

# Male segregated networks and the gender funding gap in the access of venture capital – A venture capital perspective

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## ABSTRACT,

*Several studies show the presence of a gender funding gap in the access to venture capital. Recent published articles about this topic found that the funding gap is even more significant in the Netherlands. This thesis aims at providing new insights from a venture capital perspective about why the gender funding gap still ceases to exist. The theory of gender homophily is used in this research to answer several questions regarding the access of venture capital by female entrepreneurs. A focus has been laid down on the deal origination stage since this is the first and a very crucial stage for startups who seek venture capital. On the bases of interviews conducted with six seed and early-stage venture capital firms, this thesis tried to find awareness of the funding gap, new insights and possible countermeasures used in deal origination by venture capitalists. However, none of the interviewees used any countermeasures against gender homophily because the venture capital firms perceive the funding gap differently. They do recognise that women receive significantly less funding but observe that those female entrepreneurs are not underfunded. They argue that the gender gap results from a lack of women in technology and female entrepreneurship. Important further research opportunities have been provided based on these findings.*

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## Keywords

Venture capital, funding gap, deal origination, startups, gender, homophily

# 1. INTRODUCTION

Venture Capital is a high-risk funding method due to low survival chances of startups. New technology ventures need this funding, especially in the beginning of their venture to protect intellectual property, intangible assets and for ongoing daily operations (Hsu, 2007). Venture capital firms often invest in technology because of the involved risk-reward ratio. Venture capital firms' goal is to generate a high return that beats the public market, but they also serve another higher purpose which is that their funding and expertise is crucial for the survival of startups who are facing high uncertainty, information asymmetry and because of that, difficulties in attracting financing (Gompers and Lerner, 2001; Lerner and Tag, 2013; Cassar, 2004). Furthermore, new economic growth arises from innovation and new innovative companies (Lerner, 2013; Belke et al., 2004). Venture capital has a positive effect on the economy because they provide crucial capital and expertise to the new drivers of economic growth. Given the importance of venture capital access for new innovative startups, it seems that there are missed opportunities and chances on the demand and supply side of venture capital.

There have been several studies that show the presence of a funding gap in the access of venture capital which is particularly high in the tech industry (Greene et al. 2001; Gatewood et al. 2009; Babson, 2014; Coleman and Robb, 2009). These studies found that female-led businesses received extremely few investments in the US. They also found that female entrepreneurs face certain myths that makes attracting finance and growth more difficult. For example, the Diana Project examined in 1999<sup>1</sup> Found that less than 4% of the venture capital funded firms have women on the executive board in the US (Greene et al. 2001; Brush et al. 2004a). The same research has been done again, but now with data from 2011 till 2013 and found that there has been an improvement because businesses with women in the executive board now receive 15% of the venture capital (Brush et al. 2018). This number is almost four times higher and indicates that some progress has been made compared to the first study. However, it seems that companies with a female CEO still receive significantly less in the US (2,7%) and that there was no significant change in this number. Similar research has been done recently in the Netherlands and found that only 1,6% of the startups backed by venture capital was led by a woman, for mixed startup teams backed by venture capital this percentage was 6,8%.<sup>2</sup> Although not all of these startups are technology startups and the split between men and women is not 50-50, they argue that there is still a significant funding gap in technology startups due to other reasons such as affinity bias and stereotypes.

The research shows that there is still a significant funding gap where female entrepreneurs continue to receive a small proportion of venture capital funding (Brush et al., 2018). Research opportunities have been provided by Brush et al. (2018), to further the understanding and reasons why the funding gap continues to exist and why female entrepreneurs continue to receive such a small proportion of venture capital funding. One of the suggestions is that it remained unclear what the exact role is of homophily in the venture capital decision process. Homophily theory states that people tend to associate with demographically similar people (Brashears, 2008; McPherson et al., 2001). Homophily is quite a broad theory that can occur within several domains of demographics such as gender,

geography, cultures, education and profession. This research focuses on gender homophily because the funding gap in venture capital has its origin in the differences of access to capital between male and female entrepreneurs.

In this research, we argue that gender-based homophily is most critical in the first phase of the investment decision process of venture capitalists. The first phase is deal origination and is of high importance for startups who are seeking funding because deal origination is the first and initial entrance to get venture capital funding. Eventually, only a small percentage of the innovative startups receive venture capital funding<sup>3</sup> (Lerner and Tag, 2013). The reason why only a small percentage receives funding could be because startups do not meet the required criteria given by venture capitalists. Another reason for this is that startups are not in range of networks with venture capitalists (Brush et al., 2018). Networks of venture capitalist are very closely linked and have close ties, are geographically clustered, and within these networks, deals get forwarded by actors of these networks (Ferrary and Granovetter, 2009).

Past research showed that the venture capital industry is mainly male dominated, which means that most of the decision makers within the venture capital firms are men (Brush et al., 2018). Since most of the deals origin from network referrals and knowing that the venture capital industry is male-dominated one can say with gender homophily theory that these networks are also male dominated (Tyebjee and Bruno, 1984; Brush et al., 2018). Becker-Blease and Sohl (2007) found strong evidence for homophily in seeking angel funding by female and male entrepreneurs. Although this research is carried out in the field of angel investor groups, they show significant similarities in their investment methods as venture capitalists. Becker-Blease and Sohl (2007) also found evidence for homophily on the investor side, meaning that an investor tends to invest in the same gender.

Since the funding gap is still present and significant between male and female entrepreneurs, this research wants to provide a deeper understanding of why the funding gap continues to exist by investigating the deal origination stage with gender-based homophily. Furthermore, it is highly interesting to investigate the industries awareness on this topic and to identify practices which are used by venture capitalists against gender homophily while they are sourcing for deals. Over the last 16 years, there was no significant change in the number of female-led businesses who were backed by venture capitalists (Brush et al., 2018). These practices could provide more insights and could provide new directions for future research

## 1.1 Research question & purpose of this study

This thesis focuses on the supply side of capital, the venture capitalist and aims to answer the following research question:

*“How do venture capitalists deal with gender homophily within the deal origination stage of investment decision making?”*

**Table 1: Definitions of used concepts**

Concepts	Definition	Author(s)
Gender funding gap	This concept argues that there is a significant	(Greene et al. 2001; Gatewood et al. 2009;

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[www.griequity.com/resources/InvestmentIndustry/vc/diana\\_2004.pdf](http://www.griequity.com/resources/InvestmentIndustry/vc/diana_2004.pdf)

<sup>2</sup> <https://fd.nl/ondernemen/1271803/investeringsfondsen-stappen-zelden-in-start-ups-van-vrouwen>

<sup>3</sup> <https://www.entrepreneur.com/article/230011>

	gender funding gap. Female entrepreneurs only receive a small proportion of the total invested venture capital.	Babson, 2014; Coleman and Robb, 2009).
Venture capital investment decision process	A process that consists of five steps that a startup must go through before it can receive funding from a venture capital firm. In general, this process consists of deal origination, screening, evaluation, deal structuring and post investment activities.	(Wells, 1974; Tyebjee and Bruno, 1984; Hall and Hofer, 1993)
Gender homophily	Gender homophily is the tendency to associate with people of the same gender and states that networks tend to be gender segregated.	people (Brashears, 2008; McPherson et al., 2001).

The following sub-questions have been formulated to answer the research question:

1. How does the decision-making process of venture capitalists look like?
2. How is gender homophily related to venture capital?
3. To what extent are venture capitalists aware of the gender funding gap and segregated male networks?
4. What used (counter) practices can we formulate against gender homophily?

The purpose of this research is to formulate a deeper understanding of gender homophily and the role it has within the first stage of the venture capital's decision-making process in the Netherlands. This research aims at identifying potential gender homophily within deal origination. Moreover, it aims at getting a clear view of the venture capital industry's behaviour, attitude and awareness considering the gender funding gap and gender homophily. Based on this, this research intends to identify practices used by venture capitalists against gender homophily in deal origination.

## 2. LITERATURE REVIEW

To answer the research question, a literature search is carried out. The literature review makes it possible to gather more information and understanding of the subject and on the previously conducted research. This literature will be collected through Scopus, Web of Science and Google Scholar with access granted by the library of the University of Twente. The

literature review will describe how venture capital makes decisions and how their investment process looks like in detailed steps. Although this thesis only focuses on the deal origination stage, for practicality reasons and more in-depth understanding, it is essential to go through all the phases. Furthermore, the literature review describes homophily theory and its connection to the gender-segregated venture capital industry.

### 2.1 Venture capital decision making

To find indications of gender homophily in the decision-making process for venture capital investments, it is essential to first analyse the stages, procedures and decision criteria used in new venture evaluations. Several researchers have investigated the stages of venture capitalist's decision processes, and their findings show a similar overall process of decision making (Wells, 1974; Tyebjee and Bruno, 1984; Hall and Hofer, 1993). All studies share similarities in their findings of the critical characteristics of the decision process. Hall and Hofer (1993) made an overview of these study results and identified that every study showed a pre-investment phase, deal structure phase and a post-investment phase. All studies describe the first stage of the pre-investment phase as the search or deal origination where the investor and the entrepreneur make their first contact. A screening and assessing stage are followed by this stage where the proposals are screened and assessed against the criteria of a venture capitalist. Initial screening takes less than six minutes, and the proposed assessment and evaluation takes approximately 21 minutes (Hall and Hofer, 1993). The deal structure phase consists of negotiation and a decision where both the entrepreneur and the venture capitalist agree to financial arrangements. After the initial investment is made, the venture capitalist enters the post-investment phase, which involves monitoring of progress, adding value to the business and eventually followed by an exit to cash out.

### 2.2 Five-stage model of venture capital investment activity

Although all the investment decision theories show similarities of the venture capital decision process, the best and most widely used theory in this field is that of Tyebjee and Bruno (1984). For this research, we will rely on this decision process model because it is widely known. The five-stage model (Table 2) consists of the following five explicit stages: **(1) Deal origination, (2) Screening, (3) Evaluation, (4) Deal structuring and (5) Post investment activities.**

#### 2.2.1 Deal origination

As already included above, the deal origination stage is the stage where the entrepreneur and venture capital make initial contact and where the venture capitalist receives an investment proposal. This stage is referred to as the search for prospective investments (Hall and Hofer, 1993). In 25,6% of the cases, the entrepreneur starts making contact via cold calls, in which the entrepreneur is requested to send in a business plan (Tyebjee and Bruno, 1984). Furthermore, 65% of the cases are from referrals, and the last 10% of proposals come from active search of investors (Tyebjee and Bruno, 1984).

#### 2.2.2 Screening

In this stage, most of the proposals are rejected based on the venture capitalists' criteria. Venture capitalists receive many proposals during the year, and this criterion is used to reduce the enormous amount of proposals to a more manageable number of proposals (Tyebjee and Bruno, 1984). The criteria found for this by Tyebjee and Bruno (1984) are the size of the investment and the investment policy of the venture fund; the technology and market sector of the venture; the geographic location of the venture; and stage of financing. After a reduction in the number

**Table 2: Decision process**

Investment decision process Tyebjee and Bruno (1984)				
Deal origination	Screening	Evaluation	Deal structuring	Post investment activities

of proposals, the remaining proposals will now be appointed for a more in-depth examination and evaluation.

### 2.2.3 Evaluation

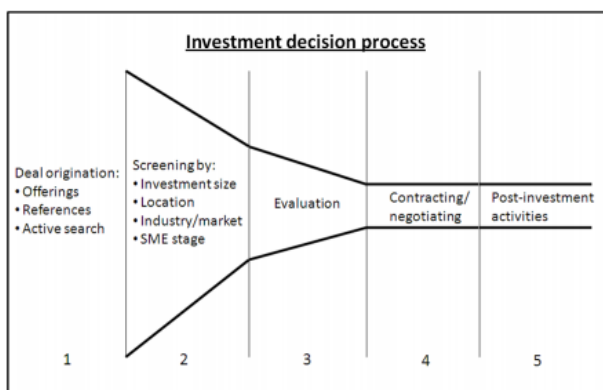
The remaining deals go through the evaluation stage, wherein deals are rated on more specific criteria. Tyebjee and Bruno (1984) concluded that venture capitalists evaluate proposals based on five characteristics which are market attractiveness; product differentiation; managerial capabilities; environmental threat resistance; and cash-out potential. The evaluative stage is more subjective in comparison with the screening stage.

### 2.2.4 Deal structuring

In this stage, the venture capitalist is interested in investing in the business proposal and comes to financial terms with the entrepreneurs. Deal structuring is characterised by negotiation until a specific financial arrangement has been made and where both actors can commit to (Golder, 1981; Baker and Gompers, 1999). Venture capitalists make sure that their investments are protected by a corporate control mechanism to limit risks due to information asymmetry and moral hazard problems (Gompers, 1995). Mechanisms that are widely used are control and board rights and to transfer the agreed capital injection in stages after a milestone has been achieved (Gompers, 1995).

### 2.2.5 Post investment activities

The post investment activities stage is the last stage of the decision process. In this stage, the investment has been made and is now monitored by the venture capitalist. In this stage, post activities take place to monitor and manage the venture capitalists' interest in the firm. Furthermore, a venture capitalist does more for the new venture than finance, monitoring, control and decision-making (Sapienza, 1992). Macmillan et al. (1987) also found that they could be directly involved in sourcing out crucial suppliers and customers, strategic and operational planning, and searching and selecting managing personnel or the replacement of existing personnel.



**Figure 1: Reduced number of proposals.** Source: Adapted from Tyebjee and Bruno (1984), Lentz (2012).

### 2.2.6 Conclusion decision process

Now we know how the decision process looks of venture capital firms and what broad criteria they use. It is a general decision process, and it could differ per specific firm. It is essential to understand the process because deal origination is part of this process. Based on the five-stage investment decision process, we can argue the importance of deal origination for entrepreneurs since it is the entrance of venture capital (Figure 1). The figure shows how the number of proposals is reduced to a number which is manageable for a given venture capital firm. This number is determined and differs per size, capacity and policies

of the venture capital firm. Boocock and Woods (1997) showed in a sample of 232 proposals that 162 got rejected at initial screening and only 1,46% received funding eventually.

## 2.3 Defining (gender) homophily

Homophily theory is an extensively researched theory that describes the social tendency to associate with similar individuals who are demographically similar (Brashears, 2008; McPherson et al., 2001; Lazarsfeld and Merton, 1954). This social tendency means that close ties mainly arise between people of the same age, gender, ethnicity, religion, social class or status of marital (McPherson et al., 2001). As defined by McPherson (2001), homophily gives people the tendency to have more frequent contact with people who are like themselves and to have less contact with people who are different. This is because like-minded and similar people have closer ties and are more connected with each other. Moreover, the spread of information will be more local, stays in specific social networks and will be less accessible to people who are different. This, in turn, provides a social distance as defined by Marsden (1988), meaning that differences in demographical backgrounds will lead to social (network) distance and therefore, networks are often homogeneous.

Whereas homophily is the broad definition for the tendency to associate with demographically similar people, gender homophily only focuses on the tendency to associate with people who are similar in terms of gender (McPherson et al., 2001). Social networks in all kinds of different fields illustrate to be gender segregated because of a significant difference in gender. Many networks and environments show an image that is in line with gender homophily. From childhood on, people have the urge to show gender homophily behaviour. It has been shown that there is homophily behaviour on gender in problem-solving already by children (Tuma & Hallinan, 1979). It shows that humans from an early age behave gender segregated, and when one is adult that the networks or social groups to which they belong are even more gender segregated. Furthermore, it has also been found by (Ibarra, 1997) that men have more gender segregated social circle than women.

## 2.4 Gender segregated industry

According to data of the years 2013 to 2017, retrieved from Pitchbook, only 91 out of 1015 venture capital decision-makers working in the US for venture capital firms with at least one fund of \$100 million were women.<sup>4</sup> This number means that less than 9% of the people who decide that a startup gets venture capital funding are women. One would say that women, on average, do not match the qualifications to become a venture capitalist. However, it seems that low enrolment in specific qualified education is not the cause of the lack of female venture capitalists (Gamba and Kleiner, 2001).

Furthermore, one can say that the venture capital industry is characterised by its tight and geographically concentrated networks and homogenous backgrounds in terms of education and experience (Gatewood, 2009; Gamba and Kleiner, 2001; Brush et al., 2018). As a result, information flows circulate through concentrated similar networks. Given the importance of networks within the venture capital industry, it suggests that gender homophily plays a role in the decision-making process since similarity breeds connection. Homophily theory suggests that humans have gender segregated networks and that men tend to have more gender segregated social circles than women (Brashears, 2008; McPherson et al., 2001; Lazarsfeld and

<sup>4</sup> <http://bit.do/female-decision-makers>

Merton, 1954; Ibarra, 1997). This is in line with findings that venture capitalists are mainly 'boys clubs'<sup>5</sup>.

### 2.4.1 Deal origination

Since men and women have different social networks and the gateway to finance is male-dominated, there is a lack of gender diversity in the ecosystem. As stated in Tyebjee and Bruno's (1984) investment decision theory, 75% of the incoming proposals come from network referrals and investors. In accordance with homophily theory, it is argued that there is a pipeline problem since these referrals come from male segregated social networks. One can say that these referrals from other venture capital firms, business associations, universities, accelerators, technology transfer offices and other actors within these networks are the most common way for an entrepreneur to get access to venture capital (Becker-Blease and Sohl, 2007). There is a significant number of qualified female entrepreneurs with the right education, experience and human capital and even a significant number of female entrepreneurs that want to grow their venture and fit in with funding criteria of venture capital funds (Carter et al., 2003; Brush et al., 2004b; Gatewood et al., 2009). These female entrepreneurs seem to have great difficulty in attracting venture capital (Greene et al. 2001; Brush et al., 2002; Brush et al., 2018). The suggested similarity bias and homophily in deal origination could have its roots in the hiring and selection of business developers who search for new deals through networking and active search in different networks since the theory suggests that female networks with qualified capabilities do exist (Becker-Blease and Sohl, 2007)

## 3. METHODOLOGY

This chapter describes the methodology used for this study. It describes why this research makes use of a specific methodology and how the results are analysed.

### 3.1 Research design & strategy

This research consists of qualitative research in which I want to explore and find new knowledge about the funding gap and why it ceases to exist. These new insights should provide further research directions on the topic and a possible tool for the industry how they can deal with the topic themselves. The design of this research is explanatory because we want to find and formulate awareness and practices which are used by venture capitalist firms. Since this is explanatory research, this research aims to find trends or relationships in the answers of the respondents to the questions. The qualitative data is collected by several interviews held with venture capital firms in the Netherlands. The questions in my interview should provide a deeper understanding and should help with providing information to better answer the research question. Although interviews do not provide a hard answer to the questions because it is qualitative, they do give new insights and findings which could help to answer the questions.

The interview questions can be found in Appendix 2. The first parts of the questions are general questions to get more information about the specific venture capital and how they source for new deals. After these questions, I asked them about their policies and awareness on the topic. Furthermore, I asked questions about possible counterapproaches and strategies they use for deal sourcing to receive more business plans of female entrepreneurs.

### 3.2 Sample

This research is conducted via interviews among six venture capital firms in the Netherlands. Six interviews are conducted to

get a clear view of the topic within the Dutch venture capital industry. The interviews are answered by representatives of the venture capital firms who have appropriate knowledge on the topic. This requisite has been mentioned in advance when I made the appointments. There are several grow stages of startups where each venture capital firm focuses on. These are seed stage, early stage and later stage. Seed funding is provided to help the entrepreneur succeeding in getting the company off the ground. Early stage is intended for new ventures who are still working on real market traction and validation, but ready for the next step. Later stage funding is characterised by ventures who are ready to grow and expand. For the sample of this research, I have chosen to only focus on seed and early stage. The reason for this is because venture capital has a critical role in the success and development of new ventures, especially for seed and early-stage (Cassar, 2004; Mason and Harrison, 1992).

Since the funding gap is visible in the technology sector where only 1,6% of the startups in the Netherlands receive venture capital funding, I decided to interview Dutch venture capital firms with an investment focus on several technologies. An detailed overview of my participants and their technology investment focus can be found in table 3.

## 3.3 Data collection

I made a list and included all the venture capital firms in the Netherlands and sorted these based on the stages in which they invest. First, I started by calling them by phone, but I noticed that the firms wanted to have more specific information about my topic and that they first wanted to considerate it. Based on this, I wrote an email which is available in Appendix 1. In this email, I explained to them who I was, where the topic of my thesis was about and invited them to have an interview with me. I received around eight responses of venture capital firms who wanted to speak with me, of which 6 had time for me before my thesis deadline. The data were collected through five telephone interviews and one face-to-face interview. The reason for this is because of time restrictions of this thesis and the time it would have taken me to travel to the firms. Furthermore, all the interviews have been recorded, transcribed and analysed/coded with permission of the interviewee. All the interviews have been conducted with persons who were either the owner, general partner or managing partner of the seed or early-stage fund.

## 4. RESULTS

In this section, the results of the interviews are discussed. All the interviewed venture capital firms were Dutch or active investors in the Netherlands. Therefore, the interviews have been held in Dutch. Before the results of the interviews are given in this section, a description of the specific firm describes the venture capital firm. An overview of each venture capital's firm-related characteristics can be found in table 3. The results are discussed in a later section. An overview of the results can be found in the appendix: *Appendix 3: Summary table of the results.*

### 4.1 Venture Capital 1

The first venture capital fund is a small seed fund with a budget of €10 million. The fund only invests in the first phase of entrepreneurship, and the investments they make are around €1 million each. They are active in the health care industry with a focus on ICT and medical devices in the Netherlands. The interviewee is the investment manager of the fund and is a man.

They describe their deal origination stage as passive and active. However, they do have a greater focus on passively obtaining deals because they describe their specific sector as a biotope

<sup>5</sup> <https://www.entrepreneur.com/article/321321>

where everyone knows each other. Startups that need funding in this specific sector will eventually end up at this firm. Many startups send direct emails to them. They also rely a lot on innovation networks, technology transfer offices, universities, UMC's and accelerators. In terms of active search, they search actively for them during relevant pitch events. Because they are a small venture capitalist, they do not have many people. The person I talked to does almost everything alone, including deal sourcing. Due to the small size of this firm, it is not worthwhile to do this with more than one person now. However, they are working on a new investment fund, and then there is room for a larger team. They are thinking about going for a more diverse team and know that it is good to work more diversely. However, they do state that quality comes first.

Moreover, they state that they are more inclined to make an appointment with a startup when the investment proposal comes in via their networks. This fact is interesting because the theory shows that female entrepreneurs are less likely to be involved in venture capital networks. When I asked if there were any policies in investing more diverse, the firm said that the main reason they exist is that they invest in startups that make healthcare better and cheaper. Because of that, investing in diversity is not one of their core tasks. They say that they are focused on investments that meet the requirements of their investors and that maintaining a diverse portfolio in itself is not a core task of theirs.

Furthermore, they indicate that they are aware of what is going on in the industry when it comes to my subject and the articles that have been published. They also noticed that several parties stated that something must be done.

The investment manager of the fund also said that from his own experience, it was clear that many women are working in networks from which they receive referrals. This was different than the findings of the theory. This could be mainly due to the sector in which this venture capital firm is active. They do indicate that about 10% of the financing proposals they receive were led by a woman and that this number is reflected in their portfolio. They think this is because they mainly invest in technology. They do not use measures to receive more proposals because they look at exciting startups and not female entrepreneurs. They say that they invest based on the idea of the startup and the qualities the entrepreneurs have. To take measures to get more proposals of female entrepreneurs seems counterproductive to them.

This venture capital is convinced that there are enough women in the health care sector around the technology transfer offices and universities. However, they indicate that when it comes to medical devices and software, they mainly see men here. They see that female-run startups are more involved into service related businesses and that men are mainly operating on the hard technology sides.

## 4.2 Venture Capital 2

The second venture capital fund also is a small fund in the Netherlands. This fund has a budget of €2 million in total and focusses on pre-seed and seed funding. Their investment focus lies within the nanotech domain. Their interest within the nanotech domain lies in advanced instrumentation. They invest around €250.000 per startup. Now, they have investments running in 3 companies, and they aim to make about two investments per year. The interview is held with the director/founder of the fund, who is a man.

The fund's team consist of the two founders. An essential characteristic of this fund is that they manage their startups very actively in the first phases of the new company and are very proactive. The search for investments at this firm is both passive and active. What they do differently from other venture capitals is that they do not invest in existing companies and do not make use of existing venture capital networks. This firm only uses physics networks and science professors for deal flow. On the active side, they regularly visit technology transfer offices to walk through their portfolios. They are also active in Dutch and European research committees, where they see exciting research being carried out. They follow those who can make a breakthrough. They also look at research that has received a grant and follows these as well. The two owners of the funds also are involved in arranging new investment proposals because it is a smaller fund. Moreover, they do indicate that the technology transfer offices offer them the most deals and thus do most of the scouting for them. The next question I asked, whether they had thought about the idea to involve women in deal sourcing, was irrelevant because of the size and structure of the firm.

Regarding women and diversity in the teams, they put together the teams for their startups. They want the right balance for that. However, because this venture capital company has such a specific investment focus on technology in the Netherlands, it is already challenging for them to find any suitable technical personnel at all. The job applications that come in are exclusively men. However, approximately half of the employees they have are foreign, so that is quite diverse, they say. Also, in terms of policies regarding investing divers, they do not want to focus on this because the quality is their main focus, they say.

I also asked them to what extent they take cold deal flow less seriously, but mainly because they have such a specific investment focus, they indicate that network referrals are indeed taken much more seriously than cold calls or emails that come in. Furthermore, the interviewee knows that women receive less funding and points out that this is because there are very few female entrepreneurs in their sector. All the high-tech entrepreneurs he knows are men. Apart from this, he speculates that investors are averse in investing in young female entrepreneurs. The interviewee said: *"And I also think, but that is speculation, that investors are averse in investing in young female entrepreneurs because they are afraid they will get pregnant. I am sure they are."*

As a result, given the sector in which they operate, they do not have any networks with women. They do not use measures to get more applications of female entrepreneurs because they say that it is a fundamental problem which starts at the source. This venture capital firm operates in a specific sector and receives its deals from technology transfer offices and science networks. It would be beneficial if there were more female scientists than there are now, he said. In the week that this interview has been conducted a technical university in the Netherlands decided that they will only hire women in certain research positions because they found out that there were biases in the selection decisions they made and they want more gender diversity on these positions.<sup>6</sup> The interviewee argues that there is room for improvement in the pipeline of deal origination because more female scientists should give them more female deal flow. He said the following about universities: *"I think that universities also discriminate and go for men, because they are afraid that women will choose their families instead of scientific careers"*. Although this is just an observation and beyond the scope of this

<sup>6</sup> <https://www.nrc.nl/nieuws/2019/06/17/tu-eindhoven-wil-alleen-nog-vrouwen-aanemen-a3964065>

research, it could be interesting to dedicate more research on this statement.

The firm also indicates that there is still progression to be made in deal sourcing. Since this venture capital firm is primarily focused on science output, he noticed that entrepreneurship and science are being promoted more and more. Emphasis could now be placed on female entrepreneurship, he said.

### 4.3 Venture Capital 3

The third venture capital fund has currently around €7 million in outstanding investments. They invest in early-stage startups who already have some turnover. Their team consists of about seven people, of which 1 is a woman, and the investment focus is on business-to-business software companies. The interviewee is a man and the general partner of the venture capital.

This venture capitalist is searching very actively because they go to every relevant event in the Netherlands, where they hunt for new deals. Furthermore, they have many angels and former entrepreneurs in their network who forward information and opportunities to them. The whole team is looking for investments within the fund. One of them is woman, and they wish this was different and hope that the next people they hire are women. They think it is a healthy idea that at least half of their team consists of women. When I asked whether incoming investment proposals from their networks were taken more seriously than cold proposals, they said indeed that more attention is given to investments proposals coming from their networks.

In terms of making diverse investments, they do invest divers in terms of the deals what they offer their investors. This firm receives approximately 100 requests of financing per month, of which they start talks with 20 to 30 of them. From this group, 4 of them are welcome at the monthly meeting, and eventually, one is funded. Diversity in this process is essential, but not decisive because they go for the quality of the startup and focus on the product, market potential and team. The interviewee thinks that diversity is very important in terms of team composition. He is convinced that startup teams with women in them perform better. However, again, this is not their investment condition. On the other side, they observe that women are underrepresented in the sectors in which they invest. An optimistic estimate has been given that 20% of the applications are women. Furthermore, they are aware that women receive less funding in the venture capital industry, but the interviewee said that this is because there are too few startups with female entrepreneurs and that the source of the problem needs to be addressed better in research with more data.

If they look at the networks that deliver deals in their industry, they recognise that these networks are indeed mainly male dominated. This venture capital firm has an extensive network of angel investors, and among these angels, they see mainly male investors. The interviewee believes that there are not enough female entrepreneurs and that this, in turn, results in too few female investors. Furthermore, there are no countermeasures that are used to receive more female proposals because they do not want to favour the entrepreneur based on this. Instead, they want to look at the criteria that have been discussed.

The interviewee said that there are some active female networks, but believes that there are too few female entrepreneurs in total and suggests that more action should be taken to promote female entrepreneurship.

### 4.4 Venture Capital 4

The fourth venture capital fund is a larger fund for Dutch terms because their portfolio currently held around €50 million. They invest in the seed and early stage phase of new ventures and focus on health care innovation with a specialisation in medicines and medical devices. Their team consists of about six people, of whom 2 are women. The interviewee is a man and the managing partner of the venture capital.

They describe themselves as having a passive strategy when it comes to deal flow. Most of the deals come in passively because they have a build a reputation in the sector where they are operating and are therefore easy to find. They also point out that they are present at related events and conferences and that they cooperate with technology transfer offices, corporate finance houses and university networks. In this venture capital, there are three men, and one woman who is involved in attracting investment proposals. I asked them if they ever thought about involving more women in this stage. The interviewee stated that it is genuinely about the quality of the employee and that gender is of no importance. They look at relevant work experience and background. Furthermore, in terms of investing diverse, they claim to invest in quality instead of diversity.

When I asked them if they take cold deal flow less seriously, he said that indeed more detailed consideration is being given to proposals that come in via their network.

In terms of awareness about the funding gap, the interviewee responded that he disagreed that female entrepreneurs receive less funding than male entrepreneurs. Following on the articles, they have had a discussion with the NVP participation group about this topic.<sup>7</sup> The reason that they disagree is that the supply of startup teams with women is a lot less than that of teams with men. Also, they did an internal survey based on the proposals they received and based on the proposals they funded. The interviewee said that based on this survey that they invested above average in teams with women.

Moreover, he thinks that the published articles in the Netherlands are a piece of marketing for a venture capital fund that has a focus on female entrepreneurs. The interviewee would like to see higher research on the supply of proposals by female entrepreneurs and sorted by sector. At this moment, they notice that there is a massive under-representation in the hard technology sector of women and that the problem originates from the pipeline. Besides this, they do see a catch-up of female entrepreneurs.

Furthermore, they see a lot of men in their networks who refer deals and investment opportunities. However, there are no countermeasures that are used to get more female funding proposals because the objective is to support the best proposals and that men or women are of no importance, they said.

The interviewee also said that the phenomenon gender-based homophily could play a role in the gap, but that it does not apply to them given the portfolio build-up they have.

### 4.5 Venture Capital 5

The fifth venture capital is a large firm with funds of over €100 million. They have three funds of respectively €21, €25 and €100 million. However, it is good to know that their roots are in the United States, and not in the Netherlands. They invest around 50% in the US and 50% in Europe. I came in touch with them because they have their Europe office in the Netherlands and I think that an interview with them could still provide new

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<sup>7</sup> The Dutch Association of private equity firms. More information on <http://www.nvp.nl/>

knowledge on the topic. Their investment focus lies on startups without customers and thus they focus on pre-seed and seed phase startups. The investments they make are from €1 million to €3 million each time because they believe that you can reach higher results with this amount. They claim to invest only in disruptive new technology startups. The interviewee is a man and the general partner of the firm.

When I asked the interviewee whether he thinks that there are enough female entrepreneurs, he indicates that there are many excellent female entrepreneurs, but not in high tech

#### 4.6 Venture Capital 6

The sixth venture capital is a €20 to €25 million venture capital firm with a focus on business-to-business software and high-tech. Their team consists of 7-8 people which the interviewee

Details	VC1	VC2	VC3	VC4	VC5	VC6
Budget	€10 million	€2 million	€7 million	€50 million	€146 million	€25 million
Stages	Seed stage	Pre-seed and seed stage	Early stage	Seed & Early stage	Pre-seed and seed stage	Seed stage
Industry	Health care (ICT & Medical devices)	Nanotech (Advanced instrumentation)	B2B software	Health care (Medicines & Medical devices)	Disruptive new technology	B2B software & high tech
Tickets	€1 million	€250.000	X	X	€1 to €3 million	X
Geography focus	The Netherlands	The Netherlands	The Netherlands	The Netherlands	US/Europe	The Netherlands
Interviewee	Investment manager	Director/Founder	General Partner	Managing partner	General partner	Managing partner
Team	1	2	7	8	4	8

**Table 3: Overview interviewed firms** This venture capital said that they do not look for deals because they receive more than 1000 requests each year. The reason for this is because nobody invests as early as they do and therefore they have built up an excellent reputation in the industry and in the sectors where they are active at. Besides this passive deal flow, they are also active. They do attend a lot of relevant events to network or because they are invited as a keynote speaker. Furthermore, their sweet spot of the best deals lies in university spin-offs and in general, they conduct market research for several months before they invest. When they invest, they immediately attract top management for these startups. This venture capital also takes an active role in their startups.

The team of this firm consists of 4 persons in which 2 have the role of general partner. The other two persons have the role of investor relations and office manager. The person for investor relations also has the function to source deals and is a woman. They do not care if it is a man or a woman; they want good people and hire people because of their qualities and technical backgrounds. When I asked about any policies they have, to invest more diverse, the interviewee said that they focus on the quality as well instead of diversity.

Even though they receive so many deals via email, they state that they are more likely to engage in conversation and pay more attention to requests that come through a warm entrance.

When I discussed my topic, they are aware of what is going on now and said that they think female entrepreneurs are mainly active in sectors other than high tech and that there is a possible mismatch between venture capital financing and these startups.

They also share from their own experience that women are less willing to become entrepreneurs. A large part of their deals comes in via PhD because they invest in disruptive technologies. They argue that female PhD's do exist, but that they do not have the desire to start a business or to a lesser extent. Moreover, the general partner of the firm also thinks that there are far fewer women in tech and that there is a need to interest women more in technology because the investment gap starts at the source.

describes as: "classic setting since they are all men besides our office manager, she is a woman". Furthermore, they are an active investor in terms of management they provide. They aim to help their portfolio startups in all their related value creation processes. The interviewee is a man and the managing partner of the firm.

This venture capital firm is searching very actively for deals because they even have got an analyst specially appointed for this. This analyst is scanning-out the market for opportunities. They search actively by themselves and do not wait for something to come to them. They follow the activities in the cities of the Netherlands and its related events. Besides these, they work with incubators, startup communities, professional communities and universities. They have invested in quite a lot of university spin-offs. Apart from the active search, there is also regular deal flow via their networks. Besides the analyst whose job it is to search deals, the whole team is also active in searching and facilitating deal flow.

Considering their "classic setting" as the interviewee described, I asked him if they have thought about using more women to source deals as well. They are thinking about using women for this as well, but they hardly meet any women in this high-technology industry in which they are active. They do see female investors, but these are more on the e-commerce side and other sectors, they said.

Since they have such an active deal flow strategy, I asked whether they take cold deal flow less serious than warm deal flow. The interviewee said that cold financing applications are indeed taken less seriously than the deals they look up themselves.

Furthermore, they do not have any policy regarding diverse investments, but they do prefer diverse teams. However, they explain that he can hardly make any investments if they must be concerned with this. They consider the team as the most crucial factor but points out that they see an enormous underrepresentation of women in sophisticated technology sectors in which they invest. This underrepresentation makes it challenging for them to invest diverse.



They are aware of the studies that women receive less funding than men, but they do not recognise this themselves if they look at the ratio of the proposals what they receive. As an estimation, the interviewee states that of all the incoming proposals, they receive less than 10% of the proposals from startups with women on the team. The reason they give is that it all starts with the technical universities because women are a minority there. They notice an under-representation of women in the sector in which they invest, and they also think that there is an under-representation in female entrepreneurship. According to this venture capital, this is where it all starts. They also believe that there is more than enough funding available at this moment in the Netherlands, but that there is a lack of good business plans to finance.

There are no countermeasures in use to receive more proposals of female entrepreneurs because they are looking for great companies and not for the gender of an entrepreneur. However, they do hope that there will be a diverse team behind it. When I asked them whether they think that there were enough networks with female entrepreneurs, the interviewee pointed out that they do not know many female networks and thinks that there is a huge need for more diversity because this will result in more balanced management teams. They feel that there are too few female entrepreneurs in their sector.

#### 4.7 Summary of the results

An overview is made of all the interview results per venture capital firm. This overview can be found in the appendix under *Appendix 3: Summary table of the results*.

The six interviews that have been conducted show some interesting results that give a different and new image on the theory and the discussion that is going on in the venture capital industry about the funding gap. There were many similarities on the topics that were discussed between the interviewees. First, it was indeed noticeable that almost all venture capital firms are tightly interwoven in various networks as described by Ferrary and Granovetter (2009). Furthermore, in terms of deal flow, VC3 and VC6 state that they are actively looking for new deal flow and VC5 indicates that they have a passive deal flow. The rest of them state that they have both an active and passive deal flow. It is also noticeable that they all have specific places and networks where they get deals from. Three of them rely heavily on science and university-related networks and indicate that this is an essential source for new deal flow. Technology transfer offices (TTO's) are also significant for almost all the venture capital firms. These TTO's were often mentioned. Other deal flow channels are pitch events, accelerators and cold and warm referrals.

The teams vary from 1 person to 8 persons with an average of 5 persons, of which 80% are men. Almost all persons in the teams of the firms are indirectly or directly involved in obtaining deal flow.

Moreover, all interviewees said that they pay less attention to proposals that come in via cold deal flow. The industry is, and gender homophily states that information in gender-segregated networks become less accessible to people who do not belong in these networks (Marsden, 1988; Mcpherson et al., 2001). These gender segregated networks, in turn, create a social distance as defined by Marsden (1988). The interviewees said that deal flow mainly results from warm referrals and known networks. This could mean that proposals of female entrepreneurs are more likely to reach venture capital firms through cold channels since they are not present in the associated networks. These cold channels seem to receive less detailed consideration of venture capital firms. However, all interviewed venture capital firms indicate that they hardly see any women in the sectors they are

interested in. Only VC1 states that there are many women in accelerators and around health care networks. But VC1 also states that when it comes to the hard technologies they are interested in, they see very few women. All six venture capital firms state that they receive a low percentage of female proposals and that this percentage at least reflects their investment portfolio. They are all aware that women receive less funding than men but are unanimously convinced that this is because there is a massive underrepresentation of female tech entrepreneurs. Some want to see a more thorough study of the number of applications for funding before conclusions are drawn in the Netherlands.

## 5. CONCLUSION AND DISCUSSION

In this section, the summary of the results is linked to a discussion of the results. After this discussion, recommendations are discussed for further research and the contribution of this researched is examined.

It is a remarkable finding that all the venture capital firms unanimously recognise that women receive significantly less funding, but that they also feel that women are not underfunded if you look at investment proposals that come in. These findings are a contradiction with earlier research which stated that enough female entrepreneurs are looking for venture capital funding and that there are enough qualified women (Gamba and Kleiner, 2001; Carter et al., 2003; Brush et al., 2004b; Gatewood et al., 2009). This contradiction is a significant future research opportunity to investigate this more thoroughly and gives a different direction to the initial intention of this research.

VC1 and VC4 said that there is a great number of female entrepreneurs and related networks, but they stated that they are in different sectors than the ones they invest in. VC5 invests a lot in PhD and new disruptive technologies deriving from this. VC5 stated that there are some female PhD's but that they don't have the desire to take the entrepreneurship route.

Four out of six venture capital firms feel that their teams can be more diverse or state that they think diversity is healthy and better in general, but they do not use countermeasures to get more female entrepreneurs to submit investment proposals. They say that the reason for this is because they judge based on the quality of the startup or team and not on the gender of the entrepreneur. Apart from this, they feel that the problem of the low number of female entrepreneurs lies at the source and not in a countermeasure taken by themselves against male networks. This immediately answers the proposed question which is that the industry is very aware of the gender funding gap but has a different point of view in the cause of the subject. The venture capitalists are convinced that there are just not enough women in the sectors in which they are active in. Based on their point of view, it makes sense that they don't have countermeasures against gender homophily to solve a part of the funding gap and increase female dealflow. All 6 of the venture capitalists argue that female entrepreneurs don't receive less funding if one would look relatively at the proposal number and funding numbers of female entrepreneurs.

VC1 argues that there are mainly men in their sector, VC2 points out that given their sector, there are not any female networks. VC3, VC4 and VC6 observe a considerable underrepresentation of female entrepreneurs in their sector and VC 5 argues that there is a mismatch between venture capital firms and female entrepreneurs because they are both active in different sectors. All the interviewees agree on one thing, which is that it's a fundamental pipeline problem and not a funding problem. They argue that action should be undertaken at universities and the technology sectors to promote female entrepreneurship and more women in technology. Some also suggest that it will help them

tremendously if more women are accepted for promotion research in universities.

It was unexpected to receive such unanimous answers on my subject from most of the respondents and that they were unanimous in saying that the problem lies in the source and they don't encounter many female entrepreneurs in their networks and sector. The findings give exciting results to this research, but they do provide a different twist to the research question that has been questioned. This unexpected contradiction could also expose a bias from the investors since the interviewees identically agree that their behaviour is not a cause of the funding gap. The literature (Brush et al., 2018) suggests that investor biases play an essential role in factors of the funding gap and the decision-making process of venture capital firms. This twist offers very interesting opportunities for further research on this topic.

## 5.1 Future research directions

Based on the findings from the interviews that the venture capital industry states that there are too few female tech entrepreneurs, it is essential that more research is done. They comment that they receive very few investment requests from startups with female entrepreneurs. They say that they do invest based on the quality of a startup or a team and that the low number of female tech entrepreneurs who are looking for venture capital is reflected in their portfolio. They argue that this is an indication that there is no relative funding gap when you look at the yield rate. The yield rate is the ratio of the number of deals funded to the number of proposals submitted. Based on this, an essential further research opportunity is that the yield rate should be examined to measure gender homophily in the venture capital industry. Based on this further research, better conclusions can be drawn, and actions can be taken. There is currently no incentive for venture capital firms to consciously look for more for female entrepreneurs because they do not believe those female entrepreneurs are underfunded. To my knowledge, the only study that includes data on the proposals is the study by Becker-Blease and Sohl (2007). However, this study was carried out with data of angel investors. This research showed that angel investors tend to invest more in entrepreneurs of the same gender. They also showed that entrepreneurs tend to have a preference to seek funding from investors of the same gender. It was suggested that there should be more female investors. 80% of the people working for the interviewed venture capital firms are men. Based on this, it would probably already help to attract more female investors, as Becker-Blease and Sohl (2007) suggest. Diana project 2004 also shows that female investors are increasing the network of female entrepreneurs. More research with a focus at the venture capital industry is needed to look at the yield rate. This also needs to be researched expressly per sector because the results suggest that the number of female entrepreneurs varies greatly from sector to sector. Furthermore, the quality of the proposals that come in should be examined and to what extent they are in line with the investment profile of the venture capital firm because some interviewees indicated that there is a mismatch due to sector differences.

The suggested research direction to use data to measure gender homophily more accurately is not the only way. There are other more important methods which can be used to measure biases of investors and gender homophily. The first method is the use of psychological tests which consists of a survey with several questions related to gender homophily. This test represents a subset of questions related to gender homophily which are often based on a Likert-type scale or true or false rankings. The second

method is the usage of an experiment on venture capital firms to measure gender homophily. Further research with an experimental design could represent a simulation of funding decision made by venture capital firms and discover gender homophily within the decision making of venture capital firms.

Although beyond the scope of this research, this researched discovered some possible stereotyping across universities regarding female entrepreneurs. This is not verified at all, but since universities seem to be such an important source of new deal flow for most of the venture capital firms, it could be interesting to investigate whether men are more likely to be put on scientific research than women within universities due to stereotypes, biases or other factors. Further research is crucial on this topic given the importance of venture capital on startups and the worldwide economy (Lerner, 2013).

## 5.2 Contribution

This research points out that venture capital firms perceive a massive under-representation of female tech entrepreneurs. This suggests that female entrepreneurship, especially in technology, should be promoted more. The venture capital industry sees the problem as a pipeline problem instead of a funding problem. This adds to the current literature. The contribution of this research is that the explanatory results of the venture capital firms in the Netherlands could provide a basis for further research. This research provides new insights into the research topic by providing a unique view of the venture capital side. Furthermore, it provides female-led startups more insights in where they can find a better entrance to venture capitalist firms. This is helpful, since cold calls or emails are taken less seriously than warm entrances. This research gives insights on how venture capital firms arrange their deal flow. Moreover, since the gender gap is even more significant presence in the Netherlands in comparison with other countries like the US, it's interesting to do more research about this phenomenon in the Netherlands.

## 5.3 Limitations

Although I think that the results are exciting, there is a limitation in the questions I have asked the venture capital firms. I have chosen to keep the interview questions more general because this can be a sensitive subject and the goal was to gather more information about the deal origin stage in venture capital concerning male networks. The reason why this topic can be a sensitive subject is because a blacklist has been published in the Netherlands of Dutch investors who use stereotypes and sexism.<sup>8</sup> I didn't want to be biased towards the interviewees or offend them in my questions.

Another limitation of this research is that I have only taken the standpoint of venture capital firms in concern, and this means that all the answers they provide tend to be subjective. This input is still valuable, but it should be considered while reading the results. Further research, as I suggested, should provide more hard conclusions on this topic.

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<sup>8</sup> <https://fd.nl/ondernemen/1290771/vrouwen-houden-zwarte-lijst-bij-van-botte-techinvesteerdors>

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## 7. APPENDIX

### Appendix 1: Email

Goedenavond

Ik ben Eduard van Pagée, student aan de Universiteit Twente en schrijf een afstudeer thesis voor de opleiding International Business Administration. Mijn thesis gaat over de deal-origination stage in Venture Capital, waarin proposals worden aangeleverd door netwerken en/of actief worden gezocht en worden gevonden in netwerken.

Omdat de VC-wereld en haar netwerken voornamelijk mannelijk van aard zijn en de deal-origination stage een belangrijke fase is voor ondernemingen die funding zoeken, zou ik graag meer informatie willen verzamelen rondom dit onderwerp door middel van een kort interview. Het doel van het interview is puur en enkel informatief. Aanleiding van dit onderzoek is omdat er:

- Steeds meer wordt gepubliceerd over diversiteit in VC en het funding gap in VC

- Steeds vaker mensen met groot bereik aandacht vragen voor dit onderwerp *e.g. (Ivanka Trump op GES 2019) & (Constantijn via StartupDelta/StartupFest Europe)*

Gezien het klein aantal vragen zal het gesprek echt **maximaal 30 minuten** van uw tijd nemen. Gezien jullie locatie zou ik het prettig vinden om het gesprek via Bijvoorbeeld Skype plaats te laten nemen. Het liefst spreek ik met een ervaren persoon die voldoende informatie heeft om mijn vragen te beantwoorden.

Indien gewenst kan ik vooraf de vragen naar u toesturen.

Wat vindt u ervan om een interview afspraak te maken? Ik ben u dan ontzettend dankbaar omdat u mij dan met mijn laatste fase in mijn studie en thesis helpt.

Ik hoor graag van u,

Met vriendelijke groeten,

Eduard van Pagée

### Appendix 2: Interview protocol + questions

#### Introductie

Ik ben een student aan de Universiteit Twente en schrijf een thesis voor de opleiding International Business Administration. Mijn thesis gaat over de deal-origination stage waarin proposals worden aangeleverd door netwerken en/of actief worden gezocht en worden gevonden in netwerken.

Omdat de VC-wereld en haar netwerken voornamelijk mannelijk van aard zijn en de deal-origination stage een belangrijke fase is voor ondernemingen die funding zoeken, zou ik graag meer informatie willen verzamelen rondom dit onderwerp door middel van een kort interview. Het doel van het interview is puur informatief om meer informatie te krijgen over het onderwerp voor mijn thesis. Aanleiding van dit onderzoek is omdat er:

- Steeds meer wordt gepubliceerd over diversiteit in VC en het funding gap in VC.
- Steeds vaker mensen met groot bereik aandacht vragen voor dit onderwerp *e.g. (Ivanka Trump op GES 2019) & (Constantijn via StartupDelta/StartupFest Europe)*.

#### 1. Interview protocol

Om de informatie goed te gebruiken voor mijn onderzoek neem ik graag het gesprek op via mijn telefoon/iPad/Skype. Voor uw informatie het volgende;

- Het interview wordt opgenomen via telefoon/iPad/skype.
- Alleen de onderzoeker(s) die betrokken is/zijn bij dit onderzoek hebben toegang tot de opname. (Deze opname zal worden verwijderd nadat ze zijn gecodeerd).
- Alle gegeven informatie is vertrouwelijk.
- Deelname aan dit onderzoek is vrijwillig en u mag op elk moment verzoeken om niet meer deel te willen nemen aan dit onderzoek. Hiervoor is geen reden nodig.
- De onderzoeker heeft niet de intentie de geïnterviewde te kwetsen of te schaden. Het doel van dit interview is om meer te weten te komen over het overwerp en om een dialoog aan te gaan.

Ik ontvang graag een schriftelijk/mondeling/mail akkoord voor bovenstaande dikgedrukte tekst.

## 2. Vragen

1. *Hoe groot zijn jullie? (Indien u dit mag/kunt vermelden)*
2. *Beschrijven jullie jezelf meer als het hanteren van een passieve of een actieve strategie in de zoektocht naar investeringen? (Of allebei...)*
  - *Passief = Open sollicitaties, vertrouwen op industrie en netwerk evenementen (voorstellen komen naar jullie)*
  - *Actief = Zelf actief zoeken in verschillende netwerken (jullie komen naar voorstellen)*
3. *Hoe gaat dit in zijn werking? Wat kunt u mij hierover vertellen?*
4. *Wie zijn er voornamelijk bezig met het binnenkrijgen van nieuwe investering voorstellen? En zijn dit mannen/vrouwen?*
5. *Heeft u er weleens over nagedacht om hier ook vrouwen voor in te zetten?*
6. *Een onderzoek liet zien dat financieringsaanvragen via cold-calls of email minder serieus worden beoordeeld dan aanvragen die via verwijzingen komen, in hoeverre kunt u zich hierin vinden?*
7. *Hebben jullie een bepaalde visie of een streven om een divers portfolio aan te houden?*
8. *Bent u er bekend mee dat vrouwen minder vaak funding krijgen dan mannen?*

### **Onderzoek laat zien dat de meeste voorstellen binnen komen via referrals uit eigen netwerken.**

9. *In hoeverre bent u er bekend mee dat deze netwerken die deals aanleveren via referrals vaak voornamelijk bestaan uit mannen? Wat kunt u hierover vertellen?*
10. *Zijn er maatregelen of strategieën die jullie gebruiken om meer vrouwelijke financiering voorstellen binnen te krijgen? (Om tegen te gaan dat je alleen maar mannelijke referrals ontvangt en dus een meer diverse stroom van proposals krijgt).*
  - *[Wat voor maatregelen of policy 's zijn dit?]*
  - *[Óf Wat is de reden dat jullie dit niet doen?]*
11. *In hoeverre denk je dat er voldoende vrouwelijke netwerken zijn met vrouwelijke ondernemers?*

## 4. Slot

Bedankt voor het interview! Indien u geïnteresseerd bent in het vervolg van dit onderzoek, dan wil ik gerust een samenvatting of mijn volledige thesis delen met jullie.

In het geval dat u nog vragen heeft over dit onderzoek of aan mij dan zijn dit mijn contactgegevens:

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**Appendix 3: Summary table of the results**

Question Number	Topic	VC1	VC2	VC3	VC4	VC5	VC6
1.	<b>Firm size</b>	€10 million	€2 million	€7 million	€50 million	€146 million	€25 million
2.	<b>Deal origination strategy</b>	Passive and active, but higher focus on passive. - Start-ups that need funding in this specific sector will eventually end up at this VC.	Passive and active. - Don't make use of existing VC networks.	Active.	Passive and active, but higher focus on passive.	Passive.	Active.
3a.	<b>Deal origination strategy details passive</b>	Many start-ups send emails. - Rely a lot on innovation networks, technology transfer offices, universities, UMC's and accelerators. -	Uses physics networks and science professors for deal flow.	Angels and former entrepreneurs in their network who forward information and opportunities to them.	Most of the deals come in passively because they have a reputation in the sector where they are operating and are therefore easy to find.	They receive more than 1000 requests each year because nobody invests as early as they do and therefore they have built up a great reputation. - Many deals via email. - Their sweet spot of the best deals lies in university spin-offs.	They work with incubators, start-up communities, professional communities and university events. - Networks referrals.
3b.	<b>Deal origination</b>	Search actively at for them	Visit technology transfer offices to	They go to every relevant event in the	Are present at related events and conferences	They do attend a lot of relevant	They have a special analyst for deal sourcing who

	<b>strategy details active</b>	relevant pitch events.	walk through their portfolios . - Active in Dutch and European research committees, where they see interesting research being carried out.	Netherlands where they hunt for new deals.	and that they cooperate with technology transfer offices, corporate finance houses and university networks.	events to network or because they are invited as key note speaker.	is scanning-out the market for opportunities. - They search actively themselves and don't wait for something to come to them.
4.	<b>Deal origination team involvement</b>	The person I talked to does almost everything alone, including deal sourcing.	The 2 founders are active in this.	The whole team is looking for investments within the fund.	3 men and 1 woman are involved in attracting investment proposals.	The team of this firm consists of 4 persons. - The person for investor relations also has the function to source deals and is a woman.	An analyst, whose job it is to search deals. Whole team is active as well in facilitating deal flow.
5.	<b>Diversity in deal origination</b>	It is not worthwhile to do this with more than one person now. - They are thinking about going for a more diverse team and know that it is good to work in a more diverse way. However, they do	Irrelevant because of the size and structure of the firm.	The team has 7 persons. One of them is woman and they wish this was different and hope that the next people they hire are women. - They think it's a healthy idea that at least half of their team consists of women.	States that it is truly about the quality of the employee and that the gender is of subordinate importance.	They don't care if it's a man or a woman, they just want good people.	They are thinking about using women for this as well, but they hardly meet any women in this high-technology industry. - They do see female investors, but these are more on the e-commerce side and other sectors, they said.

		state that quality comes first.					
6.	<b>Attention given to cold deal flow vs. network related deal flow.</b>	More inclined to make an appointment with a start-up when the investment proposal comes in via their own networks.	They indicate that network referrals are indeed taken much more seriously than cold calls or emails.	More attention is given to investments proposals coming from own networks.	More detailed consideration is being given to proposals that come in via their network.	They are more likely to engage in conversation and pay more attention to requests that comes through a warm entrance.	The cold financing applications are indeed taken less seriously than the deals they look up themselves.
7.	<b>Policies towards investing divers</b>	They invest in start-ups that make healthcare better and cheaper and because of that, investing in diversity is not one of the core tasks. - Maintaining a diverse portfolio is not in itself a core task of theirs.	In terms of a policy regarding investing divers, they don't want to focus on this because the quality is the focus. - However, they think a good team is a diverse team. - The job applications that come in for their teams are exclusively men due to the technical requirements.	This firm receives approximately 100 requests of financing per month. Eventually 1 is funded. Diversity in this process is important, but not decisive because they go for the quality of the start-up and focus on the product, market potential and team. - He is convinced that start-up teams with women in them perform better.	No, they look at quality.	They focus on the quality instead of diversity.	They don't have any policy regarding diverse investments, but they do prefer diverse teams. - However, they explain that he can hardly make any investments if they must be concerned with this. - He points out that they see an enormous under-representation of women in the complex technologies in which they invest and that this makes it difficult to invest in a diverse way.
8.	<b>Awareness of gap</b>	They are aware of what is going on in the industry when it	Interviewee is aware of the fact that women receive	They are well aware that females receive less funding in the venture capital	They have had a discussion with the NVP participation group	Are aware of what is going on now and said that they think that	They are aware of the studies that women receive less funding, but they don't



		<p>comes to my subject and the articles that have been published .</p> <p>-</p> <p>They do indicate, that about 10% of the financing proposals they receive were led by a woman and that this number is reflected in their portfolio.</p> <p>-</p> <p>female-run companies are more involved in-service related business and that men are mainly on the hard technology side.</p>	<p>less funding and point out that this is because of the fact that there are very few female entrepreneurs in their sector.</p> <p>-</p> <p>The interviewee argues that there is room for improvement in the pipeline of deal origination because more female scientists gives them more female deal flow.</p>	<p>industry, but the interviewee said that this is because there are too few start-ups with female entrepreneurs and that the source of the problem needs to be addressed better.</p> <p>-</p> <p>They observe that women are underrepresented in the sectors in which they invest. An optimistic estimate has been given that 20% of the applications are women.</p>	<p>about this topic and disagree that female entrepreneur receives relatively less funding because the supply of start-up teams with women is a lot less than that of male teams.</p> <p>-</p> <p>They did an internal survey based on the proposals they received and based on the proposals they funded. The interviewee said that based on this survey that they invested above average in teams with women.</p> <p>-</p> <p>At this moment they notice that there is a huge underrepresentation in the hard technologies of women and that the problem origins from the pipeline.</p>	<p>female entrepreneurs are mainly active in sectors other than high tech and that there is a possible mismatch between venture capital financing and these start-ups.</p> <p>-</p> <p>Share from their own experience that women are less willing to become entrepreneur.</p> <p>-</p> <p>They argue that female PhD's do exist, but that they don't have the desire to start a business or to a lesser extent.</p> <p>-</p> <p>There is a need to interest women more in technology because the investment gap starts at the source.</p>	<p>recognize this themselves if they look at the ratio of the proposals what they receive.</p> <p>-</p> <p>The reason they give is that it all starts with the technical universities, because women are a minority there.</p> <p>-</p> <p>Underrepresentation of women in tech.</p> <p>-</p> <p>Underrepresentation of women in entrepreneurship.</p>
9.	<b>Information and awareness of male</b>	Disagreed , there are many women	Agreed, Given the sector in	They recognize that these networks	They see a lot of men in their networks	"Yes, that is the case"	Yes, mainly men.

	<b>dominated industry/networks</b>	working in the networks from which they receive referrals.	which they operate, they do not actually have any female networks.	are indeed mainly male dominated. - Not enough female entrepreneurs and that this in turn results in too few female investors.	who refer deals and investment opportunities.		
10.	<b>Countermeasures against male dominated industry</b>	They do not use measures to receive more proposals because they look at interesting start-ups and not woman entrepreneurs.	They do not use measures to get more female applications because they say that it's a fundamental problem which start at the source.	No countermeasures that are used to receive more female proposals, because they do not want to favour the entrepreneur based on this.	There are no countermeasures that are used to get more female funding proposals because the objective is to support the best proposals and that men or women are of subordinate importance.	They just want to find good entrepreneurs. They don't care who that is.	There are no current countermeasures to receive more proposals of female entrepreneurs, because they are looking for great companies.
11.	<b>Female networks awareness</b>	There are enough women in the health care sector around the technology transfer offices and universities. - They indicate that when it comes to medical devices and software, they mainly see men here.	Given the sector in which they operate, they do not actually have any female networks.	There are some active female networks, but believes that there are too few female entrepreneurs in total and suggests that more action should be taken to promote female entrepreneurship.	<i>"Yes they are there, I know they are there, I know that my colleague heard that they are there, quite a few."</i>	He indicates that there are many good female entrepreneurs, but not in high tech.	They do not know many female networks and think that there is a huge need for more diversity because this will result in more balanced management teams.

