

## **The development of student start-ups social network over time.**

*Martin Haring MSc Amsterdam University of Applied Sciences m.haring@hva.nl*

### **Abstract**

This article is about the development of strong and weak ties in the social network of nascent entrepreneurs by doing a longitudinal case study among seventeen student start-ups in the period 2009-2013. This study examines how student entrepreneurs develop their network over time. Recent studies have focused on which networks would help entrepreneurs to become successful and what would be the best mix of strong ties and weak ties to build an organization upon. Only a few studies focused on how networks develop over time.

All students started their businesses in the last two years of their bachelor education at the University of Applied Sciences in Amsterdam. As part of their 6 month elective minor program each of them started a new business. I interviewed them directly after they had started their businesses and monitored their activities while they were developing their businesses over a period of three years.

This study adds to the current social network literature by emphasizing the importance of commitment to the start-up in the early phase of development in order to connect to weak ties and the importance of the goodwill factor and no fear to ask especially in the case of the development of student startups to connect to weak ties. In both cases the new network needs to be consolidated by taking care of free publicity, winning awards and product development.

This article can be of use for both academics and practitioners.

### **1. Introduction**

Over the last ten years it has become more popular among students to start a business during their bachelor or master study (Aalsaty e.a.,2014). While I experienced that working on the start of a business helps students to find out what they are good at and what competencies are still undeveloped, I decided to develop my expertise in facilitating this process by starting a minor program entrepreneurship at the university of applied sciences in Amsterdam(September 2006). During the development of this program I got acquainted with the theory of Saras Sarasvathy about effectuation(Sarasvathy,2001) and thought that elements out of this theory like working with the available means, thinking about an affordable loss and building partnerships with self-selecting stakeholders, would be interesting for student entrepreneurs.

Over the years I got more and more convinced that the partnerships of the entrepreneur are of great importance and found that there was little longitudinal research done on this subject. Most studies about entrepreneurial networks rely on cross-sectional data and do not deal with the *how* and *why* issues of the development of a network (Jack, 2010; Ruef et al., 2003; Shane and Cable, 2002). These studies generate static information, about something that is, in fact, a highly dynamic process (Newbert et al., 2013). Many questions about *how* the networks of nascent entrepreneurs develop over time are still underexplored (Schutjens and Stam, 2003; Jack, 2010; Stam, et al.,2014).

While the students during the minor entrepreneurship(a voluntary course of a half year) had to start their own business I could make the emerging student start-up my unit of analysis and I could focus on *how* student entrepreneurs (aged 20-25) develop their network over time. We deal in this case with a personal network that needs to be developed and in most cases consists of strong ties of

family and friends (the crazy quilt as Sarasvathy defines it). This social network needs to be activated and new social relationships need to be created (Elfring and Hulsink, 2007; Bruderl and Preisendorfer, 1998; Sarasvathy, 2001), in order to link to customers, investors, suppliers, prospects or representatives of the media, for example.

I mapped this network at the beginning of the start of seventeen student start-ups and followed the evolution of the network over a period of three years. The network helps the student entrepreneur to identify new business opportunities, obtain resources below market price and gain legitimacy. I therefore define networks in this case as: *the main business relationships with respect to legitimacy, sales, supply, outsourcing and cooperation* (Schutjens and Stam, 2003). The student start-ups I followed were service oriented businesses.

Research shows not only that the emergence phase can be successfully undertaken from a variety of starting points (Newbert, 2005), but also that the emergence phase is characterized by “trial and error” (Johannisson, 1988) and the development of the network will take place in highly idiosyncratic ways (Evald et al., 2006). So, *how* should student entrepreneurs build their network, if they do not know exactly what they are looking for? Or to paraphrase Sarasvathy (2008: 70): *How* should entrepreneurs build their network when the future is unpredictable?

While the future is unpredictable the student entrepreneurs also wrestled with the question about their education. Should we commit ourselves to the development of the start-up or should we put time in our study and obtain our bachelor degree? The doubt about this commitment seemed to be an important point during this research, students that were not able to choose for their start-up also weren't able to connect to weak ties and depended on their friends and family to support them with their start-up activities. In this case the adventure mostly always ended at the end of the voluntary course and the students went back to their study.

The seventeen startups that continued their activities during the period of three years that my research lasted differed from non-student start-ups in a way that they could optimal make use of the goodwill factor towards students. By not being afraid to ask for help, building legitimacy by winning prizes and participating in contests, some of the student companies were able to consolidate their relationships with former unknown parties. The student entrepreneurs who also enlarged their client base by delivering products wanted on the market came in the luxury position that they could choose which parties they would like to work with. So playing the card of student entrepreneur in an open and enthusiastic manner paved the way for building a diversified social network.

This article is structured as follows. In section 2, I present current network approaches and former research on start-up networks. On the basis of this literature I formulate expectations about the development of the network of the nascent entrepreneurs that are tested empirically. Section 3 focuses on the context and methodology. Section 4 is about the cases and the dataset, I present seventeen cases of student entrepreneurs who continued their businesses after their graduation. All the start-ups are Dutch companies. These cases provide empirical material from which I develop a number of propositions concerning the way student entrepreneurs develop and make use of their social network (section 5). Finally I draw my conclusions and give suggestions for further research.

## **2. Developing a social network**

This section develops a framework that guides our data collection and analysis. I first point out the importance of strong ties in the development of the social network of start-ups as providers of resources below market price, reference to parties yet unknown by the start-up and sources to

specific information. Then I point out the importance of weak ties and the way multiplexity, ranking and altruism(aiming at reciprocity) help the start-up to grow their network.

Saras Sarasvathy(2001) introduced a theory about successful entrepreneurship, effectuation. She argued that successful entrepreneurs use the means available for them, take affordable risks and use their social capital to make things work. The entrepreneur needs to address the questions: Who am I? What do I know? Whom do I know? (Sarasvathy, 2005). The last question is of interest for this article, indeed Sarasvathy (2005) argues that a successful start-up develops in an effectual way, so with a great amount of uncertainty, and not always with a predefined goal or a strategic intention. So while there is a great amount of uncertainty it is important for the founder of a start-up to lean in the beginning on close relations like family and friends, the so-called strong ties (Hite and Hesterley, 2001). Emotional intense relationships typically exist in a tribal-like environment, characterized by shared norms, behaviors, and understanding (Granovetter, 1992). People to whom somebody is emotionally attached tend to provide access to their resources often below market rates (Witt, 2004). For this reason, evidence suggests that nascent entrepreneurs will seek out individuals with whom they have strong emotional attachment for various forms of support during the emergence phase (Renzulli et al., 2000; Ruef et al., 2003). Sarasvathy(2005) calls this group of people the crazy quilt and points out the importance of obtaining pre-commitments of these partners early on in the venture. Research in rural surrounding occupied with specific industries show that strong ties seem to be the most important for businesses to survive and prosper (Jack, 2008). According to Jack, the multiplexity of ties seems to be decisive for businesses to get hold of the resources needed to develop. This means that entrepreneurs become involved with each other through events that are not directly connected to their businesses, e.g. local committees or non-political service organizations like the Lions club. The exchange of high-quality information becomes the major network function (Jensen, 2002). In these cases an entrepreneur needs to invest time in developing strong ties in the local business community, otherwise his business will fail.

When the start-up evolves over time, relationships with former unknown parties need to be developed. These so-called weak ties often bring in new knowledge and give the entrepreneur the opportunity to develop into an operational organization (Elfring and Hulsing, 2007).

Variation of strong and weak ties in a network also gives significant better performance for start-ups (Baum et al., 2000). When building their social network, entrepreneurs also can be introduced to new partners by their strong ties(or relations of them). For instance the referral of a founder to potential funding sources by a venture advocate is a critical networking behavior for start-ups. It is not unusual for venture capitalists to note that they do not even evaluate unsolicited business plans. Rather, the only plans that receive any attention are those referred by members of their networks. Sometimes these members are professors of a university. Occasionally, these advocates may provide limited interest-free loans or other seeding to help a venture move from one stage to another(Stuart, 2007).

This broadening of the network can improve the heterogeneity of the social network, so if the network initially consists of mostly strong ties of family and friends, it can be broadened with weak ties in a way that they become strong ties over time and the network consists of a mix of strong ties, weak ties and weak ties becoming strong ties, as shown in the model (fig.1) developed by Newbert et al. (2013). In this model the development of the network of Entrepreneur B is an example of the development of the network of a successful entrepreneur. While arguing that there are multiple paths to success, it must be said that there is a likely path to failure when the nascent entrepreneur

is unable to diversify his network and sticks to a homogenized network over time. He will not be able to acquire the resources critical to an organizations' success (Newbert et al., 2013).

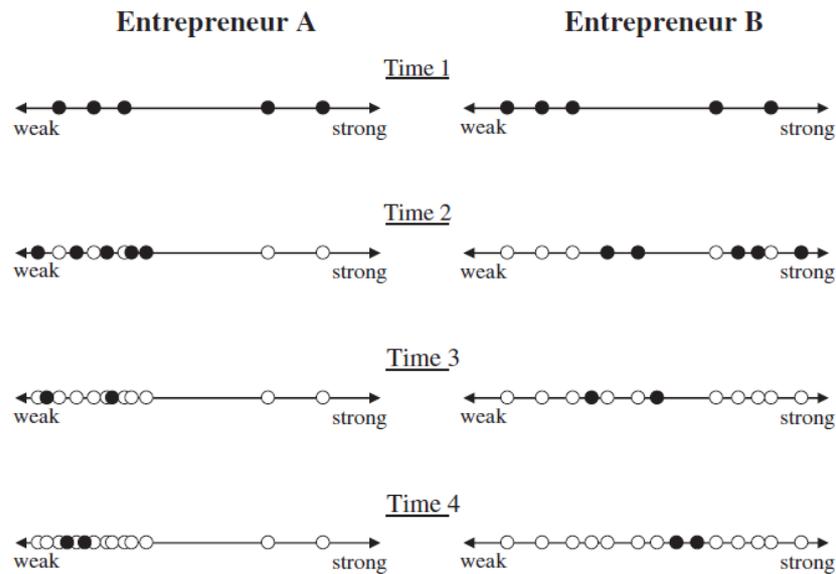


fig.1. Supporter network evolution over four time periods: Illustrative example. Notes: Circles represent the strength of each tie to a supporter; shaded circles represent supporters added in current time period; white circles represent supporters added in previous time period(s)..

The development of a diverse network with strong and weak ties does not always deliver the desired outcome. In her research on network development of nascent entrepreneurs in the health sector Eveline Stam (Stam,2015) compares the way nascent entrepreneurs develop their network with a technique called triage, used in the health sector to decide the degrees of urgency to wounds or illnesses in order to decide the order of treatment. Nascent entrepreneurs would use this technique in order to make sense of and determine the priority and ranking of his network contacts in relation to the resources that are needed. This would especially happen in situations that resources are limited. This process is part of the uncertainty in which nascent entrepreneurs develop their start-ups (Engel, 2015, Sarasvathy, 2008). This ranking of networks contacts becomes also important as the start-up becomes more and more successful and parties want to benefit of the success of the company rather than contribute to the development.

A mix of strong and weak ties seem to help software start-ups in the Munich area in Germany (Lechner and Dowling, 2006). In their first year they relied on strong ties, but needed to develop their network with weak ties for diversity in order to survive. In her research about the social network of serial entrepreneurs, Alice de Koning (2003) again points out the importance of multiplexity as a source for new information and a way of building trust. So the entrepreneurs that meet each other at a golf game or the local art society make their ties with the community and the business society stronger and benefit from these relations businesswise. So gaining trust in the local environment seems to be important for starting entrepreneurs. This reliance on referral-based searches has been pointed out in literature already (Vissa, 2012), especially regarding the principals of effectuation and affordable loss (Sarasvathy, 2001).

Entrepreneurs of start-ups also win over the interest of weak ties by using a bit of intelligent altruism by performing jobs for existing companies below market price or for free. Interestingly, under uncertainty, altruism and opportunism are often intertwined, as entrepreneurs understand that helping others may also help themselves.(Engel e.a.,2017). This is supported by social exchange

theory (Blau, 1964), which argues that if one is providing benefits to another, this creates an obligation to the receiver to reciprocate (Porter and Woo, 2015).

So how will our student entrepreneurs handle this mechanisms during the development of their start-ups? Do they use different approaches or can they benefit more from certain situations than non-student entrepreneurs? This is the context I will talk about later on. First I will introduce the methodology I used to find out what happened.

### 3. Context and methodology

During the academic years 2009-2010 and 2010-2011, several start-ups were established at the University of Applied Sciences in Amsterdam during a voluntary minor course of a half year(30 ECTS) in the third or fourth year of the bachelor phase (Table 1). In this paragraph I will picture the context of this research and you will find out what methods I used to give answer to my research question about the development of the networks of these young entrepreneurs.

Academic year	Number of companies started	Number of companies still active a half year after the course.	Still active in December 2013
1-9-2009 – 1-2-2010	44	7	3
1-2-2010 – 1-7-2010	32	3	2
1-9-2010 – 1-2-2011	54	3	1
1-2-2011 – 1-7-2011	35	4	1

Table 1 Number of companies

#### 3.1 Context

During the 20-week voluntary minor program the bachelor students start searching for a concept they could develop and bring to the market. The first four weeks are spent on market research and building a team that has the right qualities to do the job. After that the start-up team of one to four students works on developing the product or service they have chosen and registers at the Chamber of Commerce in the Netherlands. Every team has a dedicated coach that meets the team every week to talk about the developments. The start-up teams make up a contract in which they define the deliverables for the end of the 20 weeks. These deliverables consist of milestones which include, among other matters, the marketing plan, the delivering of the website, the contract with a producer, the delivery of the first prototype and also targets like an amount of sales, a specified figure of turnover, a specified number of shops which will sell their products, etcetera.

During the course the students also get a workshop of a daypart in which the importance of a social network is pointed out. They are specifically asked about their network needs and within the group of students and coaches a search is done after matches for specific start-ups. The usefulness of business meetings, joining awards programs, student associations and former contacts of businesses they worked as an intern are pointed out. The fact that the students are working on their start-ups with peers in the same facilitation also gives them network opportunities and sharing their problems with each other leads often to new opportunities. Also during sales workshops they are learned how

to connect to potential clients and what kind of questions they should ask to interest their potential clients to make an appointment by telephone and when talking face to face to get their commitment. These trainings help them to overcome their fear and connect to the outer world. Also they are learned to do research by using a tool like the Mom test (Fitzpatrick, 2014). Using this tool helps the students to avoid asking questions that lead to socially desirable answers and helps them to find the specific needs of their target group. By doing so they avoid long-lasting searches to finding the right parties to connect to.

After 20 weeks the students are assessed and are rewarded (or not) with 30 ECTS for their bachelor study of applied sciences. Then they have to decide whether they want to go on with their business or not.

Each half year 80% to 90% of the total number of students that took advantage of the minor program quit their business after the program and they were asked for the reasons of quitting. 60% of the students said they wanted to focus on their study, 30% said they did not believe that the concept they were developing could lead to a successful business, 20% said that entrepreneurship did not fit them and 15% said that they had not found the right team to work with (the students could give more than one reason for quitting).

### *3.2 Methodology*

I conducted a multiple case inductive study (Eisenhard, 1989) on the seventeen student companies that were still in business six months after the students had stopped their minor course. The student start-ups I followed were service oriented businesses. Data were collected from this group by several surveys and personal interviews. The start-ups that continued during the bachelor phase of the study, were interviewed once a year till December 2013. At this time (December 2013) only seven of the originally followed start-ups were still active.

The starting position of most student start-ups is comparable. Every student has about the same age, human capital and social capital. I tested the students on their entrepreneurial skills (Endurance, Risk taking, self-efficacy, etcetera) and also asked about their background (e.g., if their parents were entrepreneurs, if friends of them were entrepreneurs, etcetera).

At the end of the minor program all groups were interviewed about the results they produced and the people and companies that were involved in bringing the startup to the stage that it was in at that moment. The interview was about their turnover, sales, costs and profit, but also about being registered at the chamber of commerce, patenting, financing, marketing activities, employees and the continuation of the business (Davidsson and Honig 2003). The students were also interviewed about the development of their network. In this study I treat the networks of the startups as 'ego networks'. Ego is the person, in this case the startup, whose network is solicited, while the alters are his contacts. The instrument used to map the network of the startup is called a "name generator" (Bailey and Marsden 1999). They had to answer questions about the startups' most important contacts until that moment in the areas of finance, marketing, legal issues, distribution and sales. In line with Marsden (1993), I used three types of name interpreter items: 1) the attributes of the alters, such as their position within an organization and who introduces the alter to the startup; 2) the dyadic features of the relationship between ego and alter, for instance the intensity, duration and importance; 3) the characteristics of the relationships between the various alters (family, friend, relative or business contact). I used the format developed by Bhagavatula et al. (2010).

I specified these business relationships by the characteristics: type, source, tie-strength, relevance for the business, present function and by whom the business relation was introduced to the nascent entrepreneur (Bhagavatula et al., 2010; Visa et al., 2012). Especially the last question helped me to

find information about the way the mechanism of reference worked for the student entrepreneurs. Also this last question helped me to find out if the student entrepreneurs used the method of intelligent altruism to get help from third parties. By asking them about the way their turnover developed in the previous period I got information about the way the system of reference worked for the student entrepreneurs and if they took advantage of multiplexity in these cases. So by using the input the student entrepreneurs gave me I was able to get information about the mechanisms in work when building a social network. In the next chapters you can read how the cases I researched developed and what kind of techniques the student entrepreneurs used.

#### 4.0 Data

During the 20-week program the students were involved in, I measured their turnover, costs and profit. These were the results:

N=134 (165-31)	Mean	SD	Min	Max
Turnover after 20 weeks	1050	2467	0	18000
Costs	1104	1944	0	15000
Profit	-53	1766	-7000	10400

Table 2 turnover, costs and profit after 20 weeks of the minor program entrepreneurship.

Of the 165 start-ups involved in the program, 134 were interviewed. The start-ups that were not interviewed, stopped during the minor with their activities so they were not relevant anymore for my research. The financial results of these companies over the first half year I included in table 2. Of these interviewed start-ups only a small number was still active a half year after they left the minor program. In total I was able to interview seventeen start-ups three times in a period of three years.

These are the names of the start-ups: [www.greenclaim.nl](http://www.greenclaim.nl), <http://www.mrpresident.com/>, [www.pleasurements.com](http://www.pleasurements.com), [www.webuildapps.nl](http://www.webuildapps.nl), [www.wanneerwerkik.nl](http://www.wanneerwerkik.nl), [www.chaufheren.nl](http://www.chaufheren.nl), [www.eggster.nl](http://www.eggster.nl), [www.plaklens.nl](http://www.plaklens.nl), Big ass fans, Freshfocus massage, Sushi presents, Sekerparem, Solf, Substratum, de vonk, Notton and new life bags.

Name	Sector	Team composition	Performance (turnover/employees 2013)	Status on December 2013
Big ass fans	Hospitality-leisure	1m	0/0	Stopped
Chaufheren	Hospitality-leisure	1m	50k-100k/3	Still active
De Vonk	Entertainment-media	1m	0k-5k/0	Stopped
Eggster	Entertainment-media	1m	10k-50k/0	Still active
Fresh focus massage	Hospitality-leisure	2m	0k-5k/0	Stopped
Greenclaim	Financial services	3m	250k-500k/8	Still active
Mister Prezident	Entertainment-media	2m	250k-500k/6	Still active
New life bags	Retail-consumer	2m 1f	0k-5k/0	Stopped
Notton	Retail-consumer	1m	0k-5k/0	Stopped
Plaklens	Retail-consumer	1m	10k-50k/0	Still active
Pleasurements	Retail-consumer	1f	100k-250k/2	Still active
Sekerparem	Hospitality-leisure	1m	0/0	Stopped
Solf	Financial services	2m	0/0	Stopped
Substratum	Entertainment-media	1m	0k-5k/0	Stopped
Sushi presents	Hospitality-leisure	2f	0/0	Stopped
Wanneer werk ik	Financial services	1m	0/0	Stopped
We build apps	Entertainment-media	3m	100k-250k/4	Still active

Table 3 Information about the 17 start-ups followed during this research.

Within the period of three years I interviewed the start-ups, ten out of the seventeen start-ups quit their business after three years. In the period I interviewed the ten start-ups that quit within a period of three years their network did not develop. I will give a brief description of the development of the seven companies that were still active at the end of 2013.

### **Chaufheren**

The owner of this company is running a taxi service without having cars he owns. He drives managers around in their own cars. He has a partner in his firm, who joined two years after the start of the company. To value the worth of the company at that time, the owner of Chauferen was able to use the help of a lawyer and accountant out of the network of his clients. The father of the owner is an important factor by introducing the student entrepreneur to several CEO's of big companies. In 2010 he had a turnover of €18k and started with CEO's of Okura hotels, IDTV and FIAT. In 2013 the company made a turnover of about €80k and employed several student drivers. The business grows slowly because most new clients are contracted by word of mouth from other clients. He got his bachelor degree in 2012. "My clients recommend me to their business partners and that's the way my client base grows."



Figure 2 Network development Chaufheren 2010-2013, the black dots in 2011 and 2012 show the changes in the network.

### Eggster(aanstekelijk.nl)

The owner of this company works alone and has no employees. He makes websites and multimedia productions. In 2012 he got his bachelor degree and started with a master. “During my master studies I still got enough orders through my website, without doing promotion activities” In 2013 he was able to support himself by the earnings out of his company. While advertising content is changing and more and more companies spend their advertising budget on internet content a designer with entrepreneurial skills can nowadays easily make a living out of his skills. The student entrepreneur with a portfolio and the ability to work together with other craftsman on freelance base seems to have a bright future. Just in the Netherlands the last five years each year more than 50.000 people start a company as freelancer(CBS, 2014).

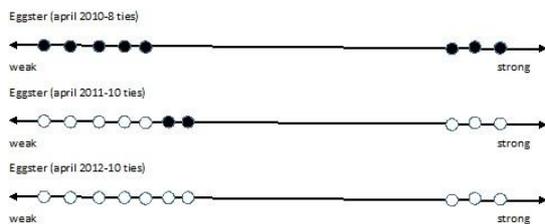


Figure 3 Network development eggster 2010-2012, In 2012 no new(black) ties were added to his network.

### Greenclaim (flight delayed)

Three students started Greenclaim in September 2010. They help their clients with claims for flights that are delayed. Their most valuable asset is a software program, developed by one of them, through which they are able to connect to all the flight data and can work out in a simple and swift way how to fill out all the forms that are needed to make the flight companies accept a claim. In 2011 their turnover was about €100k. They had more costs that year, so they did not make a profit. They won the elevator pitch competition of the University of Applied Sciences and received one year of free rent for their office. They also did not pay themselves a management fee. In 2012 turnover was about €200k and in 2013 €350k and had 10 people on their employee list. Claims amounting to several millions are still payable by several airline companies. It was very important for them that in October 2012 the European Court of Justice pronounced a definitive ruling in favor of the passengers whose flight was delayed. This meant a breakthrough for the business of Greenclaim. During 2013

they expanded their services over Europe and nowadays they are active in six European countries. Very important for Greenclaim is the cooperation with a European law firm who can help them with the legal issues they are confronted with in all these countries. All three students of Greenclaim obtained their bachelor degrees. The university made it possible for these students to be an intern in their own company. One of them wrote his thesis about the software he developed for the company. Their goal is to bring Greenclaim to every country in Europe. One of the means to achieve this objective is that they have an agreement with the two biggest sellers of flight tickets in Europe to the effect that every customer of these ticket sellers will find the name of Greenclaim on their ticket referring to flight delays. "When we became more successful, more parties became interested in Greenclaim, so we had to make choices with whom we continued working. Shared values were in this case important"

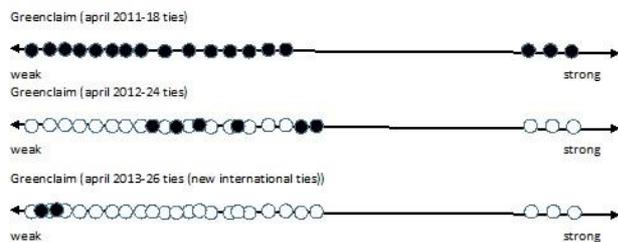


figure 4 Network development greenclaim 2011-2013

### Mr.President

In June 2011, three students started Mr.President. They make prezi presentations for corporations. In June 2012 one of the three students leaves Mr.President. Clients of Mr.President in 2011 were Coca Cola, Randstad, Yakult and Philips. They had one employee and an intern. Turnover 2011 €27k. They hired an office space from Ogilvy and they pay by making presentations for Ogilvy. Turnover 2012 €150k. They have contacts in Stockholm that acquire new clients. They want to write a book about prezi and were in the race to become the best Dutch student entrepreneur of 2012 (they ended as second best). In 2012 they moved to their own office in Amsterdam and at the end of 2013 they had a staff of 12 employees working for them. One of the students went to Silicon Valley for a couple of weeks to contact the top people at Prezi. This worked out well and a good relationship was established. In 2013 this resulted in the fact that they were rewarded with the official independent Prezi Expert badge. One of the students graduated on his own company, the other student was still not graduated at the end of 2013. The aim of Mr.President is to become a worldwide known brand in the field of storytelling and to become a company that can pay their employees a good fee, with a nice pension plan and good secondary benefits. "The fact that a couple of satisfied clients became ambassadors of Mr.President helped us a lot in the beginning to build our clientbase"

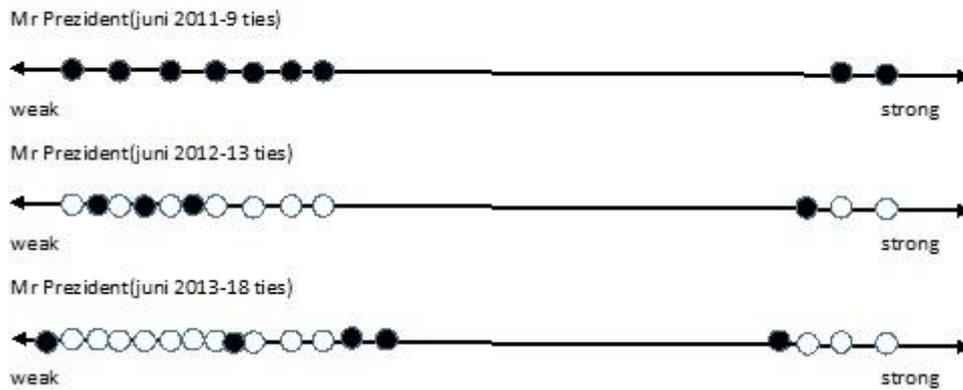


Figure 5 Network development Mr Prezident 2011-2013 In 2013 new international ties were added to their network and also a close friend was added to the company (black dots)

### Plaklens

January 2010 Plaklens was founded. It is an add-on for e.g. safety glasses so that people with a bad eye-sight can see better and continue with their job. The student who started this company graduated in 2011 and got a fulltime job. His company is something het manages along. In 2013 he made a turnover of € 15k. He has no employees working for him.

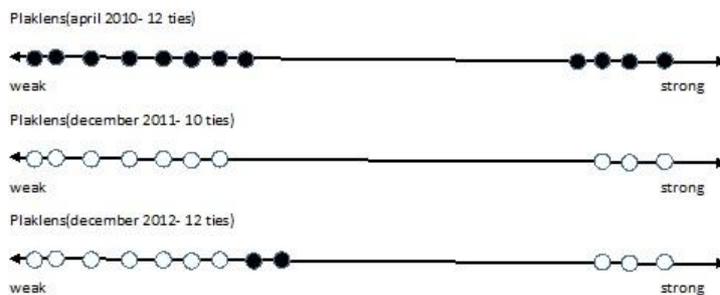


Figure 6 Network development Plaklens 2010-2013

### Pleasurements

In February 2010, a student registered Pleasurements at the Chamber of Commerce in Amsterdam. A highly exclusive boutique with erotic couture for women. Investment in supplies €50,000 and website €7,000. Website goes live in September 2010. Turnover 2010 €20k. Turnover 2011 €100k. In February 2011 Pleasurements opened a shop in a shop. This was not a success and in November 2011 she opened a shop of her own in Amsterdam. Clients visit on appointment and spend a lot of money during a visit. In 2011 she hired a PR company to take care of publicity. Actress Victoria Koblenko is one of the celebrities that make her brand known to the public. In 2012 Pleasurements had its own boat at the gay pride canal show in Amsterdam. In 2013 she moved her shop to the center of Amsterdam. She is very successful with deliveries of lingerie to hotels in Amsterdam. International lingerie suppliers are now working with Pleasurements. Still she has more costs than turnover. Purchase costs and loss on supplies are high. Costs for decorating the new shop were also high. It was also hard to find a good partner to help developing the internet strategy of the company. Quote: "I changed twice of website developers, in both cases I didn't do the right background research but relied on the fact that they had a portfolio with important players in the market. I should have checked a couple of these players about the fact if they were satisfied with the service."

This might have given me the right information to base my decision on.”

New contacts with suppliers made it possible to buy directly from stock, so less supplies are needed. In 2012 she stopped with her PR company and started doing the PR herself. She is very successful with online promotion through channels like Facebook and Twitter. In 2013 her Facebook account was shut down because of the explicit material she published. This gave her a lot of free publicity and she was even on national TV because her Facebook page had been shut down. This made her brand known to new customers. Pleasurements is an internationally operating business through her website. The most of her online orders come from the United States of America, where she is linked to Amazon.com. The student stopped with her bachelor education during these years. “It was really hard to find a partner with a business instinct and also a passion for lingerie, in fact I’m still looking for the right person”

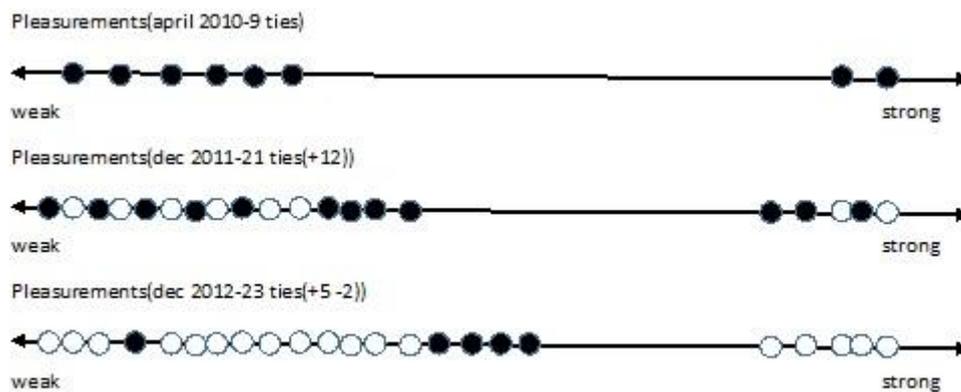


Figure 7 Network development pleasurements 2010-2013

### We build apps

In 2013 the owner managed to make a turnover of €200k and had 5 employees. Originally the start-up consisted of three persons(graduated information engineers), but after two years two of them decided to become employees of their biggest client. The remaining ex-student continued with We build apps and started an alliance with another company called Bluedesk. The company makes apps for several big clients. He wants to grow the company into a sustainable business. “After my two partners left the company I had to work hard a network of my own. The membership of some regional business clubs and the fact that I won prizes for my work helped me a lot”

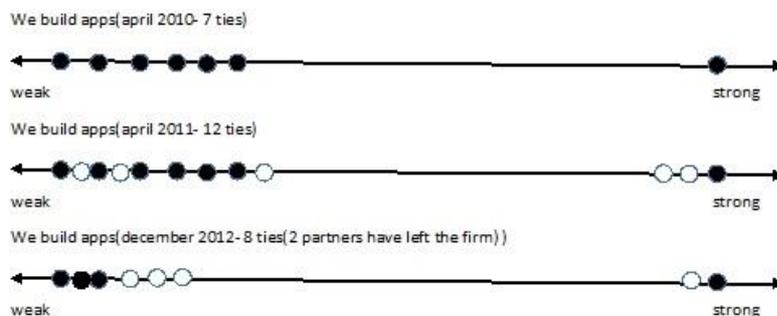
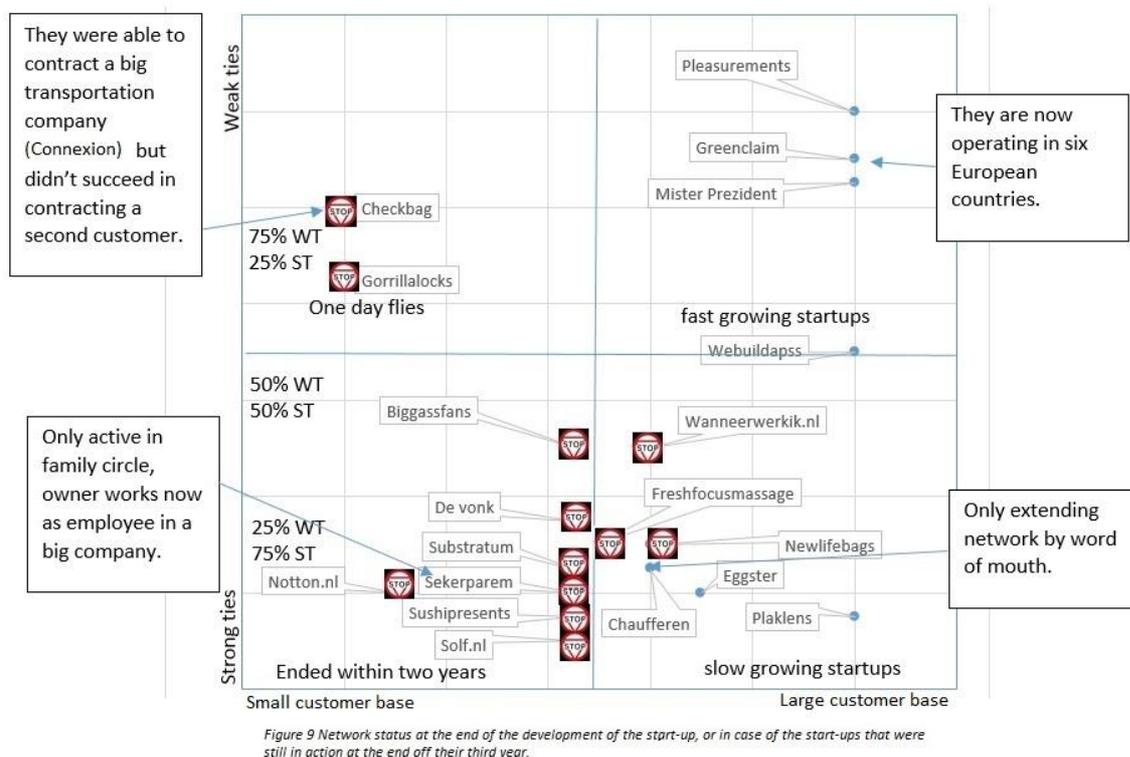


Figure 8 Network development Webuildapps 2010-2013

## 5.0 Analyzing the cases

Figure 9 is a matrix that visualizes part of the results of this research. This matrix shows the status of the network of the start-ups after three years. It shows the distribution of strong and weak ties in comparison with the development of the customer base of the start-up. When a start-up was liquidated within this time, the status of the network (ratio strong- versus weak ties) at that time is shown. The nascent entrepreneurs that were able to add weak ties to their network obtained the necessary resources and were able to transform their ideas into operational organizations. Within the group of students that stopped with their start-ups after six months, there were a couple of start-ups with the potential to grow into a successful business (based upon the innovative potential of the product, the reaction of the public and the willingness of investors to put money in the development), for instance Checkbag and Gorrilalocks (see figure 9). They managed to attract important national partners (weak ties) as their launching customer, but after the minor program decided to focus on their studies and stopped their business. If they had used the momentum, they could have been successful. Now their chances have gone, because they did not use their first mover advantage. I recorded these specific companies in figure 2 to show that there are exceptions on the rule of how a network mostly develops. In the case of the nascent entrepreneurs that ended their company within two years (figure 2 ) , their network was built upon strong ties and did not develop over time. Some of the students became employees of their launching customer, others just quit their business and found a job elsewhere. In these cases they were operating in a competitive market and were not able to distinguish themselves from the competition.



### 5.1 Strong versus weak ties

For about 90% of all the student entrepreneurs in the program it was difficult to make a choice between their study and the start-up during the time they were at university. For weak ties, not directly linked to the students, it was therefore hard to commit themselves to the students, for too many students were not certain of their commitment to the start-up. Therefore most of the students depended on their strong ties (family and friends) to get their first resources. This is in line with the findings of Zimmermann et al. (2002) who concluded that due to a limited track record of the entrepreneur and his venture potential customers, suppliers and other stakeholders in the environment are reluctant to commit resources to a new business start-up.

The seventeen cases I describe in this article were different from the rest of the students, but when they kept on relying on their strong ties like the ten companies that quit in this period of time, they also couldn't make it. The student start-up that used their family for, for example, working within their catering start-up were able to provide their first services, but because they did not expand their network orders for new events did not come and the start-up failed (Sekerparem). "I had to do catering for relations connected to my family, but after these orders, I wasn't able to bring in new ones."

Name	Total ties	Business(weak)%	Family/friends(strong)%
Big ass fans	6	5	83
Chaufheren	7	5	71
De Vonk	8	5	63
Eggster	8	5	63
Fresh focus mass.	3	1	33
Greenclaim	18	15	83
Mister Prezident	9	7	78
New life bags	11	6	55
Notton	3	1	33
Plaklens	12	8	67
Pleasurements	7	5	71
Sekerparem	8	2	25
Solf	5	4	80
Substratum	8	4	50
Sushi presents	11	10	91
Wanneer werk ik	5	4	80
We build apps	7	6	86

Table 3 Division between strong and weak ties (half year after start company)

The seven companies that were still alive after three years showed that they, slowly or fast, developed connections with weak ties and therefore were able to survive. These students were committed to their idea, had a right time to market and showed perseverance.

The entrepreneur of Pleasurements used her family network to get a loan of €50k to invest in her first stock and for financing the website. She took a big risk in doing so, but while she was fully committed to her start-up and promoted her company well, she managed to gain legitimacy within her first year and was able to bind international suppliers to her. She could make appointments about her stock and was able to order directly from her suppliers, bringing her cost down to an acceptable level. "The support of my family helped me to overcome the moments of doubt I had in the beginning of my adventure."

The network of Greenclaim became heterogeneous by connecting with weak ties at the moment needed, e.g. these students had no contacts in the travel industry or in the legal world. By making

contacts through their student association, in no time they developed the right connections. Once they had a contact with a big network in the travel industry, they considered hiring this person to help them, but in the end they could do without his help and grew their network fast enough to make progress. Quote of the founder: "I asked myself, do we need this person to get in contact with our target group or can we reach them ourselves?"

As I was told by these nascent student entrepreneurs, their network started to work for them over time. The more their business grew, the more interesting people popped up in their network. They had to learn to distinguish in which weak ties they needed to invest their time and which ones they had to let go. Quote of one founder: "I became more critical over time to the people that approached me, because some of these people wanted to be part of their success, but did not have that much to offer."

**Proposition 1a:** Nascent student entrepreneurs relied on strong ties when starting their company to profit from services below market prices and moral support.

**Proposition 1b:** Nascent student entrepreneurs who were able to develop their network with weak ties, providing interesting resources for their start-up, were able to survive in the long run.

## *5.2 Goodwill factor and bartering*

The connection with lawyers and accountants gave Greenclaim the opportunity to connect with the right resources. This is in line with the research of Alice de Koning (2003), who emphasized that most successful entrepreneurs obtained their information by contacting people and talking about opportunities. Especially lawyers and accountants were professionals you could share your thoughts with, without having to consider that they would steal the idea for themselves, according to the entrepreneurs interviewed by Alice de Koning(2003). Greenclaim also often used an online network of experts called [www.browncows.nl](http://www.browncows.nl) "After a while consultants started asking money for the time we spent with them, so in the end our impartiality diminished and we became more critical about the people we spent time with, although the goodwill factor remained an important asset"

The network of Chaufheren developed by word of mouth, quote founder: "If the CEO that I was driving around felt happy and was satisfied with the service I delivered, he often recommended me to other CEO's in his network and so my business grew slowly but steadily"

The network of Mr.Prezident became heterogeneous by doing assignments for Ogilvy in exchange for the free rent of a part of the office of Ogilvy. In this way they made their first contact in the industry and in no time they were given assignments by Coca Cola, Vodafone, Philips and other multinationals. Quote founder: "One of the CEO'S of Ogilvy specially liked our work and introduced us to several companies in his network, this helped us a lot". This kind of intelligent altruism and bartering between Mr.Prezident and Ogilvy is noticed in the literature as a part of an effectual networking strategy in which entrepreneurs act in a way that benefits others as well as themselves (Sarasvathy & Dew, 2008).

All these student entrepreneurs were not afraid to ask for help. While they were young and inexperienced, they experienced a lot of goodwill from the people they approached. This also is in line with the conclusions of Saxton et al.(2016) who suggested that the venture advocate who possesses the necessary means to assist a founder of a new company will do so, while this increases his status within the startup community. So therefore I state my second proposition.

**Proposition 2:** Nascent student entrepreneurs extend their network by using the goodwill factor, no fear to ask for help and bartering.

### *5.3 Frequent appearance in public and the press*

By frequently interacting with their surroundings, nascent entrepreneurs can involve their supporters in their activities and build trust about the activities they are developing (Hallen & Eisenhardt, 2012). By conveying the entrepreneur's personal credibility, professional organizing, organizational achievement and the quality of stakeholder relationships, start-ups are able to gain resources more easily (Zott & Huy, 2007).

The nascent student entrepreneurs that were not able to establish a good communication with their surroundings do not exist anymore.

Greenclaim, Pleasurements and Mr.Prezident were able to promote their start-up by winning awards and getting free publicity in papers and online magazines. They even got attention on national television. Greenclaim benefitted from the attention by establishing a relationship with the municipality of Amsterdam and companies like Ernst & Young. Mr.Prezident won awards by making the best Prezi presentations and becoming a preferred Prezi supplier. Clients who were satisfied about their service became in some occasions fans and introduced Mr.Prezident to their relations. The network of Pleasurements became heterogeneous by contacting different players in the lingerie business: photographers, stylists, celebrities, etcetera. The exclusivity and quality of her products drew different resources. Quote founder: "The fact that Victoria Koblenko wears my lingerie and promotes it publicly helped me a lot to reach out to the rich and famous"

The entrepreneur of webuildapps also appeared frequently in the local news, he won a local award of most innovative entrepreneur and took care of a lot of free publicity. The student entrepreneurs of Eggster, Plaklens and Chauferen didn't reach out to the press often this is one of the reasons their network developed slowly.

**Proposition 3:** Nascent student entrepreneurs extend their network by convincing their surroundings frequently about the credibility of their start-up by winning awards and making use of free publicity.

### *5.4 Relation with the university and its stakeholders*

As a nascent entrepreneur it could be necessary and beneficial to leverage ties to supporters with whom you have exchanged in the past, but it would be wise to avoid relying on a small number of supporters for the majority of your resources to avoid a kind of dependency on them (Newbert et al., 2013). The student entrepreneurs that did not work on extending their network to different suppliers or customers were not able to transform their start-ups into operational organizations.

The student entrepreneurs of Fresh-focus massage depended on the university as its client and had to quit after the university had not extended their contract. The student start-up Solt worked for one client who they reached through the network of the university and this became so serious that the student entrepreneurs decided to become employees of their client. The student entrepreneurs of webuildapps.com were depending on one big client, who offered them to become his employees. This meant that two of three nascent entrepreneurs quit their business and one of them choose to go on alone. Although this was a setback, this entrepreneur did not throw in the towel and webuildapps still is active.

The owners of Greenclaim, Mr.Prezident and Pleasurements were able to expand their network and

avoided to have too many multiplex oriented relations, so that they would not become too dependent on specific parties. They also benefited from multiplex relationships by, for example, getting involved in projects of the municipality of Amsterdam so that they could contact potential interesting stakeholders.

**Proposition 4:** Nascent student entrepreneurs expand their network by using their relation with the university and its stakeholders to get their first clients, advisors and investors.

## 6. Concluding remarks and future research

To explain how student entrepreneurs build their network this study used a longitudinal study among 17 student start-ups of the university of applied sciences in Amsterdam. The way the students used strong and weak ties during the development of their start-up makes this study valuable for social network theory and useful for professionals of the university involved in the guidance of student entrepreneurs.

### 6.1. Theoretical implications

This study makes two important contributions to the field of social network theory.

First this study emphasizes the importance of building a relationship with weak ties in the first phase of your start-up by showing commitment to your service or product. To involve family and friends, the so called strong ties, by the development of their start-up seems to be no problem for most of the student entrepreneurs. Family and friends are willing to act as first costumers, to deliver resources below market price and introduce student entrepreneurs in their network. At the moment student entrepreneurs are introduced to this so called weak ties they have to win the trust of these parties. An important issue in these cases is the commitment of the student entrepreneurs to their start-up in the long run. If students fail to convince external parties of their involvement in the long run their start-up can't be brought to the next phase and the adventure of these student entrepreneurs ends in an early phase.

The students that put their start-up first make use of the network of the university or other strong ties to get introduced e.g. by the municipality, big companies or investors. Especially the goodwill factor and no fear to ask for help makes that they are connected easily to the right people. This distinguishes them of non-student entrepreneurs and therefore contributes to the theory of building a social network in this particular case. Important in these cases is the follow up of the student entrepreneurs, the new network needs to be consolidated e.g. by taking care of free publicity, by winning awards and product development. By doing so they activate the mechanism of gaining legitimacy and bridge the gap between networks in the industry they're operating in.

### 6.1 Practical implications

If we look at the population of student entrepreneurs and compare them to non-student entrepreneurs then the big difference has to do with the pressure from the university on the student to do all kind of assignments in order to be eligible for a degree. In some cases this pressure led to the fact that certain students decided to drop out of university of applied sciences and continue to build on their start-up without obtaining their degree. In the cases faculties or staff of the university

of applied sciences decided to find ways to help students, by e.g. giving them the possibility to be an intern in their own company or allowing them to make exams on times that were suitable for the students, students were able to leave the university of applied sciences with their bachelor degree and a running business. So by stimulating students in more entrepreneurial behavior the university has to realize that this also has implications for the way students are treated!

The student entrepreneurs profit from the role of the university in the process of developing their network while the coaches of the university point out to them that it is important for them to develop their network in a certain way and give them leads to interesting parties in their network. This gives them an advantage over entrepreneurs who miss this kind of guidance when starting their businesses. But this research also points out that the knowledge of these processes only is not enough to become a successful entrepreneur, therefore programs at the university where the students are encouraged to “Get out of the building” and connect to parties outside will help them to exercise these skills in the real world and benefit from the exercise to develop these skills.

## 6.2. Suggestions for future research

As their network grows and more parties become interested in what they’re doing the student entrepreneurs also need to develop a radar for parties that just want to profit of their success and have little or nothing to offer. In this process the importance of shared values is being introduced in the choice for partners that are interesting or not. Because this process just started to appear at the end of the period I was monitoring the student entrepreneurs I think it is interesting to find out how this ranking process works and what other mechanisms are involved. This also might be something worthy for future research.

Also the student entrepreneurs learned how important it is to check the credibility of parties you’re going to work closely to and who can damage your reputation or influence important processes you’re depending on. Often this process is learned the hard way and the student entrepreneur has to build up a new relation with another party, and can lose a lot of valuable data. For educators or coaches working with young entrepreneurs this might be something to refer to and also shows the importance of a thorough background checking process. How to proceed exactly in these cases and what the best steps to be taken should be is something that could be of interest to research.

## **Acknowledgements**

I am grateful to all the students that were so kind to work with me on my research and without whom I would not have been able to share these thoughts with you. So thank you all!

## Literature

- Alsaaty, Falih M., David Abrahams, and Ella Carter. "Business students' interests in entrepreneurship and social entrepreneurship at a historically black institution." *Journal of Small Business and Entrepreneurship Development* 2.1 (2014): 1-30.
- Baum, Joel AC, Tony Calabrese, and Brian S. Silverman. "Don't go it alone: Alliance network composition and startups' performance in Canadian biotechnology." *Strategic management journal* 21.3 (2000): 267-294.
- Bhagavatula, S., T. Elfring, A. van Tilburg & G. G. van de Bunt (2010) How social and human capital influence opportunity recognition and resource mobilization in India's handloom industry. *Journal of Business Venturing*, 25, 245-260.
- Blau P.M. Exchange and power in social life. New York: John Wiley; 1964.
- Bruderl, J., & Preisendorfer, P. (1998). Network support and the success of newly founded businesses. *Small Business Economics*, 10, 213-225.
- Burt, R. S. (1993). The social structure of competition. *Explorations in economic sociology*, 65, 103.
- CBS (2014). Achtergrondkenmerken en ontwikkelingen van zzp'ers in Nederland. Den Haag/Heerlen: Centraal Bureau voor de Statistiek
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18, 301-331.
- De Koning, A. (2003). Opportunity development: A socio-cognitive perspective. *Advances in entrepreneurship, firm emergence and growth*, 6, 265-314.
- Donckels, R., & Lambrecht, J. (1997). The network position of small businesses: an explanatory model. *Journal of Small Business Management*, 35(2), 13.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532-550.
- Elfring, T., & Hulsink, W. (2003). Networks in entrepreneurship: The case of high-technology firms. *Small Business Economics*, 21, 409-422.
- Elfring, T., & Hulsink, W. (2007). Networking by entrepreneurs: Patterns of tie-formation in emerging organizations. *Organization Studies*, 28, 1849-1872.
- Engel, Yuval, Mariette Kaandorp, and Tom Elfring. "Entrepreneurial Networking Under Uncertainty: An Effectual Lens." *Academy of Management Proceedings*. Vol. 2015. No. 1. Academy of Management, 2015.
- Engel, Y., Kaandorp, M., & Elfring, T. (2017). Toward a dynamic process model of entrepreneurial networking under uncertainty. *Journal of Business Venturing*, 32(1), 35-51.
- Evald, M. R., Klyver, K. I. M., & Svendsen, S. G. (2006). The changing importance of the strength of ties throughout the entrepreneurial process. *Journal of Enterprising Culture*, 14(01), 1-26.
- van Gelderen, M., Thurik, R., & Bosma, N. (2006). Success and risk factors in the pre-startup phase. *Small Business Economics*, 26, 319-335.
- Fitzpatrick, R., & Fitzpatrick, R. (2014). *The Mom Test: How to Talk to Customers and Learn If Your Business is a Good Idea when Everyone is Lying to You*. CreateSpace Independent Publishing Platform.
- Granovetter, M.S., 1992. Problems of explanation in economic sociology. In: Nohria, N., Eccles, R. (Eds.), *Networks and organizations: structure, form, and action*. Harvard Business School Press, Boston, pp. 25–26.
- Hallen, B. L., & Eisenhardt, K. M. (2012). Catalyzing strategies and efficient tie formation: how entrepreneurial firms obtain investment ties. *Academy of Management Journal*, 55(1), 35-70.
- Haring, M. (2014). The Influence of Support by a Network with Structural Holes on the Performance of Student Startups. *Journal of Business Theory and Practice*, 2(2), p179.
- Hite, J. M., & Hesterly, W. S. (2001). The evolution of firm networks: From emergence to early growth of the firm. *Strategic management journal*, 22(3), 275-286.
- Inge Jenssen, J., & Greve, A. (2002). Does the degree of redundancy in social networks influence the success of business start-ups?. *International Journal of Entrepreneurial Behavior & Research*, 8(5), 254-267.

- Jack, S., Dodd, S. D., & Anderson, A. R. (2008). Change and the development of entrepreneurial networks over time: a processual perspective. *Entrepreneurship and Regional Development*, 20(2), 125-159.
- Jack, S. L. (2010). Approaches to studying networks: Implications and outcomes. *Journal of Business Venturing*, 25(1), 120-137.
- Johannisson, B. (1988). Business formation—a network approach. *Scandinavian journal of management*, 4(3), 83-99.
- Johannisson, B. (1995). Paradigms and entrepreneurial networks—some methodological challenges. *Entrepreneurship & regional development*, 7(3), 215-232.
- Lechner, C., & Dowling, M. (2003). Firm networks: external relationships as sources for the growth and competitiveness of entrepreneurial firms. *Entrepreneurship & Regional Development*, 15(1), 1-26.
- Mosey, S., & Wright, M. (2007). From human capital to social capital: A longitudinal study of technology-based academic entrepreneurs. *Entrepreneurship theory and practice*, 31(6), 909-935.
- Newbert, S. L. (2005). New Firm Formation: A Dynamic Capability Perspective\*. *Journal of small business management*, 43(1), 55-77.
- Newbert, S. L., Tornikoski, E. T., & Quigley, N. R. (2013). Exploring the evolution of supporter networks in the creation of new organizations. *Journal of Business Venturing*, 28(2), 281-298.
- Porter C.M., Woo S.E. Untangling the Networking Phenomenon A Dynamic Psychological Perspective on How and Why People Network. *Journal of management* 2015;41:1477-1500
- Renzulli, L. A., Aldrich, H., & Moody, J. (2000). Family matters: Gender, networks, and entrepreneurial outcomes. *Social forces*, 79(2), 523-546.
- Ruef, M., Aldrich, H. E., & Carter, N. M. (2003). The structure of founding teams: Homophily, strong ties, and isolation among US entrepreneurs. *American sociological review*, 195-222.
- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of management Review*, 26(2), 243-263.
- Sarasvathy, S. D., & Dew, N. (2005). Entrepreneurial logics for a technology of foolishness. *Scandinavian Journal of Management*, 21(4), 385-406.
- Sarasvathy, S., & Dew, N. (2008). Effectuation and Over-Trust: Debating Goel and Karri. *Entrepreneurship Theory and Practice*, 32(4), 727-737
- Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (Vol. 55). Transaction publishers.
- Saxton, T., Wesley, C. L., & Saxton, M. K. (2016). Venture Advocate Behaviors and the Emerging Enterprise. *Strategic Entrepreneurship Journal*, 10(1), 107-125.
- Schutjens, V., & Stam, E. (2003). The evolution and nature of young firm networks: a longitudinal perspective. *Small Business Economics*, 21(2), 115-134.
- Shane, S., & Cable, D. (2002). Network ties, reputation, and the financing of new ventures. *Management Science*, 48(3), 364-381.
- Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing*, 29(1), 152-173.
- Stam, W.(2015).Networking for legitimacy: a study of entrepreneurial networking and new venture legitimation in Dutch healthcare. Dissertation VU, 182-185.
- Stuart, T. E., & Sorenson, O. (2007). Strategic networks and entrepreneurial ventures. *Strategic Entrepreneurship Journal*, 1(3-4), 211-227.
- Vissa, Balagopal. "Agency in action: Entrepreneurs' networking style and initiation of economic exchange." *Organization Science* 23.2 (2012): 492-510.
- Vissa, B., & Bhagavatula, S. (2012). The causes and consequences of churn in entrepreneurs' personal networks. *Strategic Entrepreneurship Journal*, 6(3), 273-289.
- Witt, P. (2004). Entrepreneurs' networks and the success of start-ups. *Entrepreneurship & Regional Development*, 16(5), 391-412.

- Wadhwa, V. (2012). Innovation without Age Limits. *Technology Review*, 115(2), 66-67.
- Zimmerman, M. A., & Zeitz, G. J. (2002). Beyond survival: Achieving new venture growth by building legitimacy. *Academy of Management Review*, 27, 414-431.
- Zott, C., & Huy, Q. N. (2007). How entrepreneurs use symbolic management to acquire resources. *Administrative Science Quarterly*, 52(1), 70-105.