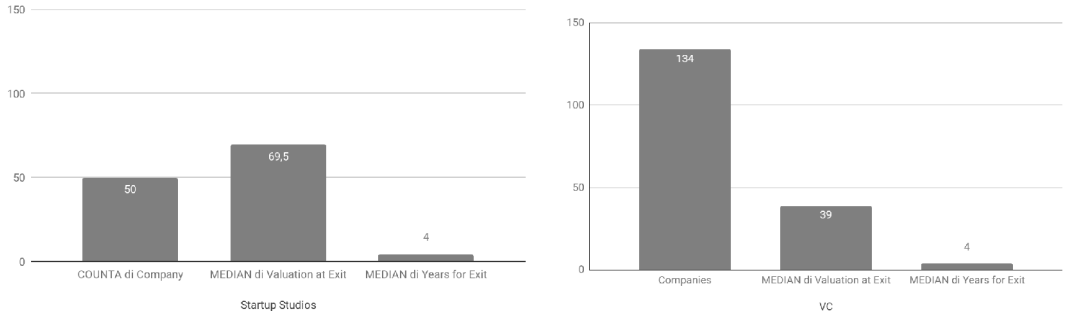

Fig. 30: (Left)Number of studios' exits and median values of valuation and "years for exit", (Right) number of venture capital exits and median values of valuation and "years for exit"

By analyzing the sector by sector sample, studios' sample is outperformed in Software as a Service sector (Fig. 31) in terms of valuation, but startups from startup studios had come to an exit faster, in median. The Mobile App sector (Fig. 32) worsens the data of both samples, and sees better performance by the exit from studios, in terms of valuations. Finally, the eCommerce sector (Fig. 33) Sees very high values for studios' samples, hugely better than the other sample, but only in valuation terms. Appears that

eCommerce and, less, App, are responsible for better performance seen in the general comparison, from the studios sample. Also, lower performance from the comparison sample in terms of timing should be attributed to SaaS and minor sectors.

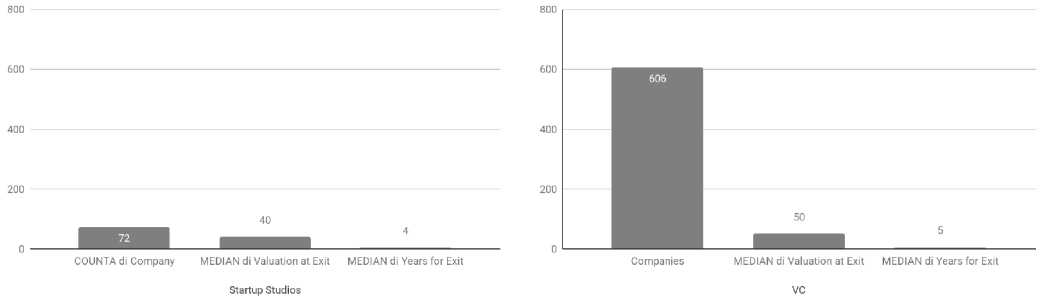

Fig. 31: (Left)Number of studios' exits and median values of valuation and "years for exit", (Right) number of venture capital exits and median values of valuation and "years for exit"

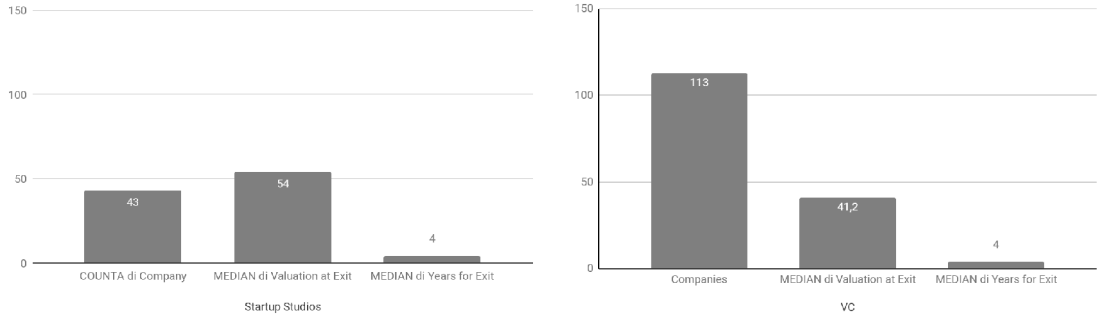

Fig. 32: (Left)Number of studios' exits and median values of valuation and "years for exit", (Right) number of venture capital exits and median values of valuation and "years for exit"

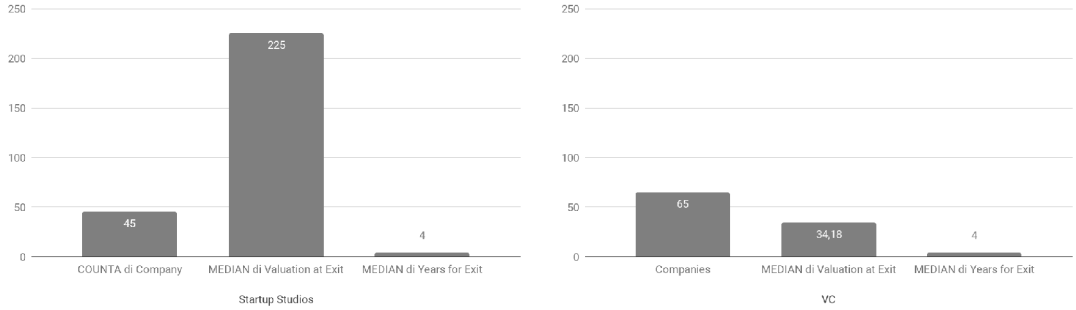

Fig. 33: (Left)Number of studios' exits and median values of valuation and "years for exit", (Right) number of venture capital exits and median values of valuation and "years for exit"

Funding and Growth

By limiting the sample examined to those deals that occurred while the ventures were in the Pre-Seed, Seed or Series A phase, the startups from the studio startups appear to be much more funded than their counterparts, especially above $ 50 M.

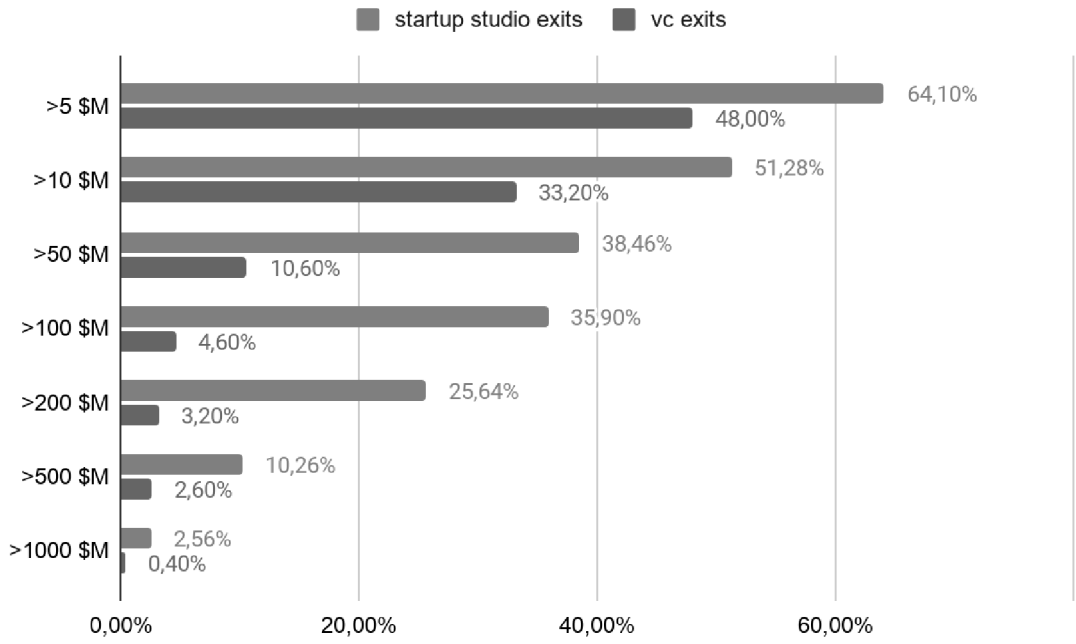

Fig. 34: Distribution of exits based on the total amount raised prior to exi

Looking instead at the valuations (Fig.), The two samples appear much more in line with respect to the general case.

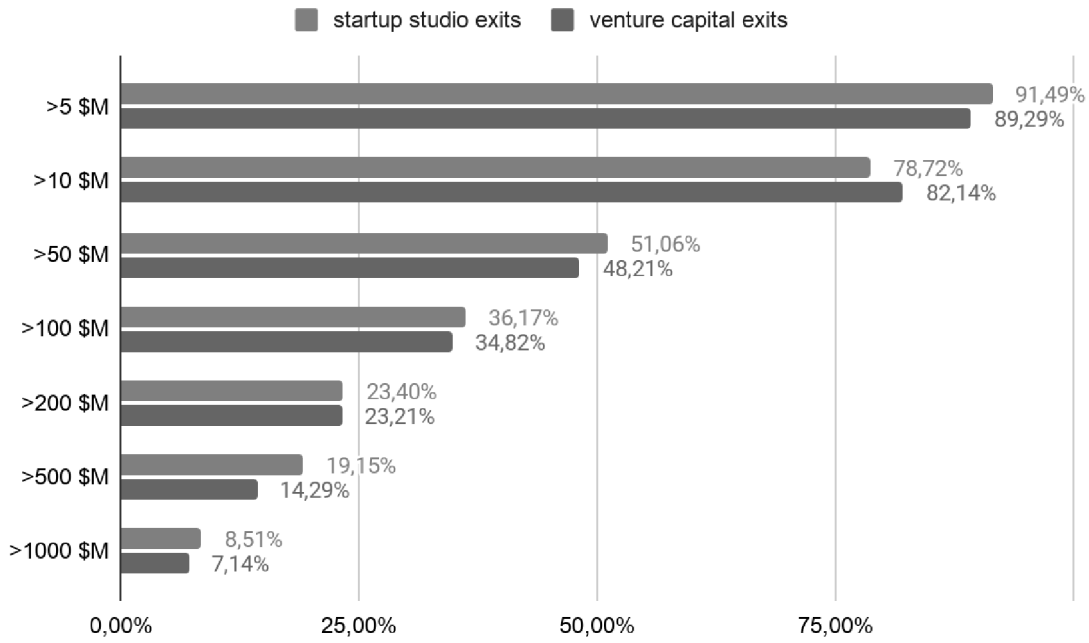

Fig. 35: Distribution of exits based on valuations

Chapter 5 – Discussion

From the data analysis it was possible to observe how the startup studios analyzed had much higher exit rates than the venture capital and accelerators that populated the comparison sample. A possible explanation, derived from the literature on startup studios, could lie in the nature of the studios themselves, based on iterative experimentation, until the market response is considered satisfactory. Such practices could therefore reduce the incidence of the market component of the business risk, thereby improving the success rate.

With regard to the first variable taken into consideration, that is the valuation matured at the time of exit, it was observed that the sample populated by the exits realized by the startups founded or co-founded by the startup studios present significantly higher data (almost 50% more in median), compared to the comparison sample. From the interviews released by Dubin and McPheely, it is possible to find an explanation in the very high level of involvement by the studios, thanks to a considerable entrepreneurial experience, which lies partly in the founders and partly in the experience of the studio itself in growing new ventures. In fact, the positive correlation between the experience of the founders and the valuation obtained at the time of exit is well known in literature.

On the other hand, as seen in the literature review, it is also known how the startups in which venture capital firms with greater experience and brand invest are characterized by low valuations, as the founders attribute greater value to that experience and that brand, contenting themselves with lower valuations.

Coming to the sector-by-sector detail, it appears that the valuations obtained by the startups of the sample coming from the studios reach significantly lower evaluations in a sector such as Software as a Service. One explanation could lie in the predominantly B2B nature of the sector in question, which limits the possibilities of interaction with the market before the product launch, unlike B2C startups.

Speaking of timing for the exit, the better figures shown by the startup studios' sample can be explained by the need, by the studios, to arrive faster at the exit in order to have new financial resources available to finance new projects.

In this perspective, and as shown by the statements made by Alexander Louisy, it appears that the studios are able, thanks to their network of contacts and their processes,

to facilitate the collection of funding by startups. This would explain the significantly better data in terms of total amount of funding raised before exit.

Finally, the correlation, observed in the literature, between growth stage and valuation is confirmed, as by limiting the sample from startup studio to the Pre-Seed, Seed and Series A phases, the value of the median valuation at exit decreases, while remaining greater than that achieved by the comparison sample.

Chapter 6 – Conclusion

This Thesis has assessed the impact of the participation in the activities of a startup studio on startup valuation and time for exit. Thesis has also tried to provide a comprehensive description of the startup studio model, in order to identify the nature of that relation and the reason behind the improved performance. The performance evaluation was carried out using purely financial measures, in order to avoid evaluating these performances from the perspective of only one of the ecosystem actors.

Previously in chapter 4, hypothesis of better performance by startups built or co-built in startup studios has been tested, in order to identify correlations with the research and mediating variables. At the end of chapter 4, the data analysis from the statistical result has shown the existence and magnitude of those relations.

The main limitation to this work is considered the lack of interviews carried out with founders of startups founded or co-founded by startup studios, which can help explain the data resulting from the quantitative analysis. Obtaining various statements issued by bodies such as the Global Startup Studio Network only partially compensates for this lack.

Some ideas for future research lie in the exit peak observed in 2011. It could be useful, in particular, to identify any elements in the economic environment of the time, which could have had a positive impact.

Still regarding the timing of exits, two trends were found that could be interesting to explain. The first lies in the fact that the more recently founded startups seem to have reached the exit in a shorter time, conversely, the startups that have reached the exit in recent years seem to have done in a longer time.

In terms of capital raised before the exit, it was observed that, in median, the startups of the sample from the startup studios reached the exit after having collected a total amount of capital that is double, compared to the median value of the comparison sample. We could investigate the reason for this, if it is a result of positive signaling between investors or, on the contrary, a sign of poor efficiency.

Finally, the Rocket Internet model should be investigated and studied, because it seems to be the most successful model among those encountered.

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