

The development of student entrepreneurs social network over time.

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

Abstract

This article explores the development of strong and weak ties in the social network of nascent student entrepreneurs through a longitudinal case study among seventeen student start-ups in the period 2009-2013. 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 student entrepreneurs 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. They were interviewed directly after they had started their businesses and their activities were monitored while they were developing their businesses and networks over a period of three years.

This study adds to the current social network literature by analyzing how student entrepreneurs use the mechanisms of social networking while working on the entrepreneurial process of opportunity recognition, finding resources and gaining legitimacy and especially make use of the advantages of being a student and making part of the network and resources of the university.

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 (Alsaaty e.a.,2014). At the University of applied sciences in Amsterdam in 2006 they started a voluntary course of a half year(a minor entrepreneurship) in which bachelor students in their third and fourth year could start their own business. While former research has shown the important role of a social network (Stuart and Sorenson, 2007; Newbert et all,2013; Elfring and Hulsink, 2007) for nascent entrepreneurs, these students seems to be an interesting research population.

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;Stuart and Sorenson,2007; Jack, 2010; Stam, et al.,2014).

We deal in the case of student entrepreneurs(aged 20-25) with a personal network that needs to be developed and in most cases consists of strong ties of family and friends. 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 all service related 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, in this case we want to answer the question: how do student entrepreneurs gain initial entry to established networks, and how do they develop their network over time?

In this particular research we also want to address the question already earlier stated by Stuart and Sorenson(2007): If networks do confer competitive advantages in entrepreneurial settings, do all actors enjoy equal access in the competition for relationship-based resources, or do ascriptive characteristics(like being part of the population of students) affect an actor’s ability to acquire a network-based advantage or disadvantage?

So we want to contribute to the literature about social networks by doing a longitudinal study about the development of social networks of nascent entrepreneurs and we want to find out what advantages or disadvantages students experience being an entrepreneur at this stage of their career.

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

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) points out the importance of obtaining pre-commitments of these close 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, the five social mechanisms: Information access, brokerage, status, embeddedness and sanctions play an important role in the entrepreneurial process of opportunity identification and resource mobilization (Stuart and Sorenson, 2007; Hoang and Antoncic, 2003). Student entrepreneurs can be introduced to new partners by their strong ties (brokerage). 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 (Stuart and Sorenson, 2007). 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 and Sorenson, 2007). 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).

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. This network is a mix of strong and weak ties developed over a period of time. The network of entrepreneur A shows little development or no development at all, weak ties don't become strong ties over time. 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).

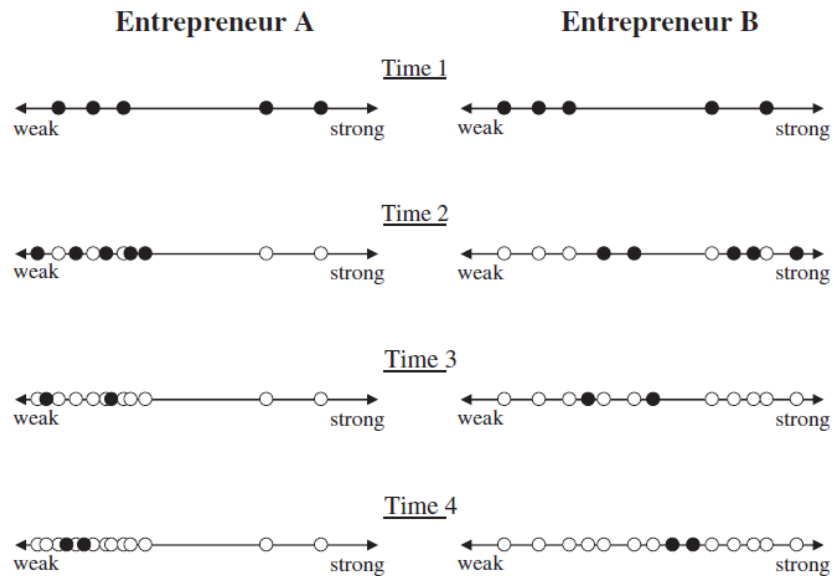


fig.1. Supporter network evolution over four time periods: Illustrative example. Notes: Circles represent the strength of each tie to a supporter; shaded circles represent supporters added in current time period; white circles represent supporters added in previous time period(s)..

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(the status mechanism plays in this case an important role).

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 of relationships as a source for new information(information access) 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. Entrepreneurs 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), this is also in line with the mechanism of sanctions as a part of the entrepreneurial process of resource mobilization. So how will our student entrepreneurs handle these 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(Opportunity recognition). 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 up to four students, registers at the Chamber of Commerce in the Netherlands and works on developing the product or service they have chosen and(Resource Mobilization). Every team has a dedicated coach that meets the team every week to talk about the developments. After they have developed their concept/product they start selling it and work on their marketing and publicity(Gaining Legitimacy). During the program workshops were given to the students in which they could develop entrepreneurial skills like sales, marketing and networking. Also classes about legal aspects, finance and human resources were part of the program.

After 20 weeks the students are assessed on their progress 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. I followed a group of seventeen student entrepreneurs that went on with their business after the course.

3.2 Methodology

We conducted a multiple case inductive study (Eisenhard, 1989) on the seventeen student companies that were still in business six months after the end of the course. The followed student start-ups were service oriented businesses. Data were collected from this group by several surveys, information from their sites, press releases 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.

At the end of the minor program all student entrepreneurs 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 student entrepreneur, whose network is solicited, while the alters are his contacts. The instrument used to map the network of the student entrepreneur 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 introduced the alter to the startup; 2) the dyadic features of the relationship between ego and alter, for instance the emotional intensity, duration and frequency; 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).

To monitor the development of the network of the student entrepreneurs we looked at the networking mechanisms that were involved in the entrepreneurial process the students activated over the years. This means that we looked into the role of information access, brokerage, status, embeddedness and sanctions as part of the process of opportunity recognition, finding resources and gaining legitimacy(Elfring and Hulsink, 2003, Stuart and Sorenson, 2007)

While we made the student entrepreneur the unit of analysis in this study, we particularly looked if the fact that a student was going through this process had advantages or disadvantages compared to the non-student entrepreneur.

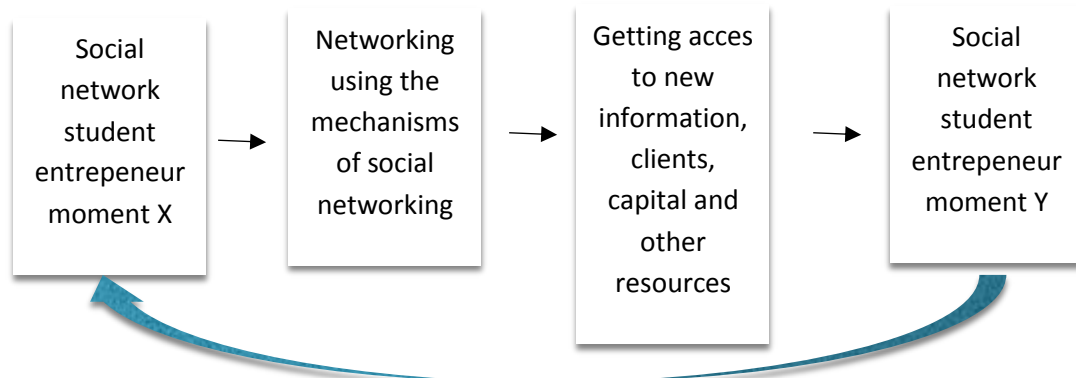


Fig.1 conceptual model of networking process student entrepreneurs over the years

4.0 Data

During the 20-week program the students were involved in, I measured several variables. These were some of the results:

Name	Sector	Team composition (m=male, f=female)	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	Hostpitality-leisure	2m	0k-5k/0	Stopped
Greenclaim	Financial services	3m	250k-500k/10	Still active
Mister Prezident	Entertainment-media	2m	250k-500k/12	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/5	Still active

Table 2 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. They used their network of families and friends, but didn't reach out to other contacts, or were not able to consolidate these contacts. Therefore I won't go into detail about their businesses. I will give a brief description of the development of the seven companies that were still active at the end of 2013 and show their development using graphics like Newbert e.a.(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."

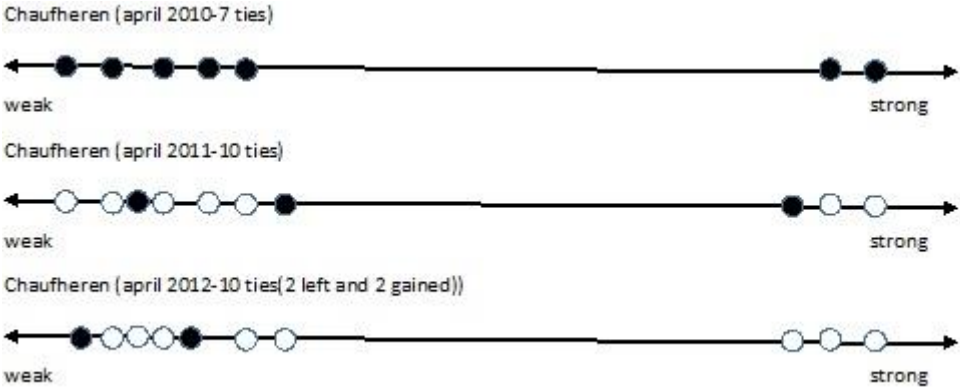


Figure 2 Network development Chauferen 2010-2013, the black dots in 2011 and 2012 show the changes in the network.

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).

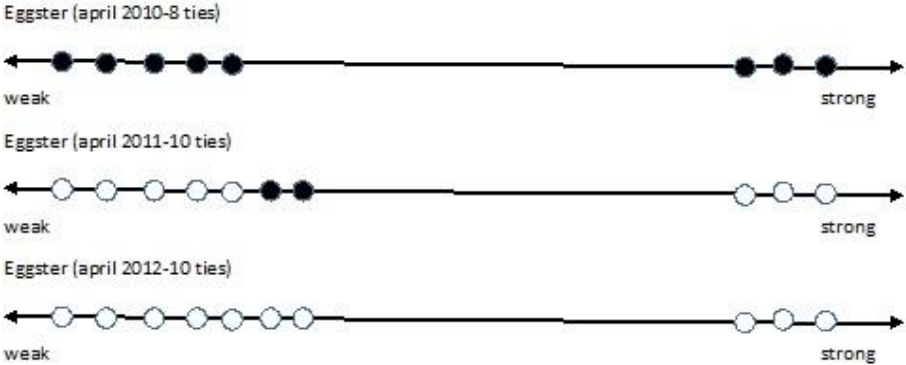


Figure 3 Network development eggster 2010-2012, In 2012 no new(black) ties were added to his network.

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 most important"

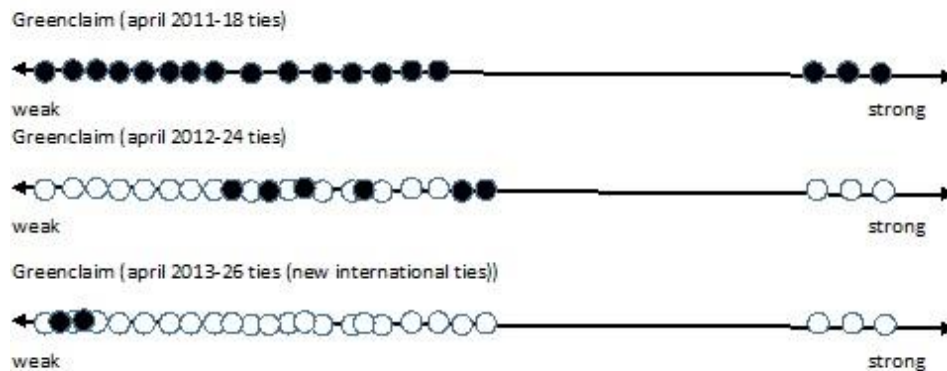


figure 4 Network development greenclaim 2011-2013

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.Prezident 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.Prezident helped us a lot in the beginning to build our clientbase"

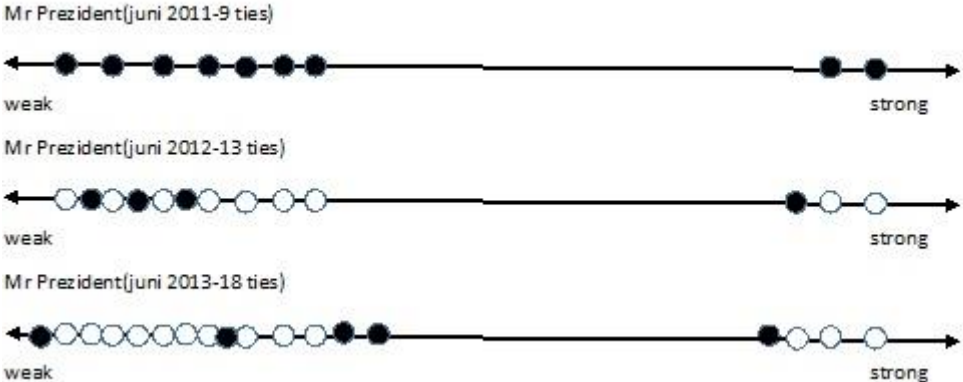


Figure 5 Network development Mr Prezident 2011-2013 In 2013 new international ties were added to their network and also a close friend was added to the company (black dots)

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.

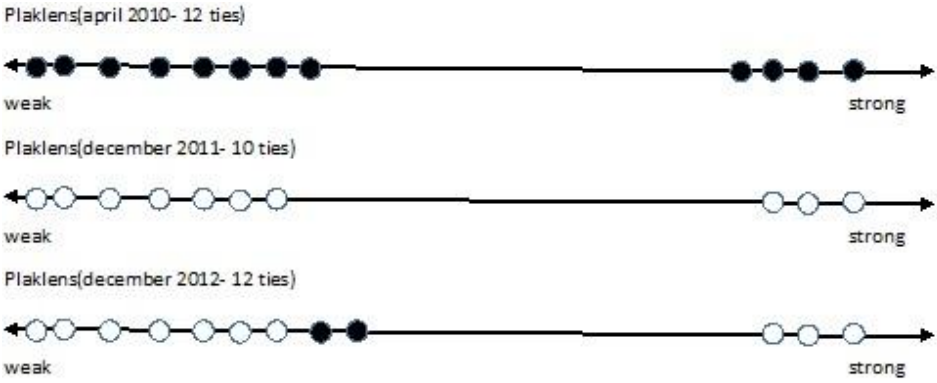


Figure 6 Network development Plaklens 2010-2013

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"

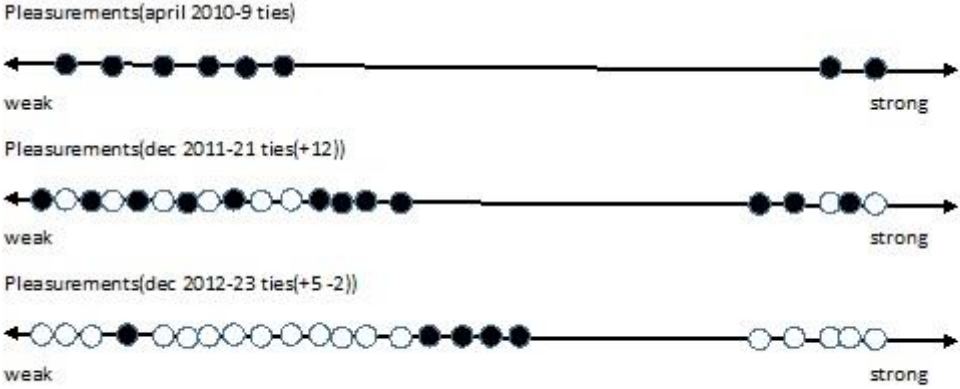


Figure 7 Network development pleasurements 2010-2013

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”

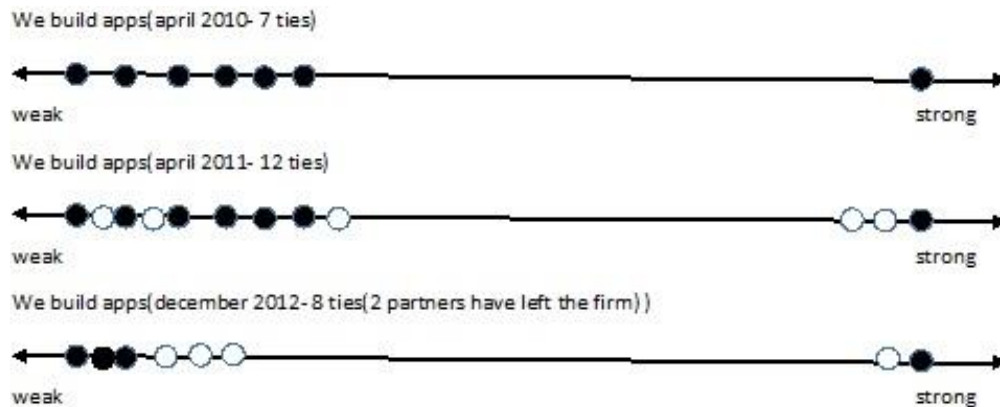


Figure 8 Network development Webuildapps 2010-2013

5.0 Analyzing the cases

In the group of the nascent entrepreneurs that ended their company within two years(ten of the seventeen cases), 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 or hadn't the entrepreneurial skills developed to make a difference.

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. This also has to do with the social mechanism of status.

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." As you can see in table 3 the ratio of weak ties comparing to strong ties is much lower in case of the group of seven survivors compared to the group of student entrepreneurs that quit within the period of three year. The figures of the case of Sushi presents seem to contradict this observation but in this case almost all of the weak ties came from introductions of the strong ties the student entrepreneurs were connected to and they were not able to consolidate these connections over time.

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 Brokerage and information access

The connection with lawyers and accountants gave Greenclaim the opportunity to connect with the right resources (information access). 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 “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 Chauferen 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” (brokerage)

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. This also was a result of being an intern at Ogilvie’s in the first place. 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” (brokerage). 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 (Saravathy & Dew, 2008).

All the student entrepreneurs (in the group of seven start-ups that survived) 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 Status

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(status-enhancing). 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 Embeddedness, sanctions and resource mobilization

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 group of ten 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 be depending on one special relation. 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

6.1 Concluding remarks

This longitudinal research of the development of the social network of student entrepreneurs reinforces the findings of e.g. Newbert et al(2013) about the importance of developing a heterogeneous social network consisting of strong and weak ties in order to establish a profitable organization.

Regarding to the special position of student entrepreneurs versus non-student entrepreneurs this research shows a couple of advantages and disadvantages for student entrepreneurs.

A major disadvantage for the student entrepreneur is the fact that he has to make a choice between his newly founded enterprise and his bachelor study in order to get commitment from the outside world, especially weak ties. This could lead to an unfinished or delayed bachelor study or a goodbye to the nascent company.

The fact that the student is unexperienced can be a disadvantage while earlier studies showed that this status makes the outside world reserved to invest in his company. This study shows also that some of the student entrepreneurs find ways to bend this disadvantage into an advantage using the goodwill factor the outside world shows when dealing with student entrepreneurs.

This research also shows the important role of the university in this process, in many cases being a first customer or introducing student entrepreneurs to networks otherwise out of reach for them. This meddling has two sides, the motivated student entrepreneur will use this help as a stepping stone to new experiences but the student entrepreneur with little ambition and the inability to reach out to the outside world makes this the endpoint of his experience and the company stops at the moment the university withdraws.

Another difference comparing to non-student entrepreneurs is the fact that the students were part of a program that gave them intellectual input to let their business succeed by showing explicit ways to success and giving them intensive guidance for a period of a half year. In reality this wasn't enough for all the student entrepreneurs while a large group(ten out of seventeen) weren't able to survive after they were let go into the world on their own. This shows once more that an individual has to develop entrepreneurial attitudes in order to let his business survive and that the confrontation with reality can be total different from that what we learn in theory.

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 for further research.

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