BACHELOR THESIS

Enabling entrepreneurs to perform more efficient market research by exploiting social media

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Preface

During the final year of my bachelor Business Administration at the University of Twente I decided that after my bachelor degree, I wanted to continue my master studies in Stockholm. In order to accomplish this goal it meant that I had to obtain 80ECTS, including my bachelor thesis that year. I tried planning ahead, and I had already spoken to multiple possible supervisors about a thesis subject that I had put together myself. However, when the fourth quartile came around someone attended me to the fact that this subject would be almost impossible to complete within the 3 months that I had left before I had to hand in my diploma at my new university. In the first week of the fourth quartile I've spoken to a lot of professors and fellow students if anyone knew or had a thesis subject that was within my field of interest, which was both entrepreneurship, and marketing and market research.

It was then that Dr Rainer Harms pointed me towards my current supervisor, Natalie Den Engelse, of which he knew that she was busy in the field of entrepreneurship and social media, which matched my interest. Due to some quick reactions from Natalie we were able to find a thesis subject that I was enthusiastic about and seemed to be plausible within the time frame that I had left.

Because I had already 'lost' the first week of the quartile I had to start very rapidly trying to figure out how to construct this thesis and that turned out to be one of the hardest parts for me during this research, and something I had to keep focusing on all through the process. This process became a lot easier due to the help I got from both my supervisor and a lot of good friends; amongst them a lot are active members and old (co)-board member of Study Association Stress. For this I am very grateful.

Again I would like to thank Natalie for her quick responses, from the day I came by her office to ask if she had a research topic all through the project she has always responded rapidly and with adequate feedback which has helped me a lot.

In particular I would also like to thank Jeroen Boon for thinking along with my thesis, Danny Kappen for pointing me in the right direction, Annique de Greef and Kirsten van der Reest for proof reading my thesis and Carrie Young for both her motivation and help along the way. I am also very grateful to Charlotte Röring, who, as my study advisor has been a great help and guided me through the adventures of my slightly extended bachelor studies. I would also like to thank my parents for actually putting me through university and supporting me endlessly along the way. And finally I'd like to thank Regina van Boerdonk, as both my roommate and girlfriend she has quite often had to help me out and had to deal with my frustration, while I spend night after night behind my computer instead of spending time together.

In front of you lies the final version of my bachelor thesis. I know that I've read it about a 1000 times by now, so I've gotten quite familiar with the report and its subsections. My hope is that you as the reader are able to locate and find the parts of your interest, and enjoy reading this as much as I enjoyed writing it.

Sincerely,

Richard (Rick) Frenken.

Management summary

Objectives: The purpose of this thesis was to uncover how entrepreneurs could use social media to conduct market research, and specifically how the incubator VentureLab Twente could help entrepreneurs in this process. To unravel this topic the current situation of the entrepreneurs on their entrepreneurial search behaviors was assessed both offline and online and their current social media usage was assessed. Next the obstacles that they faced while using social media was analyzed and finally the possible ways to use social media for market research (affordances) that where constructed in the theoretical framework were discussed with the entrepreneurs to ascertain which affordances they found useful.

Design: This thesis is based on fourteen interviews with entrepreneurs from VentureLab Twente and three interviews with entrepreneurs from an American business incubator. These interviews focused on the specific idea the entrepreneurs were working on and what their experiences were. The semi-structured interviews are based on the search behaviors and techniques, social media categories, social media affordances and possible obstacles that are constructed in the theory, and these are also the themes that have been used during the analysis. This analysis has been done by transcribing the interviews, after which all transcripts have been coded by two people and analyzed using the generic analytic cycle. The results have been displayed using data matrices.

Results: The results showed that most entrepreneurs do exhibit the entrepreneurial search behaviors as described by Dyer et al. (2008) in an offline context, but in the online context only the observing behavior was clearly used. Entrepreneurs also rarely use social media, and when they do, they mainly use it to profile themselves or their business and sometimes exhibit 'observing' behavior. The biggest obstacles that the entrepreneurs see in using social media for market research purposes are 'image', 'privacy', 'industry or branch', 'time' and 'knowledge' related obstacles. It is concluded that most of these obstacles could be traced back to the fact that entrepreneurs often did not know enough about which applications are available, what their functionalities are and what affordances they could offer. Finally we used the constructed framework of which affordances and market research methods would be applicable in which social media applications to discuss with this with the entrepreneurs. This led to the identification of a number of market research techniques for each search behavior, and the possible social media applications and affordances for them as they have been deemed useful and applicable by the entrepreneurs. The data led us to propose the use of the 'two factor theory' by Herzberg (1964) in order to help entrepreneurs use social media, for example by organizing workshops where first the obstacles are removed, and then the affordances that social media applications can offer are introduced and explained.

Value: The information gathered from this research can enable VentureLab Twente to efficiently help entrepreneurs to use social media to conduct market research. The two things that have to be done are to take away the obstacles that have been identified and discussed, and add motivation to use these social media by explaining the affordances that the different social media applications have to offer. The constructed framework of search behaviors, market research methods and the matching social media applications can be used to develop different workshops for the different affordances of social media. This research can also help individual entrepreneurs to discover the possibilities of social media and to conduct efficient market research. Finally this research can be the starting point for further research to generalize the applicability of social media to conduct market research.

Management samenvatting

Doelen: Het doel van dit onderzoek was om te onderzoeken hoe ondernemers social media kunnen gebruiken voor het uitvoeren van marktonderzoek en dan specifiek hoe de business incubator VentureLab Twente ondernemers hierin zou kunnen helpen. Om dit onderwerp te analyseren werd eerst de huidige situatie van de ondernemers; hoe zij momenteel informatie zoeken in zowel de online en offline omgeving en hoe zij momenteel social media gebruiken. Vervolgens werden de hindernissen die zij zagen in het gebruik van social media geanalyseerd. Als laatste werd er gekeken naar wat de mogelijke toepassingen zijn om social media in te zetten voor markt onderzoek (wat de 'affordances' zijn). Dit werd gedaan aan de hand van het theoretische kader welke daarna is besproken met de ondernemers.

Ontwerp: Dit onderzoek is gebaseerd op veertien interviews met ondernemers die deelnemen aan VentureLab Twente en drie ondernemers uit een Amerikaanse incubator. Deze interviews richten zich specifiek op de ondernemer en zijn bedrijfsidee, waar zij momenteel mee bezig zijn en wat zij tot nu toe meegemaakt hebben. Deze semi-gestructureerde interviews zijn gebaseerd op de zoekgedragingen, social media catagorieen, social media affordances en de mogelijke hindernissen die zijn ontstaan in het theoretisch kader, en dit zijn ook de thema's die zijn gebruikt tijdens de analyse van de interviews. De analyse is gedaan door het uitschrijven van de interviews, waarna alle transcripts zijn gecodeerd door twee verschillenden mensen en vervolgens geanalyseerd volgens de 'generetic analytic cycle'. De resultaten worden weergegeven met behulp van data matrices.

Resultaten: De resultaten van dit onderzoek tonen aan dat ondernemers momenteel wel de zoekgedragingen, zoals omschreven door Dyer et al. (2008), laten zien in een offline context, maar online eigenlijk alleen het observeer gedrag laten zien. Ondernemers gebruiken ook nog amper social media en wanneer zij dit wel doen is dit voornamelijk om zichzelf of hun bedrijf te profileren en slechts af en toe voor het observeer gedrag. De grootste hindernis die de ondernemers zien in het gebruik van social media voor markt onderzoeksdoeleinde zijn 'imago', 'privacy', 'industrie of branche', 'tijd' en 'kennis' gerelateerde hindernissen. Geconcludeerd is dat de meeste van de hindernissen terug kunnen worden geleidt naar het feit dat ondernemers vaak niet genoeg weten van de applicaties die beschikbaar zijn, wat de functionaliteiten zijn en wat de affordances zijn die deze applicaties kunnen bieden. Als laatste is het theoretisch kader gebruikt waarin de mogelijke toepassingen, of affordances, en markt onderzoekstechnieken zijn besproken gebruikt om dit te bespreken met de ondernemers. Dit heeft geleidt tot de identificatie van een aantal markt onderzoekstechnieken voor elk van de zoekgedragingen, de mogelijke social media applicaties, en de bijbehorende affordances zoals de ondernemers hebben aangegeven dat zij hier het nut van inzien. De gegevens hebben er daarna toe geleidt dat er een advies is uitgebracht om te handelen volgens de '2 factor theory' van Herzberg (1964) om de ondernemers te helpen, wat bijvoorbeeld inhoud dat wanneer er workshops worden georganiseerd eerst de hindernissen moeten worden weggehaald en daarna de affordances die social media kunnen bieden moeten worden geintroduceerd en uitgelegd.

Contributie: De informatie die verkregen is uit dit onderzoek kan VentureLab Twente in staat stellen om ondernemers gericht te kunnen steunen in het gebruik van social media voor markt onderzoeksdoeleinde. In dit proces zijn twee stappen nodig: het weghalen van de obstacles die de ondernemers hebben genoemd en zijn geidentificeerd, en het toevoegen van motivatie door het introduceren en uitleggen van de mogelijke toepassingen die de verschillende social media applicaties bieden. Het theoretisch kader met de zoekgedragingen, markt onderzoeksmethodes en de bijbehorende social media applicaties kan worden gebruikt om verschillende workshops te ontwikkelen voor de verschillende affordances die kunnen worden gerealiseerd. Dit onderzoek kan ook individuele ondernemers helpen de mogelijkheden van social media te ontdekken of het uitvoeren van efficient marktonderzoek. Als laatste kan dit onderzoek een startpunt zijn voor vervolg onderzoek naar de generalizatie, of een best practice, voor het gebruik van social media in marktonderzoek.

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Chapter 1. Introduction

1.1 Background to the research

"WHAT YOU JUST SAID, AND I REALLY LIKE THAT, IS THAT THERE ARE A LOT OF ENTREPRENEURS, INCLUDING MYSELF, WHO BARELY USE THE INFORMATION THAT IS AVAILABLE TO THEM, THOSE SITUATIONS... IT IS ALL UP FOR GRABS" (RESPONDENT 4)

Entrepreneurs, in this research defined as those who create their own venture (Shane & Venkataraman, 2000), usually engage in the development of new and undefined concepts of products or services. These entrepreneurs usually only have limited access to information. This is often caused because entrepreneurs typically have minimal internal secondary data available (Mohan-Neill, 1995; Peter & Brush, 1996) and limited access to reliable information sources (Forbes, 1999). Due to these limitations entrepreneurs are often depending on gathering knowledge externally (Kraaijenbrink, Wijnhoven, & Groen, 2007). However, gathering external knowledge can be a costly and time consuming activity for entrepreneurs, who often possess limited resources in terms of capital (Abimbola, 2001), know-how (Rode and Vallaster, 2005) and time (Wong and Merrilees, 2005).

As mentioned by Stevenson, Roberts and Grousback (1985) the identification and selection of new business opportunities is one of the key characteristics of a successful entrepreneur. The start of a new venture can be defined by the opportunity development process, which contains several steps; (1) identification of an opportunity, (2) evaluation of this opportunity and, (3) the development of this opportunity, also called the exploitation (Shane and Venkataraman, 2000; Venkataraman, 1997). In the first stage, the entrepreneur can either passively or actively discover a business opportunity or idea; in the second stage the entrepreneur tries to evaluate this idea to see whether it is plausible and, for example, how it would be perceived in the market; the third and final stage is the execution of the idea which is typically considered the launch of the business and further development. This process is called the 'entrepreneurial opportunity development' (EOD).

In order to address how entrepreneurs can recognize and acquire external information that benefits this entrepreneurial opportunity development process, we look at Dyer, Gregersen, & Christensen (2008) who identified 4 different behaviors called 'entrepreneurial search behaviors': Questioning, Observing, Experimenting and Networking. These behaviors characterize entrepreneurs and can help them in the different phases of the entrepreneurial opportunity development process.

Recently, the advent of social media applications has led to opportunities that enable entrepreneurs to gather external information in a more efficient manner (Den Engelse, Wijnhoven, & Groen., 2012). Since its creation, the internet has rapidly evolved and led to the introduction of a wide variety of social media. According to Cook and Buckly (2008) we are currently witnessing the emergence of a population that is increasingly recording and sharing their experiences, mashing them up and submitting them to friends and strangers for evaluation, allowing the formation of a 'reputation' based on these assessments. This observation by Cook and Buckly (2008) is part of the emergence of web 2.0 as introduced by O'Reilly (2004) where he marks the transition of web 1.0 to web 2.0 by

stating that in web 2.0 the content on the internet is mainly produced by users themselves, and information is created, edited and shared by and amongst users. This means that a lot of information about and from consumers is available on this web 2.0, a term that will be interchangeably used with the more commonly known 'social media'. This means that entrepreneurs might be able to use these social media outlets to gather external information, which is rich with consumer preferences, values and latent needs (Ellonen & Kosonen, 2010) which can be used in the EOD process. By extracting this consumer-based information out of the market, the entrepreneur can incorporate the 'voice of the consumer' in to the opportunity development process. Observing and interacting with consumers and using this information, the voice of the consumer, in the opportunity development is considered highly valuable (Englis, Englis, Ratinho and Groen, 2012; Gruner and Homburg, 2000). These social media have characteristics that can enable entrepreneurs to execute the search behaviors as defined by Dyer et al. (2008) which can enable them to gather this available information and use it in the EOD process.

Den Engelse, Wijnhoven, & Groen (2012) conducted preliminary research on the effects of social media on entrepreneurial decision-making. In this quantitative research amongst 77 entrepreneurs who participated in a high-tech business incubator, VentureLab Twente, based in The Netherlands, they amongst other things discuss the role of social media as an information source for absorbing knowledge, by using the entrepreneurial search behaviors defined by Dyer et al. (2008). She concluded that even though the literature suggests that social media provide opportunities to acquire external knowledge, in practice, entrepreneurs do not exploit these opportunities. To be more specific, only a third of the respondents 'moderately to strongly' agreed that they used social media to conduct observing behavior and even less used this for questioning and experimenting (Den Engelse, et al., 2012).

1.2 Research problem, research design and contributions

Based on the research done by Den Engelse et al. (2012), this research attempts to reveal why entrepreneurs participating in VentureLab Twente do not utilize social media to support the EOD process and to uncover how VentureLab could support these entrepreneurs herein. In order to conduct this research a theoretical framework is developed discussing how social media applications can be used to recognize and acquire information, by combining Dyer et al. (2008) search behaviors with traditional market research methods defined by Van Kleef, van Trijp & Luning (2005), Chesbrough (2006) and Ciccantelli & Magidson (1993). These traditional market research methods are methods which are identified to reveal the 'voice of the consumer', typically in an offline environment. By converting these traditional market research methods into the social media environment we propose a framework as to which social media applications can be used for which market research method. The ultimate goal of this research consists out of a triad of goals; to analyze how entrepreneurs currently use social media, what the obstacles are that they experience in using social media and how they could use, or be supported in, using social media applications in the EOD process.

Therefore the main research question is formulated as: *How can Venturelab Twente help entrepreneurs to utilize social media to conduct market research?* In this case, market research can

be applied in each stage of the entrepreneurial process. Moreover, several sub questions arise which are necessary steps to answer in the process of researching the main question:

Sub questions:

1. How can Dyer et al.'s (2008) entrepreneurial search behaviors be linked to traditional research methods?
2. How can different categories of social media be matched with market research methods?
3. How do entrepreneurs currently use social media to conduct market research?
4. What are the obstacles for entrepreneurs that prevent them from using social media as a medium for market research?

The first two sub questions are answered by reviewing current literature and constructing a framework in which characteristics of the entrepreneurial search behaviors, the research methods and social media categories will be identified. The latter two questions are answered by conducting an empirical research amongst entrepreneurs who participated in VentureLab Twente. The main question could be answered by combining the information from the first two questions, which was used to construct the interview and propose possible uses for social media, with the information from the empirical research. Figure 1 shows a graphical representation of the structure of this research.

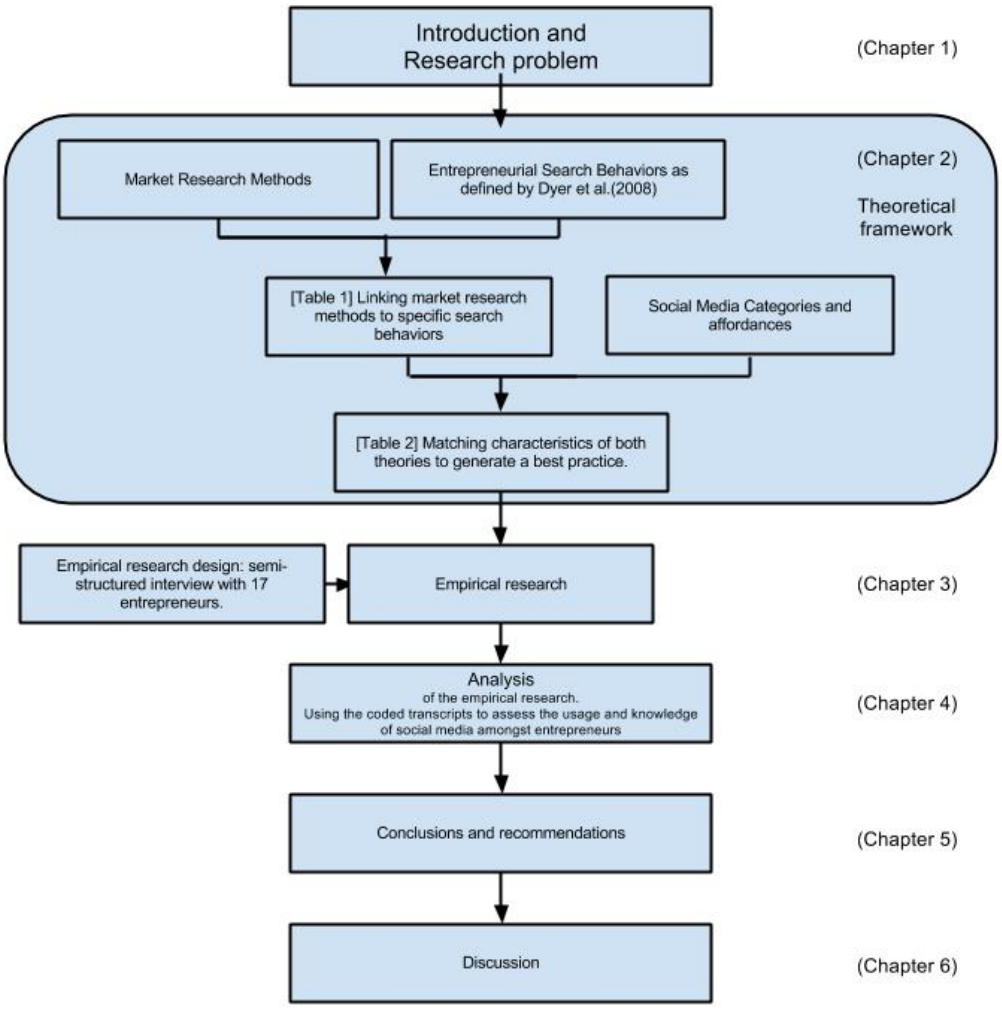

Figure 1: Structure of the research

1.3 Contribution

Scientific contribution

The results of this study will give more insights into which online research methods are currently used by entrepreneurs and could be applicable for, or inspire, new entrepreneurs. On the other hand, this research will show if, and which, research methods and social media applications are unfamiliar or undesirable to entrepreneurs and those methods would need further research to enable more efficient entrepreneurship. Finally this research could be used as a foundation to the development of a 'best practice' for the use of social media applications for market research purposes.

Practical contribution

The results of this research can also be used to help entrepreneurs in using social media to perform market research. This research can be used to design specific workshops and trainings on using the (often unknown) market research methods through social media applications in order to enable them to conduct better and more efficient market research. An example would be business incubators like VentureLab Twente, where the interviews have been conducted. This can eventually lead up to more successful enterprises. This thesis might also inspire individuals to use social media, or market research, in a completely new way.

Chapter 2. Theoretical foundations

To understand how entrepreneurs can use social media as a medium to conduct market research it is essential to consider the theoretical background of the keywords used in the research question. The theoretical framework which is used as foundation for the empirical research is therefore based upon entrepreneurs and their entrepreneurial search behaviors as described by Dyer et al. (2007), on the identified market research techniques and the importance thereof, and finally social media itself. Social media is characterized and classified in several categories after which the similarities and how these characteristics can be matched with the different search behaviors and existing traditional market research methods has been evaluated. This has been done in order to be able to identify which methods could or should be used in which situation, and how social media can play a role in this.

2.1 Entrepreneurial search behaviors and traditional market research methods

One thing that separates entrepreneurs from managers is their thirst to innovate. Entrepreneurs recognize opportunities that non entrepreneurs fail to recognize (Shane, 2003). So what is it that makes these entrepreneurs different? What qualities do they have that separates them from a top executive manager? A possible distinction may lie in the 'entrepreneurial search behaviors' as defined by Jeffrey Dyer et al. (2007). According to Dyer et al. these behaviors can be inherited by genes or acquired by learning and practice, and these behaviors can help entrepreneurs to identify opportunities, evaluate opportunities and the development of opportunity. To see how these behaviors can be used in practice, this chapter also discusses traditional market research methods and attempts to connect the market research methods to one or multiple behaviors.

2.1.1 Entrepreneurial search behaviors

According to Dyer et al., an entrepreneur's ability to identify novel ideas that become the foundation of a new business is supported by questioning, observing, experimenting and idea networking behaviors. According to Sarasvathy et al., (2003) and Miller (2007) a threefold categorization of how entrepreneurs 'create' opportunities can be identified; (1) opportunity recognition, where existing solutions are used to solve problems or needs in an unrelated, existing, market. (2) Opportunity discovery, where either the solution or the demand is already developed or known and the other is discovered by the entrepreneur and finally (3) opportunity creation, in which a product or service is created for a yet unknown problem or need. All of these situations however require an interaction, a behavior, which characterizes the entrepreneur. Dyer et al. have identified these four behavioral patterns to be significantly correlated with starting an innovative new business, by in-depth interviewing 73 top innovative entrepreneurs and executives, their valuable insights and remarks will often be used to illustrate examples.

2.1.1.1 Questioning

Questioning seems like a rather obvious behavior for any manager, entrepreneur or top executive. However, Dyer et al.'s research showed that there is a difference in how managers and entrepreneurs use this behavior. Where managers usually ask questions with the purpose to improve a current situation or to understand how current processes are running and how to optimize them, entrepreneurs ask question to challenge the generally accepted status quo. Entrepreneurs ask questions to why things are the way they are and the main principle behind this question is that this behavior constantly challenges and questions the status quo and puts it up for discussion. According to Meg Whitman, former CEO of eBay, and quoted in Dyer et al.'s article "true entrepreneurs get a kick out of screwing up the status quo", "They can't bear it. So they spend a tremendous amount of time thinking about how to change the world. And as they brainstorm, they like to ask: 'If we did this, what would happen?'" (Dyer et al., 2007, p323). The biggest difference lies in asking the 'if' and 'why' instead of the 'how', think of the difference between 'How can we cut costs in our supply chain?' and 'what if we simply cut out the middle man' or 'Why exactly do we have a middle man in our supply chain?'. According to Dyer et al. a lot of the successful entrepreneurs he questioned still remember the main question they were asking upon founding their enterprises. Michael Dell for example, founder of Dell computers, started his imperium at a young age wondering why the individual parts of a computer together where only a small fraction of what he had to pay for his new computer as a whole. He asked 'why' he had to pay five times as much in the store as when he bought the part individually, and this idea later on founded the business model for Dell's computers. Another aspect of this is one that has also been adopted in Google's nine principles of innovation; "Creativity loves constraints". This sounds like a contradiction at first, but imagining your own constraints forces you to come up with innovative ideas, as one of the respondents in Dyer et al.'s research mentioned; "To initiate a creative discussion about growth opportunities, I asked this question 'What if we were legally prohibited from selling to our current customers? How would we make money next year'". This kind of questioning leads to a whole new, insightful, ideas which would not have come up without putting a restraint on your current way of thinking (outside of the status quo). Because questioning behavior tries to put the 'standard' things up for discussion and attempts to get to the root of a problem which can lead to new product or ideas, this behavior could be aligned with the identification stage of the EOD process, however, since

this behavior can also be used to evaluate a new product or idea by putting the current situation up for discussion and learning from this, it might also be applied during the evaluation stage.

2.1.1.2 Observing

The second behavior is the art of observing, which is characterized by intensively observing novel situations as well as every day encounters with the intention to get a constant flow of new ideas through observing other people's needs, wants or irritations. This observation behavior is typically done passively, without interrupting or interaction with the situation. Mike Collins, founder and CEO of Big Idea Group mentioned that "the most successful inventors have incredible observation skills. It isn't just a one day aha day. It happens all of the time. They are observing the world around them and asking questions all the time. It's part of who they are. For other people, it is an untapped skill" (Dyer et al., 2007, p324). An example is Intuit founder Scott Cook (Dyer et al., 2007). Intuit is a company that provides software that aids financial bookkeeping and is based upon two observations made by Cook. The first thing he notices was that his wife was struggling each month to keep track of their finances, mainly because it was a time consuming and especially boring job. The second observation was the introduction of the new Apple Lisa computer at that time. Cook brought these two together and saw the possibility to replace the real-world counterparts of financial record keeping into the digital world and he made an interface in which people could keep track of their financial record on a computer. Within his first year, Cook conquered 50% of the financial software market. In another example, Howard Shultz, founder of Starbucks, made some accidental observations. While he was in Italy for an international trade show he was attending, he went to the trade show by foot and spotted a small but crowded espresso bar. He went inside for an Italian made espresso and continued his trip, not much later however, he noticed another espresso bar which was even more crowded. In this bar however, he noticed an old gray man behind the counter greeting all his customers by name, laughing with them and enjoying the moment. It felt authentic and he noted that the bar 'offered comfort, community, and a sense of extended family.' (Dyer et al., 2007, p324) And that is when Shultz realized that that was what could make his coffee store in America a bigger success, which was to unlock the romance and mystery of coffee, firsthand. In the coming week, Shultz visited numerous coffee and espresso bars in Milan and Verona to observe the authentic Italian espresso culture in order to replicate this in the United States (Dyer et al., 2007). Because observing behavior often leads to the identification and generation of new ideas, this behavior most aligns with the initial step of the EOD process.

2.1.1.3 Experimenting

The third behavioral pattern that Dyer et al. identifies is 'experimenting'. In his study, the entrepreneurs often engaged in some kind of experimentation in order to produce real information. These experiments could vary from mental explorations to physical explorations, either way; entrepreneurs often form a hypothesis about a certain improvement or product (e.g. 'If I change this attribute, this product would be more efficient) that they will either test with their minds or their hands (Dyer et al., 2007) and / or try to generate feedback on this idea. Dyer et al. notices a distinction between two forms of experimenting; the intellectual foundation as Omidyar (eBay) proposed by saying "intellectual exploration is something that I frequently do and so I think probably my nature is a little bit more introverted and I have a tendency to sort of be in my own laboratory. But if within my own laboratory I can be exposed to really different points of view, different types of

thinking either by research, reading or by asking the point of view of people I run into at conferences or meetings or even on the street, that's something that I do." (Dyer et al., 2007, p326). In contrast to this intellectual experimenting there are also those who testify to the more hands-on approach. Bezos, Founder of Amazon, remembers himself turning his parent's garage into his own laboratory, taking apart his crib when he was three years old. Cook (Intuit) explained that the two companies he learned the most from are Procter & Gamble and Toyota, since them both have experimental cultures. "Toyota enables huge numbers of experiments done throughout the organization at all levels. And I think you see in some young web businesses, the ability to do lots of experiments and try a bunch of things as the business is trying to get things to click. I think our culture opens us to scientific experimentation, not just random attempts. To harvesting the learning and allowing lots of failures. They know that a bunch of them will fail. But it's okay as long as we're learning, because I think it is an important theme that separates an innovation culture from a normal corporate culture. And particularly when the experiments can be done young people without getting approvals. Or if there's an approval involved, it's just one layer; it's just their boss." (Dyer et al., 2007, p326). Dyer et al. also noted that this experimenting behavior should not only take place in the opportunity identification phase, but also once the business has been thoroughly established. Since the main purpose of the experimenting behavior is to generate feedback or to test an hypothesis, this behavior could be used to either evaluate a new idea, for example, letting users experience a minimum viable product (Reis, 2010) or to test a products reputation and associations and using this in the market positioning. The former of those two examples aligns with the evaluation stage, while the latter aligns with the exploitation stage of the EOD.

2.1.1.4 Idea Networking

The final characteristic that Dyer et al. identify through their research is 'Idea Networking'. Building and maintaining powerful social networks is, again, a skill that is essential for both managers and entrepreneurs, yet again, it is the purpose and utilization of this skill that makes the difference. Executives and managers use their network to sell products, services or themselves and building friendships with wealthy or resourceful people. Entrepreneurs on the other hand use their network mainly to actively create networks of people with diverse ideas and perspectives in order to gain and develop new ideas, insights and information. One of the quotes mentioned during Dyer et al.'s research came from Eliot Jacobsen (Freeport.com), he mentioned "one of the things I try to do on a regular basis is meet and talk to new people to get their perspective on different issues. I tend to do this during mealtime. Each week, I try to schedule breakfast, lunch or dinner with someone I've ever met before." (Dyer et al., 2007, p327). Most entrepreneurs that were interviewed by Dyer et al. had an identifiable network of people with diverse experiences and perspectives. These networks often crossed industry and geographical boundaries. Ingvar Kamprad (Founder IKEA), for example, often met with teenage children to get their perspective on how IKEA should innovate or develop their products and he continued doing this even when he was in his 80's (Dyer et al., 2007). Because idea networking behavior is best applicable to receive opinions, ideas and solutions about a given subject by asking people for their ideas about a given product or idea, it can be aligned with the evaluation step of the EOD process.

2.1.2 Traditional market research methods

As mentioned by Stevenson, Roberts and Grousback (1985) the identification and selection of opportunities for new business ideas is one of the key characteristics of a successful entrepreneur. Therefore, for a startup to be successful the entrepreneur should get a deep understanding of the

'voice' of the consumer. During the entrepreneurial opportunity development, the entrepreneur is looking to create new opportunities which usually involve the unmet needs or wants of consumers. Even though it is sometimes argued that consumers hardly ever know what they really want (Ulwick, 2002), consumer research still raises the odds of success in the market (Van Kleef, van Trijp & Luning, 2005) because it is essential to understand how your products are perceived by the consumer and/or what drives their needs and decision making process. Van Van Kleef et al., (2005) has defined ten research methods that can help to gather market information. These same methods might also allow entrepreneurs to extract information from consumers in the market, allowing them to 'listen to the voice of the consumer'. These ten methods are; (1) empathic design, (2) category appraisal, (3) conjoint analysis, (4) focus group, (5), free elicitation, (6) information acceleration (IA), (7) Kelly repertory grid (8) laddering, (9) lead user technique, and (10) Zaltman metaphor elicitation technique (ZMET) (Van Kleef, van Trijp & Luning, 2005). These market research methods are also linked to the entrepreneurial search behaviors (Dyer et al., 2007) to which these methods could belong, in combination with the 3 stages of the EOD process.

In the first stage of the EOD process, the entrepreneur can either passively or actively discover a business opportunity or idea and this stage is usually characterized by observing behavior and questioning behavior because these behaviors offer the opportunity to observe or discover (hidden) needs amongst consumers leading up to a new business idea (Den Engelse, 2012; Dyer et al., 2008), in the second stage the entrepreneurs tries to evaluate this idea to see whether it is plausible and for example how it would be perceived in the market and this aligns with the questioning-, experimenting- and idea networking behavior because these behaviors are characterized by interaction with consumers, start discussions, generate feedback or outsource the problems that are faced and thereby discover whether the idea needs further adjustment and how it could be perceived (Dyer et al., 2008; Dyer at al., 2011; Sarasvathy, 2001), the third and final stage is the execution of the idea which is typically considered the launch of the business and further development and aligns with experimental behavior since experimenting allows entrepreneurs to generate feedback on aspects or ideas, such as how people use a product. This can lead up to better market positioning for example (Saravathy, 2001). The discussion of the 10 market research methods has therefore been based on these characteristics:

- Goal
- Data collection method
- Entrepreneurial Opportunity Development Stage
- Matching entrepreneurial search behavior

2.1.2.1 Empathic design

Empathic design practices the art of observation. This method is used to observe consumers while using current products in their current situation. The underlying thoughts of this method is that by observing, and spending time with, these customers, the researcher will truly understand the unmet needs, shortcomings and irritation in everyday life involving a certain product or activity. The underlying thought of this method is that by observing consumers in this way, it reveals what the consumer could actually need to improve everyday activities, while they might not actually acknowledge this need yet.

- Goal: The goal of this method is to spot opportunities by truly understanding, and living, a consumer's everyday live involving a certain product or activity.
- Data collection: This method relies on the documentation and observation of the researcher instead of responses from the consumer. Because it is hard to make an exact transcript of what a researcher experiences in this situation it is essential to make video, audio or written notes of the experience.
- Identification stage; the empathic design enables entrepreneurs to observe consumers in their daily use of product or services to reveal (hidden) problems and need, which may lead up to the identification of new business opportunities.

Matching search behavior: During this technique the respondents are merely observed. The researcher might participate with his subjects but he does not change anything to the situation and therefore does not 'interact'. The goal of this method is to identify hidden needs amongst all sorts of subjects, or respondents, that use the product or service the research is about. These characteristics align with the *observation behavior* because it can be used to observe, which is an passive act, and this method can eventually lead up to the identification of new business opportunities.

2.1.2.2 Category appraisal

The method of category appraisal aims to create a visual projection of how consumers position products in their mind. By attempting to visualize the structure of a market as it is perceived by the consumers its goal could be to help entrepreneurs identify which product attributes are deemed most or least important in the eyes of the consumer which can be used to generate new ideas or improve current products. This can be done on both an internal- and external preference analysis. (Van Kleef et al., 2005)

- Goal: The aim of this method is to acquire a better understanding of the competition amongst products, identifying which product qualities or attributes are essential to the customer's choice and/or to categorize different products.
- Data collection: Presenting respondents or consumers with a set of different, often competing, products, after which respondents have to rank, or rate, the products on either sensory or perceptual preference. Respondents are hereby asked for their opinion, not an explanation.
- Identification and evaluation stage; by letting consumers evaluate existing products and identifying which attributes are most important new ideas could be identified. When the entrepreneur already has an idea he could evaluate this idea against existing products to see whether or not it would be preferred by consumers based on its attributes.

Matching search behavior:

During category appraisal the researcher actively interacts with the respondent, he pictures several products or product categories and asks for the opinion of the respondents. The goal of this method is to identify characteristics that are deemed important by consumers, and not necessarily to rate a product itself; therefore it is an identification technique of important attributes. This technique could be used as part of *questioning* and *experimenting behavior.* The questioning behavior can be recognized when the entrepreneur uses this method to question and challenge the status quo. This could be done in order to find out which attributes are

considered most important and then question how these attributes could be implemented in a different product. While experimenting behavior is aimed at testing a hypothesis and generating feedback, for example, to let consumers pick between the entrepreneurs product and some other products and then explain why they prefer that product. This will generate useful feedback about the product and how it is perceived by consumers compared to competitors.

2.1.2.3 Conjoint analysis

The aim of a conjoint analysis is to let the respondent rate different features or attributes of a product on a scale of, for example, least important to extremely important. This is often done asking a series of questions about a group of aspects (e.g.; functionality) and usually two or three of these groups are used.

- Goal: The goal of this technique is to make it apparent which trade-offs consumers make while evaluating products. This will show the relative importance of the characteristics of a product in the mind of the consumer. Ultimately, the goal could be to combine all attributes that are deemed important into the final product or product idea.
- Data collection: The method is product-driven, which means that the information that is gathered is about an already existing product, or product idea. This product, or idea, is presented by its attributes, and these attributes can have two or more levels. Data is collected by letting respondents evaluate the importance of each attribute or level. Respondents are hereby asked only for their opinion, and often not for an explanation of their choice.
- Evaluation and exploitation stage; this method can both be used to evaluate an idea by testing if the attributes of an idea are considered significant by consumer (evaluation), or for example to see whether the trade-offs people make in their decision in order to use this in the market positioning strategy (exploitation).

Matching search behavior:

During the conjoint analysis the researcher asks the respondent a series of questions in order to gain their opinion about several artifacts or characteristics of a product. This would eventually construct a list of most important features and would let consumers create their own 'ideal' product. This information could be compared to the product or idea of the entrepreneur and thereby evaluate his own product or idea. This could be aligned with both the questioning and experimenting behavior. The *questioning behavior* would align if this method were to be used to reveal that a product feature that the industry thinks is very important is actually very low ranked by consumers. This could lead to valuable insights in which attributes should be most prevalent in a new product and could therefore be compared with the entrepreneurs' idea. The *experimenting behavior* is aimed at testing a hypothesis and generating feedback, for example, by testing if the trade-offs people make are actually present in the new product, which could also be used in the market positioning strategy.

2.1.2.4 Focus group

The focus group method enables a group discussion amongst multiple consumers or experts at the same time, preferably in the same location (or digital location), in the hope that one person's idea or

opinion will trigger another person's input and thereby creating new solutions, ideas or opinions about existing or proposed ideas.

- Goal: Goal is to give a group of (expert) consumers a topic to discuss about; this can either be a product or a need, in order to endorse co-creation, where people will build further on other people's ideas. This method is primarily used for the identification of new opportunities and idea generation (McQuarrie and McIntyre, 1986; Fern, 1982).
- Data collection: By posing broad and unfocused questions, this method allows the respondents to explore ideas or strains of thought the researcher hasn't thought about. During this process, it is key not to steer the discussion into any direction.
- Identification, evaluation and exploitation stage; by talking to a group of people about their user experiences of certain products or services it is possible to reveal hidden problems or needs which can be used during the identification stage to identify a new opportunity. This same method could also be done discussing an idea, for example to discuss whether this idea would solve current problems or needs. This information can help the entrepreneur to evaluate his idea. Finally, this method could also be used to ascertain how this idea could be best exploited by, for example, finding out the associations of the product which can help develop the market positioning strategy.

Matching search behavior:

The focus group method selects a group of users to talk and elaborate on a certain topic or subject. The researcher functions as a moderator of the conversation and thereby interacts with the respondents. A focus group can be used to identify a product or business idea by for example, letting them brainstorm or discuss a problem within a certain area of expertise. It can also be used to evaluate an idea or product by discussing its attributes or affordances and whether or not it solves a problem, or even brainstorm about the development of the product or business. These characteristics can align with both the questioning and idea networking behavior because *Idea networking behavior* is aimed at acquiring ideas and information from a group of people, offering the entrepreneur information and ideas distant from his own knowledge (Granovetter, 1973). *Questioning behavior* would align while bringing up current uses or practices in order to discuss and challenge these, hoping for new product ideas or to evaluate an existing idea.

2.1.2.5 Free elicitation

During the free elicitation technique, a respondent is asked through a personal interview or direct question what, in their opinion, are the most important qualities of a single product or service. The researcher presents the respondent with a series of words and subsequently asks the respondent to verbalize the concepts that come to mind. The focus is on what the respondent currently knows about the product (Van Kleef et al., 2005).

- Goal: The aim of this method is to determine which aspects of a product or service the consumer deems most important.
- Data collection: During this method, usually one product is discussed. The discussion itself is unstructured, because there is no script and respondents can steer the conversation in any

way. A possible way to collect this data is via an interview, direct questioning either offline or online, preferably to preselected respondents to ensure the respondent knows the product.

- Identification, evaluation stage and exploitation; Because this method is aimed at gaining information directly from a specific consumer on what the most important aspects or associations of a product are, this method is applicable for both idea identification by evaluating current processes, to evaluate new ideas by testing which attributes are deemed most important or for the exploitation phase by for example finding out the associations different groups of consumers have with the brand of the company and use this information to identify the correct market segment and positioning strategy.

Matching search behavior:

With free elicitation, the researcher triggers a respondent into describing anything that comes to mind when hearing a certain word. This means that the researcher interacts with the respondent and the aim is to gather as much information about attribute preferences and associations. This method pairs with *questioning behavior* when it is used to question the status quo, an example could be to give respondents certain stimuli or keywords and asking them what the first thing is that comes to mind. This information could lead to the discovery that consumers perceive attributes or products differently than the entrepreneur or the industry commonly thought. These new insights can be used to either develop a new idea that matches this perception or compare with an already existing idea to evaluate this idea. On the other hand this method could align with *experimenting behavior* when for example; by asking a consumers of several segment groups what their associations are with certain brand, the entrepreneur generates feedback on how different target groups perceive that brand and this information could be used to develop specific market positioning strategies.

2.1.2.6 Information acceleration

This method builds aims at putting existing or new concepts to the test by using multimedia stimuli and experimental set-ups (Van Kleef et al., 2005). Kleef mentions an example of Urban et al. (1996) where he implemented this method to assess the demand for a new electric automobile. A virtual environment was created in which the car would be sold in the future. In this environment, not only the car, but also a computer to do research on, magazine articles about the car and a showroom model where constructed. Respondents could also have 'real' talks with a salesperson or check out the car from inside or out. After experiencing this virtual reality, Urban et al. collected the purchase intentions in order to make an accurate sales forecasting. This method is currently used a lot for personal communication systems and theme parks (Van Kleef et al., 2005).

- Goal: The goal of this method is to explore customer perceptions and buying intentions, with which sales forecasting could constructed or important, possibly negative, aspects could be highlighted when this method is combined with another research method that is linked with questioning behavior.
- Data collection: Because the environment is virtually created, all movements of respondents can be logged and will become structured because all possible preferences and choice alternatives are specified and designed by the researcher.

- Exploitation; this methods allows to simulate reality and thereby testing the product or service in a 'realistic environment', after which the entrepreneur can use this information to optimize the real business launch.

Matching search behavior:

This technique is mainly focused on generating feedback, information and exploring the options on how the product or idea could be best exploited. By creating a virtual representation of the product for consumers to use, the researcher creates a virtual reality to simulate how the market would respond to the product or idea. This method enables the entrepreneur to simulate reality and test various scenario's in order to generate feedback which allows for the optimization of the business launch and is therefore based generating feedback, which aligns with *experimenting behavior* since this behavior is characterized by acquiring feedback and testing ideas.

2.1.2.7 Kelly repertory grid

The Kelly Repertory grid is a method in which the researcher constructs a personal interview in order to elicit the constructs which consumers use to structure and interpret a product (category) (Van Kleef et al., 2005). These constructs are derived by, for example, showing consumer triads (three pictures at the same time) of three different products in order to let the consumer pick which picture is different from the other two, and asking for the reason behind this choice (Kelly, 1955).

- Goal: The goal of this method is to identify by which aspects consumers differentiate between products, and therefore, which aspects influence a consumer's perception of a product.
- Data collection: By letting consumers sort multiple triads of the same category of products into two matching and one outsider, and asking them the reason why the one is an outsider, you find the attribute consumers judge on. For example, Russel and Cox (2004), let consumers assess 14 meat products using repertory grid methodology. Respondents were presented with a series of triads and afterwards it turned out that consumer distinguished between beef sausage and lamb chops on healthiness and price.
- Evaluation and exploitation; this method can be used to evaluate an idea by, for example, showing respondents a triad of pictures and letting them pick which one is different from the others, and why. This method can generate information about which attributes the respondents deem important and which products they prefer in general. One of these pictures could be the entrepreneur's idea, allowing him to evaluate whether the entrepreneur's idea would be perceived positively or not. Another example is to use the knowledge of which attributes are deemed most important in the marketing strategy.

Matching search behavior:

This method requires the researcher to establish a series of items, pictures, brands or product and to let the respondent judge which one differs from the other two, and why. This will shine more light on aspects that make products better or worse than others. This method pairs with *questioning behavior* when it is used to assess current products, for example with the goal to

identify faulty or missing attributes, since the questioning behavior is used to question the status quo and disrupt commonly accepted products or idea's with the goal to improve them. When it is used to evaluate, for example, a company name, which could be part of the exploitation phase because this information could be used in developing the marketing strategy, the method can be classified as *experimental behavior* since this behavior is aimed at generating feedback about the product or idea.

2.1.2.8 Laddering

Laddering is a technique which is used after consumers have shown their preference for a product or choice already. The act of laddering continues to question consumers the 'why'. Why have they chosen that product (consequential to, for example, the Kelly repertory grid)? And why is that attribute of importance? (Van Kleef, 2004; Reynolds & Gutman, 1988)

- Goal: The goal of this method is to find out why people deem the attributes that they find important, important. This allows researchers to gain a deeper understanding of consumer needs, and might lead to new insights or reveal opportunities that the consumer would not have recognized by themselves.
- Data collection: The data collection method is a one-on-one in-depth interview with a consumer, who has previously given their preferences on a number of products through a different method (e.g. Kelly repertory grid). By constantly asking the 'why' question, the researcher tries to reveal the true need that the consumer is trying to fulfill.
- Identification; this method attempts to reveal the true reason behind the specific needs of the consumer. By acquiring this information, it may allow the entrepreneur to form new products or ideas that are new solutions or alternatives to fill these (hidden) needs.

Matching search behavior:

Laddering is a technique that requires a personal interacting with a single respondent, in which he or she is asked to explain and elaborate on previously identified preferences. The goal is to identify the specific characteristics that make a product valuable to the consumer in order to use these characteristics for a new, or improved, product. The respondent is selected based on a previous technique in which the respondent already gave his or her preference. This technique could be identified as a *questioning behavior* because it keeps asking the 'why' question, to see what truly is the foundation for a certain preference, which can eventually lead up to a new way of satisfying this need.

2.1.2.9 Lead user technique

The basis of the 'Lead user technique' lays in the expertise or knowledge that certain consumers, which can be first adopters, experts or enthusiasts, have in a product or product category. These consumers differentiate themselves by facing needs month before the bulk of the consumers face these needs (Von Hippel, 1986). By letting them think about their own problems, and how they would like to solve these problems, it is believed that this often leads to new and successful products (Van Kleef et al., 2005).

- Goal: The goal of this technique is to gather ideas of products or solutions to needs that the bulk of consumers have yet to face, allowing the entrepreneur a head start in the market or to create an entirely new market.
- Data collection: First a group of lead users have to be identified, after which these lead users could be brought together to engage in a problem solving sessions or they could be interviewed or observed personally to identify needs, or maybe even solutions that the lead user made to his needs, that they have faced which the regular consumer have not yet.
- Identification, evaluation and exploitation; comparable to the focus group method, these lead users can be used as a reference point in each stage of the EOD process. Once lead users have been identified they could be used to observe, for example, when they post or blog about an upcoming trend with which the entrepreneur could develop a business idea. Lead users are believed to be able to offer more focused and relevant contribution to the development of new ideas because of their personal interests and experience with the topic. Also, their ideas are often well thought out which means that these ideas are less prone to obvious faults. This information could also be used to validate or evaluate an idea, or these lead users can be asked their opinion about the idea of the entrepreneur. Lastly, by using these lead users as test users, or using them to identify the most important attributes, the entrepreneur can gather information that can be used for the market positioning strategy.

Matching search behavior:

In the lead user technique, selected customers are gathered who have extensive knowledge about the given subject. These consumers are expected to face, and solve, problems and needs that regular consumers face months or even years later, and thereby identifying possible solutions or needs for the entrepreneur to exploit. Their insights into that area of expertise can also help to identify future problems or applications which could be used to evaluate the idea or to find a new market application which is valuable information for the exploitation stage. Observing these lead users to identify future needs, for example reading their blogs, aligns with the *observation behavior* because this behavior aims at paying attention to what is happening in the world without actively engaging in order to, for example, spot new opportunities by observing a problem that these lead users face before the general mass does. Questioning these lead users about problems they face in the current situation and discussing possible new applications of an existing idea can be considered *questioning behavior* since this behavior is partially characterized by finding new applications for existing products and questioning the current ways of use. Finally, using these lead users to test and generate feedback on ideas in order to use this information in, for example, the evaluation or exploitation stage would align with the *experimenting behavior* because this behavior is characterized by generating feedback about an idea.

2.1.2.10 Zaltman metaphor elicitation technique (ZMET)

The ZMET technique challenges consumers to create a collage of pictures which characterizes their feelings or associations with a certain product, word or topic. Once people have created this collage, they are then asked to explain these pictures and their associated experiences. An example of this is given by Christensen and Olson (2002); In their study, their participants were asked to create a

collage that showed why they liked about mountain biking. The analysis of these collages showed that there were four mutual feelings that all respondents shared, 'riding for challenge', 'thrill', 'sharing experiences and connecting with a group' and 'escaping to nature' (Van Kleef et al., 2005).

- Goal: The ZMET technique is one of several techniques to reveal the qualities or characteristics that consumers deem important in a product or service. This particular technique can be used most for deeper lying reasons such as emotions or feelings that arise from a given product or service, in order to use this information in future product development.
- Data collection: The respondents are asked to compile a collage about what they think or feel about a certain product, activity or topic. Afterwards, they are asked for the reasons they chose these pictures. This information will be cataloged.
- Identification and evaluation; Knowing which experiences and associations are important to consumers can lead to the identification of a new idea or opportunity by coming up with a way to realize this experience in a way that is not yet currently in use. Knowing what consumers find important can also be used to compare with the attributes the entrepreneurs idea offers in order to evaluate this idea.

Matching search behavior:

This technique requires respondents to create a collage of pictures about a certain topic, word, or product given to them by the researcher. Therefore, this first requires input from the researcher. This method can be used to create or identify new ideas or evaluate existing ideas, and the respondents do not necessarily have to be carefully selected. This method can be used to assess which underlying feelings contribute to the perception of a consumer, in order to create a new opportunity, or to test certain set-ups or versions of the product or idea the entrepreneurs has created to see if the consumers perceive the product the same way as was intended by the entrepreneur. When this method is used in order to evaluate, or generate feedback, on an idea that the entrepreneur has created this aligns with *experimenting* behavior, while when this method is used in order to find out why people like or associate with certain activities or products it can be considered *questioning behavior* since this behavior is aimed at finding out the 'why' behind things.

2.1.2.11 Consumer idealized design

The customer idealized design is a method that attempts to let consumers develop their own ideal product or service while they are only restricted by two conditions; technology that does not exist can't be used, and the product must be viable within the current laws (Janssen & Dankbaar, 2008; Ciccantelli & Magidson, 1993).

- Goal: Consumer idealized design aims to facilitate and give an average consumer the right tools in order to design a product or service from a functional standpoint, usually for situations that are familiar to the consumer.
- Data collection: Because this method is rather similar with the Focus Group technique (Ciccantelli & Magidson, 1993) the same guidelines can be followed during analysis. Selecting the correct users can be done by selecting random (potential) customers

(Ciccantelli & Magidson, 1993) or selecting a lead user by applying the lead user technique (Den Engelse et al., 2012).

- Identification and evaluation: Letting consumers create their own ideal products or services could reveal new attributes or functions that inspire entrepreneurs to develop a completely new idea which can be used during the identification phase. When the entrepreneur attempts to evaluate his idea, the idea created by the consumers could be compared with the entrepreneurs own idea to establish whether the key aspects match for example.

Matching search behavior:

The consumer idealized design can be used during the execution of multiple search behaviors. Because it challenges consumers, either picked at random or experts, to design their own product without constraints on costs or time this can lead to completely new insights. When this method is used to overthrow a current 'product line' or 'style' or reveal that the current way the industry thinks about how a product should look like, this would be a good example of *questioning behavior* while at the same time gathering possible ideas or opportunities from people besides the entrepreneur himself also aligns with the *networking behavior* . The outcome of this method, an idea designed completely to the wishes of the consumer, could also be used to compare it against the entrepreneur's own idea in order to evaluate this idea. This would be an example of *experimenting behavior,* since experimenting behavior is aimed at generating feedback.

2.1.2.12 Crowd sourcing

Crowdsourcing is part of the new paradigm of open innovation (Chesbrough, 2006) and contains the believe that by letting 'a crowd' brainstorm or generate ideas that this might improve the process of creative and innovative solutions (Trompette, Chanal, & Pelissier, 2008). Even though the literature describes several ways of the exact meaning of crowdsourcing (Trompette et al., 2008), we describe executing the crowdsourcing technique as entering or posting a problem or challenge the entrepreneur faces in a (semi)public setting and challenges a large 'crowd' of people to come up with ideas, solutions or alternatives within some given parameters (Behrend, Sharek, Meade, & Wiebe, 2011).

- Goal: The idea behind crowd sourcing is that the collective intelligence of a crowd of people is bigger than that one of person and that even though not everybody might be an expert in a certain area, this method often provides out of the box ideas, opinions and solutions.
- Data collection: The data that comes from this method depends largely on the way it is executed. This method could be executed in a sort of 'public brainstorm session' in which the discussion has to be documented very clearly and content analysis has to be applied.
- Identification, evaluation and exploitation: The crowdsourcing method has a wide variety of uses. Because it simply collects opinions and ideas from multiple people, these people can be asked or faced with questions that belong to each of the phases. Crowdsourcing could be used to brainstorm a solution to a problem or need (identification), the ideas that are brainstormed could be used to compare with the idea of the entrepreneur (evaluation) or even a creative marketing strategy could be crowd sourced.

Matching search behavior:

Crowdsourcing is one of the key examples of the *networking behavior*, as the foundations of the networking behavior as described by Dyer et al. (2008) are that this behavior brings information to the entrepreneur outside of his own knowledge base by connection with people who have different ideas and perspectives (Dyer et al., 2009; Granovetter, 1973). The crowdsourcing method aims to gather these ideas and perspectives from a large number of people about a specific subject.

2.1.3 Market research methods and entrepreneurial search behavior comparison

As conclusion to the above mentioned market research methods and their respective entrepreneurial search behaviors a graphical diagram has been constructed to give a clear overview.

Entrepreneurial search behaviors	Market research methods	Matching EOD stage
Observing behavior	Empathic design	Identification
	Lead user technique	Identification and Evaluation
Questioning behavior	Category appraisal	Identification and evaluation
	Conjoint analysis	Evaluation and exploitation
	Focus group	Identification, evaluation and exploitation
	Free elicitation	Identification, evaluation and exploitation
	Kelly repertory grid	Evaluation and exploitation
	Laddering	Identification
	Lead user technique	Identification, evaluation and exploitation
	ZMET	Identification and evaluation
	Consumer idealized design	Identification
Experimenting behavior	Category appraisal	Evaluation
	Conjoint analysis	Evaluation and exploitation
	Free elicitation	Evaluation stage and exploitation
	Information acceleration	Exploitation
	Kelly repertory grid	Evaluation and exploitation
	Consumer idealized design	Evaluation
Idea networking behavior	Focus group	Identification, evaluation and exploitation
	Consumer idealized design	Identification and evaluation
	Crowdsourcing	Identification, evaluation and exploitation

Table 1: Graphical representation of the entrepreneurial search behaviors that characterize traditional market research methods.

2.2 Social Media: The web 2.0

2.2.1 Definition of social media

According to O'Reilly (2005), the first phase of the internet, Web 1.0, was characterized by individual websites by either companies or persons, but they were all informational and information went in one direction. Later, O'Reilly noticed differences between similar services or websites of which one category was successful and the other was not. The overall pattern is that web2.0 uses a different, fundamental, principle. Instead of a one way information stream, these new applications use consumer created input. The internet was not just software-as-a-service, "value was facilitated by the software, but was co-created by and for the community of connected users." (O'Reilly, 2007). This emergence of web 2.0, or social media, has led to the phenomenon that every day users post, edit and share their opinions, thoughts and experiences on the internet. This information can be observed, collected or provoked by the entrepreneur by using the appropriate techniques, for which the above mentioned techniques by van Kleef (2005) might provide a solution. By using this information it can allow the entrepreneur to involve the customer, or 'the voice of the customer', in the entrepreneurial opportunity development process.

The term web 2.0 has become commonly recognized and multiple interpretations of the web 2.0 has led researcher to discuss the web 2.0 on three different levels. The first level of discussion and analysis is the technologies used, the second level are the social media applications and third level are the user added value, or social values (O'Reilly, 2004; Constantinides, 2009; Osimo, 2007).

The technologies that have been invented are the technical foundations on which the applications are build, there are numerous sorts of technologies used, for example, RSS, AJAX and Flash. These applications are, for example social networking applications such as Facebook or MySpace, however without users and without user added content these applications have no value. Another example is WordPress as a practical implementation of a weblog (Osimo, 2007). What truly distinguishes web 2.0 however are the social values, or the user added value that are enabled by the applications. Below the three dimensions of web2.0 will be discussed, starting at the bottom of the pyramid, technologies, followed by applications and then their affordances in market research.

2.2.2 Technologies that enable social media

Although the definition of Web 2.0 doesn't refer to a particular technical update of the Web, there are some basic technologies that are essential to its workings (Kaplan & Haenlein, 2009). These technologies are often thought of as applications while trying to define social media, for example, an application like Facebook is often called a new technology (Korica et al., 2006) however; it is a combination of technologies that allow for the creation of such applications (Constantinides, 2009). The focus of this research is not on these technologies, but a short description of the most influential technologies, which in turn allow for the creation of applications such as Facebook, is given to illustrate the overall framework of the Web 2.0 definition.

AJAX, which stands for Asynchronous JavaScript and XML, is a mix of different web development technologies which allows the creation and presentation of interactive online applications and data exchange (Cormode, G., & Krishnamurthy, B., 2008).

Flash allows web developers to add animation, interactive content and audio/video to their webpages (Kaplan & Haenlein, 2009)

Open API opens up information or processes from an application or website to be picked up and used by another application (Cormode, G., & Krishnamurthy, B., 2008).

2.2.3 Applications in social media

There are numerous applications of social media present at this moment, while others have already come and gone, others are still to come. In order to present a framework that is less dependent on the existence of a specific application, the applications have been categorized into application types, or, classifications based on research by Murugesan (2007) and Kaplan & Haenlein (2010). This section is summarized in data matrix, table 2.

Wiki's allow the combined and collective creation of content by a wide variety of users, and are therefore probably the ultimate manifestation of democratic user generated content (Kaplan & Haenlein, 2009). A wiki is a structured website, often constructed by multiple pages with the same template or lay-out. Wiki's allow users to write articles and/or edit each other's articles. This user created input could be text based, or done with different kinds of media like pictures, video or audio. Wiki features include a markup format allowing for short and simple formatting of text and links, simple navigation structure to allow new pages to be created quick and easy and existing pages to be found quickly, standard templates for all pages to improve usability and ease of use, simple workflow to allow easy writing or editing without the need of some kind of approval but rather there is an option to restore the input to a previous state in case of spammers for example, and finally a built-in search feature to allow for specific search queries (Murugesan, 2007).

Mash-up application uses information from multiple online sources and combines this into, for example, an index system, a directory, or ranking system. Murugesan (2007) illustrated an example of HousingMaps, which is a typical mashup example; the applications pulls sales and rental information on houses from websites such as Craigslist, and integrates that with Google Maps, allowing users to search for housing offers on a map. This kind of integration is often much cheaper and therefor allows for better innovation and combined wisdom.

Tagging and Folksonomy, users are able to tag or label any page they read or write. Whether it is their own blog or somebody else's twitter message (micro blog), these tags can either be private or public and are the base to connect multiple individual messages to create a bigger discussion or conversation. This allows for new links between pieces of content or sharing something in common (Levy, 2009). Folksonomy, in its place, refers to the user created taxonomy of information. When all users tag pieces of information, pages, posts or other content, this will together form a large categorization and a collaboratively generated, open-ended taxonomy. An example of this are shared bookmarks within browsers or a tag cloud like Flickr, del.icio.us or digg.

Web logs, or blogs, are online journals and arguably the fastest growing Web 2.0 applications (Du and Wagner, 2006). They also present the earliest form of social media, since they are the social media equivalent of personal web pages (Kaplan & Haenlein, 2009). These blogs allow a user to publish articles, updates or posts about a specific topic or personal experiences, opinions or findings. These entries are often displayed in a reversed chronological order and other users can, at most,

comment on these entries (OECD, 2007). Blogs can also be used in combination with music (Podcast) or video (videocasts), on which new entries can be automatically streamed or downloaded to computers or portable devices (Constantinides, 2009).

RSS short for Really Simple Syndication or Rich Site Summary refers to a way to syndicate and personalize online content when it is updated and feed it to the consumer, such as new blog entries. (Constantinides, 2009; Kaplan & Haenlein, 2009). An RSS is basically a XML file which summarizes content from different pages and their link's and informs the user of the new update on the pages, blogs or websites they are interested in. (Murugesan, 2007)

Social Networks consist of applications that allow users to connect by building profiles that reveal personal information about the user; depending on the application this could include professional information, personal preferences or associations. These profiles can also include a wide variety of sources of information like photos, videos, audio or even blogs (Kaplan & Haenlein, 2009). These networks also play a big role in distributing information by digital word of mouth and lets users interact (Constantinides, 2009).

Content Communities are websites that organize and share particular types of content between users. Content communities cover a wide area of different media types from text (e.g., BookCrossing on which 750.000 share books), photos (e.g., Flickr), videos (e.g., YouTube) and even PowerPoint presentations (e.g., SlideShare)(Kaplan & Haenlein, 2009). These communities are not always required to create a profile page, and when they are they typically require only very basic information.

Virtual worlds can be divided into two separate worlds according to Kaplan & Haenlein (2009), the virtual game worlds and virtual reality worlds. Both worlds are online three dimensional environments where users can interact with each other in a simulated environment, be it in a fictional game which presents the highest level of social presence and media richness, or the virtual social world where people can simulate an alternative version of their selves in an alternate reality. In the virtual game world, the possibility to self-presentation and disclosure is often limited by the game, but personality treats often prevail within a person's game character. In the virtual reality social worlds the options for self-presentation are wide and this leads to users often showing behavior that very closely mirrors their real behavior, enabling this world to be a perfect experimenting environment.

Social media category	Key attributes	Examples
Blog	A series of post entries, often lengthy, on either a particular subject or as personal diary, by either 1 author or multiple authors. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic and allows readers to comment or even message the author directly.	Wordpress, Tumblr, Blogger.com, twitter (Microblog)
Wiki	Community developed content; A wiki allows users to edit pages or to create a new page within the wiki, often using only a simple browser and lay-out without any special features or add-ons.	Wikipedia, Wikianswers, lyrics.wikia.com
Social networking sites	Social networks allow people to create an identity, share opinions activities and content, create connections with other people or brands	Facebook, LinkedIn, MySpace
Mash-ups	The main characteristics of a mash-up are that it combines, visualizes and aggregates. The main focus is to make existing data more useful by applying it in a different (combined) manner for either personal or professional use.	HousingMaps, WeatherBonk, Twittervision
Tagging and folksonomy	Tags allow people to associate objects like text or content, emotions or people with each other. The folksonomy is a collection of these tags, creating a database of interconnected objects, emotions or people.	Flickr, Twitter,
Content communities	Content communities enable users to share media like video, audio, pictures or files (e.g. PowerPoint's) online. These individuals upload materials, describe them and make them publicly available. Visitors search the content communities by keyword, subscribe to individual users, and provide feedback on the content.	YouTube, Flickr, SlideShare
RSS	An RSS feed gathers all new posts on subscribed blogs or other websites and often categorizing them. Readers such as Google Reader allow the users to be notified when a new entry is made and to have a clear overview of the new entries on multiple pages.	Google Alerts, Google Reader
Virtual worlds	Allows users to join a visually created, alternative reality world. This can either be a realistic or science fictional world.	Second Life, World of Warcraft,

Table 2: summary of key elements and characteristics of the social media applications

2.2.4 Affordances that these social media can offer to market research

The third dimension of the web 2.0 contains the affordances that go with the applications. While applications are necessary for social media interaction, it is not the quality of the application itself that makes the difference; it is the experience that is gained from the social media affordances (Holbrook, 1999; Margolin, 1997). Affordance is a term introduced by psychologist J. Gibson to describe the properties of the environment upon which one can act. Derived from Gibson's definition, affordance according to Norman (1999) refers to the possibilities of action communicated by the environment and perceived by the actor. These affordances are what consumers perceive to be the possibilities of an application, for example, blogging requires users to generate text and click buttons, but the real affordance of a blog is 'idea sharing' and interaction (McLoughlin, 2007). This leads to the conclusion that value derives when an entrepreneur uses the application for a specific purpose, or affordance. Below the affordances as available for entrepreneurs will be discussed.

Blogs

Blogs can refer to other blog entries or blog pages, allowing connections and relations to be developed amongst contributors and enabling the forming of communities (Murugesan, 2007). These blogs, whether it is a big professional blog or a microblogging application like Twitter, allows entrepreneurs to identify and observe experts in a certain field, and to connect with these experts. These blogs could also be used as a platform to post new ideas, innovations or products to gain early feedback from consumers or experts (Bertoni and Chirumalla, 2011). A blog and its readers can also function as an online poll, since the comments of both bloggers and readers can create a powerful 'buzz' either positive or negative (Droge, Stanko, and Pollitte, 2010) which can give valuable information about how consumers view a certain product, service or trend. In these discussions certain opinion leaders often emerge due to their constant presence, frequent posts and their followers (Droge et al., 2010). This offers the opportunity to identify so called lead users, by searching for blogs and bloggers that, for example, have huge amount of followers within a specific industry. Another event that might occur on these blogs is that a focus group can arise when an expert blogger proposes a new idea and his readers react, generating feedback and (complimenting) ideas (Droge et al., 2010). These focus groups can come into existence without interaction of the entrepreneur and could therefore also be observed using the empathic design method. The empathic design method focusses on observing the latent needs and opinions of consumers about a product, service or idea without the interference of the researcher in order to avoid any possible bias and to uncover the real latent needs.

Wiki's

"Collective knowledge is greater than the creator" (Nelson, 2010). Wiki's allow contributors to create, enrich or delete information (Nelson, 2010). This allows wiki's to be used to collaboratively grow, or observe, ideas for future ideas of products and to define possible best practices from the different lifecycle phases, facilitating idea and experience sharing among the stakeholders (Bertoni and Chirumalla, 2011; Murugesan, 2007). Identifying and following specific wiki's can allow entrepreneurs to stay up-to-date in their respective field or to observe the opinions and thoughts of consumers in order to identify opportunities. Market research methods that could be performed using wiki's include the empathic design method to observe consumers' activity on wiki's for

example by noticing certain limitations that users describe about existing products or services. This information could help the entrepreneur by using this as input in the development of a product that serves these needs or problems. Wiki's can also accommodate a focus group, by inviting a group of people on an certain wiki, the entrepreneur can offer a subject or initial question by creating a page on the wiki and the users can enter their ideas and built on each other's ideas. Finally, much like the in the blogosphere, a wiki could also be used to identify lead users by observing and following users who frequently post accurate and expert information on multiple wiki's or pages within the same area of expertise.

Social networks

Social networks are (open) communities where consumers can express their opinions, experiences or thoughts. As the name suggests, these applications mainly fulfill a social function where users can communicate with their friends, identify persons with similar interests, post or share different kinds of media, start or join groups with a specific topic or purpose, or organize and join online events (Berkman, 2008). Another aspect of these social networks is that you can often create a company, or brand fan page which enables the entrepreneur to do exploratory research on their brand, idea or company by asking other users for their opinion. Facebook, for example, offers the possibility to identify respondents that match with the given criteria of a survey by shared interests ('likes'). These networks can often enable the researcher or entrepreneur to gather respondents for traditional market research methods such as a focus group or surveys (Patino, Pitta and Quinones, 2012). Market research methods that could be performed using social media are wide spread due to the increasing development speed and differentiation of social networking websites. Examples of how social networking website can be used to perform market research are category appraisal (Pitta & Fowler, 2005) by posting two or more pictures and asking them which they prefer and why they have chosen that product the entrepreneur can identify important attributes which can be used for the further development of an idea or product. Another example is free elicitation by, for example, posting keywords on Facebook with the question what the first thing is that comes to mind. This information gives insights in the associations consumers make, and this can help to identify potential customers and define the market positioning strategy (Dierdorp, 2013). Applications like Facebook also allow for the creation of a poll, in which a list of attributes could be listed along with the question which attributes consumers find most important (Dierdorp, 2013), this method, the conjoint analysis, helps the entrepreneur to know which attributes are most relevant in a product. Monitoring posts and articles on Facebook and LinkedIn for example can be used to identify experts to find the lead users, rather similar to the identification process in blogs and wiki, entrepreneurs can look at those users that post frequent relevant updates and who contain a large base of followed. These users can then be observed to identify market trends for example. Both those applications also offer the possibility to start a specific group in which these (lead) users can act as a focus group by asking them questions about, for example, what they would consider a viable market entrance strategy. Outside of these groups but still pretty similar to the focus group method is the crowdsourcing technique. These social networks allow entrepreneurs to post a question in order to let users react and post their ideas about new services or to evaluate and vote on existing ideas either contributed by the entrepreneur or other users. This idea generation process could even by subcategorized in different sections like Starbucks did; Starbucks defined three categories in which

users could contribute ideas, Product idea's (coffee, food, etc), Experience idea's (Payment, design) and involvement (CSR, community building) (Sigala, Christou & Gretzel, 2012). A more specific way of involving the consumers in the development of an opportunity that social networks offer is the Customer Idealized design. Instead of asking general questions or post problems, the entrepreneur can ask respondents to design their specific product or service that fills a specific need according to the consumer idealized design procedure, this will give the entrepreneur a lot of information on which features consumers deem important which can lead to new ideas or be used to evaluate the entrepreneur's own idea (Lofthouse & Lilley, 2006). The Kelly repertory grid technique can also be used by posting a triad of pictures on, once again Facebook for example, and asking people to respond which one they prefer and why (Dierdorp, 2013). This information can be used by the entrepreneur to identify important attributes which can lead to new products or to identify potential customer segments or creating a marketing strategy.

RSS

An RSS feed allows entrepreneurs to save time while remaining up to date with the latest publications or blog entries about his or her given area of expertise. After the entrepreneur has identified relevant blogs or journals, the RSS feed allows to track those publications and will combine all the new posts, which can be received through a RSS reader, like Google Reader. Applications like Google Alert allow the get email notifications after a new entry has been made in a given blog or journal. Market research methods that could be performed using RSS can be empathic design because it enables entrepreneurs to easily observe the information that is published in articles or blogs which can lead to the identification of new opportunities. Another affordance of RSS is that it allows for the more efficient use of blogs, and thereby some of the methods that can be performed with blogs such as observing lead users to identify market developments and trends that can eventually lead up to new opportunities.

Mash Ups

Mash ups are easier and quicker to create compared to creating entirely new applications. The value of a mashup is not the data or service itself but rather the improved interface that displays this data, or its ability to combine multiple sets of data into one application. This could allow for a better way of browsing for information (Murugesan, 2007). A market research method that could be performed using mash ups could be for example conjoint analyses, by collecting the features and attributes of different products offered on different websites and combining them into a single list of attributes where users can pick the most important attributes in order to create their 'ideal product', this can help entrepreneurs in the development of a new product by combining the most picked attributes. Another way a mashup could help the entrepreneur could be to efficiently execute the Kelly repertory grid, by creating a mashup application that automatically grabs and loads sets of three images and asks respondents to identify one of those three that is different, and then ask them what makes it different. This information can then be used to identify the most important attributes of a given product and can be used in the development of a new product or the evaluation of a current product. Because the ZMET is a rather complex method that combines several separate techniques, a mash up could offer a solution to efficiently conduct the ZMET by combining for example, the responses consumers give on Flickr, where they make a collage of pictures about their associations with the attributes they have indicated to be important using the conjoint analyses.

Tagging and Folksonomy

Applications that support tagging allow consumers to label any page, image, video or other sort of media using tags. These labels, or tags, can be public or private and allow for the creation of new connections which can eventually lead up to a bigger collection of conversations or media (folksonomy, a taxonomy created by users) or allow the entrepreneur to identify links between various pieces of content, the associations consumers have with ideas, names or descriptions for example (Levy, 2007). An entrepreneur could, for example, find existing tags related to their company name or ask consumers to tag pictures that depict their associations with a product description or logo. Market research methods that could be performed using tagging or folksonomies are category appraisal by for example, posting one or more products and asking respondents to tag which product they would prefer and which attributes are important in that decision. The free elicitation method can be used to do somewhat the opposite, by posting certain stimuli or keywords attribute and asking users to tag which product or application comes to mind. This could also be used to find new applications for a product innovation. Using twitter hash tags, it can even be possible to start a discussion about a certain topic and create a sort of online focus group by persuading and challenging users to share their opinions about a certain topic using that hash tags and asking this focus group to evaluate a product or idea. Tagging can also enable the easier execution of the ZMET, because all the interaction the respondents have to do can be done by tagging, which makes it easier for the entrepreneur to gather the data. Another application of tags, and folksonomy, is that it allows entrepreneurs to find discussions and related comments or articles easily by searching for specific tags (hashtags) on twitter, Facebook or blogs for example, to stay up to date on latest developments in that specific area or to observe a certain issue or user. This enables a more efficient searching through (mini) blogs for example, which offers possibilities to execute the empathic design (Murugesan, 2007). The entrepreneur could for example locate (hash)tags that involve a specific product or activity and observe what people post about this activity, what makes them enjoy it, what irritates them, and all of these emotions could lead to the identification of a new opportunity by incorporating these elements in a new product or service.

Content communities

Content communities often enable users to create limited profiles, with which they can create, upload and/or share all sorts of multimedia after which these can be rated. These applications are used as video blogs, to upload personal experiences, to show off personal work or for commercial purposes. This also allows entrepreneurs to identify popular media, to upload (and get rated on) their own media, or ask consumers to upload their own media (Kaplan & Haenlein, 2009). Market research methods that could be performed using content communities can be Free elicitation, by probing users with stimuli like pictures or videos of products or ideas and letting them tag their first associations, or possible applications for that product. Another method is the ZMET; content communities are ideal applications to create collages, like Pinterest or YouTube, where users can upload their own pictures or videos, allowing them to visualize their feelings or experiences that come up when they get triggered by a product and these content communities often also allow some form of private messaging in order to ask their reasoning. Applications like YouTube also feature a lot of people that upload videos about every day experiences, creating a video blog,

allowing entrepreneurs to search for lead users. Lead users in content communities are often good problem solvers within these communities. They are easily identifiable because they publicly share and answer a lot of information and question and thereby 'emerge from the community' (Pitta & Fowler, 2005) which enables the entrepreneur to spot these ideas. These expert users can then be observed using the Empathic design, by observing these expert users the entrepreneur can stay up to date on developing market trends or problems which can lead to the identification of new opportunities. Besides focusing on just the lead users, there are also methods that involve a larger number of people as respondents, for example the crowdsourcing technique. Content communities allow entrepreneurs to post a question in order to let users of that specific community react and post their ideas about new services or to evaluate and vote on existing ideas either contributed by the entrepreneur or other users. This idea generation process could even be subcategorized; similar to how it is described for the social networking applications (Sigala, Christou & Gretzel, 2012). A more specific way of involving the users of a community in the development of an opportunity that social networks offer is the Customer Idealized design. Instead of asking general questions or post problems, the entrepreneur can ask respondents to design their specific product or service that fills a specific need according to the consumer idealized design procedure (Lofthouse & Lilley, 2006). The advantages of these content communities are that they are often media-rich applications which enable for example visualization of the consumers' idealized product. This will give the entrepreneur a lot of information on which features consumers deem important which can lead to new ideas or be used to evaluate the entrepreneur's own idea. Applications like Pinterest also allow for the execution of the Kelly repertory grid, because it enables the easy posting a triad of product pictures on which users can comment, therefore the entrepreneur can post a triad and then ask respondents which product is different from the other two, and why. This information can be used for example to evaluate one's own product or to identify important attributes.

Virtual worlds

A virtual reality world is a great opportunity for the entrepreneur to experiment. Personalities in these alternative realities often imitate a person's true personality, even if they actively try to pretend to be different (Kaplan & Haenlein, 2009). This allows entrepreneurs to test certain products or ideas in a virtual environment to evaluate certain aspects like attributes of the product, or to create a foundation for the sales forecasting. It could also be used to observe behaviors. One of the market research methods that could be performed using virtual worlds is Information acceleration, virtual reality worlds like second-life enable entrepreneurs to test multiple attributes about their products by simulating reality and observing the success, popularity and usage of their products. This information can be used to test the market positioning strategy. An example of this is when the Starwood Hotels & Resorts Company created a virtual model of their new resort in the online game 'second life' in order to generate feedback before actually building this resort (Kaplan & Haenlein, 2009). These virtual worlds however also enable entrepreneurs to perform the category appraisal by, for example, monitoring each time an online consumer makes a choice between competing products in the game, and afterwards asking them why they chose for that product. This could be done in games like Second Life or The Sims ™ where users have to buy furniture, food and every day articles. The next two methods that can be executed in virtual worlds are for some part dependent on the nature of the product or idea, but there is surprisingly much information that can be gathered from these virtual reality worlds because players spent so much time on them. Because these

players are often very engaged (Kaplan & Haenlein, 2009), this might allow the entrepreneur to implement some form of customer idealized design. By asking users of 'The Sims' for example to design some kind of furniture they would prefer to have added to their virtual home, this might lead to creative designs and inspire entrepreneurs to develop new furniture. These online environments can also be used to execute the Empathic design method (Dierdorp, 2012; Leonard & Rayport, 1997), by observing groups of people or individuals while using every day products or objects to identify latent needs, new trends, problems or social behaviors.

2.3 Combining market research methods with social media applications

Featured below is a data matrix in which all the social media applications that have been discussed are listed along with their key attributes and possible affordances. These are then linked to the market research methods that can be applied on these media.

Table 3: Social media applications, attributes and affordances matched with research methods.

Social media category	Key attributes	Key affordances	Applicable market research method
Blog Examples: Wordpress, Tumblr, Blogger.com, twitter (Microblog)	A series of post entries, often lengthy, on either a particular subject or as personal diary, by either 1 author or multiple authors. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic and allows readers to comment or even message the author directly.	Identify experts, Observe experts, Connect with experts, Share ideas, evaluate ideas and co-create new ideas.	Empathic design, lead user technique, Focus group.
Wiki Examples: Wikipedia, Wikianswers, lyrics.wikia.com	Community developed content; A wiki allows users to edit pages or to create a new page within the wiki, often using only a simple browser and lay-out without any special features or add-ons.	Fulfilling information needs, observing consumers opinions and thoughts.	Empathic design, focus group, lead user technique.
Social networking sites Examples: Facebook, LinkedIn, MySpace	Social networks allow people to create an identity, share opinions activities and content, create connections with other people or brands	Start discussions, get responses on questions or propositions, identify consumer groups, join groups,	Category appraisal, conjoint analysis, free elicitation, lead user technique, focus group, Kelly repertory grid, customer idealized design, crowdsourcing.
Mash-ups Examples: HousingMaps, WeatherBonk, Twittervision	The main characteristics of a mash-up are that it combines, visualizes and aggregates. The main focus is to make existing data more useful by applying it in a different (combined)	Information seeking, experimenting product ideas,	Conjoint analyses, Kelly repertory grid, ZMET

	manner for either personal or professional use.		
Tagging and folksonomy Examples: Flickr, Twitter,	Tags allow people to associate objects like text or content, emotions or people with each other. The folksonomy is a collection of these tags, creating a database of interconnected objects, emotions or people.	Information seeking, Discover consumer associations and preferences, receiving feedback,	Category appraisal, free elicitation, focus group, ZMET and empathic design.
Content communities Examples: YouTube, Flickr, SlideShare	Content communities enable users to share media like video, audio, pictures or files (e.g. powerpoints) online. These individuals upload materials, describe them and make them publicly available. Visitors search the content communities by keyword, subscribe to individual users, and provide feedback on the content.	Identify experts, Observe experts, Connect with experts, Share ideas, evaluate ideas and designs, information gathering.	Free elicitation, ZMET, Empathic design, Kelly repertory grid, Lead user technique, customer idealized design, crowdsourcing.
RSS Examples: Google Alerts, Google Reader	An RSS feed gathers all new posts on subscribed blogs or other websites and often categorizing them. Readers such as Google Reader allow the users to be notified when a new entry is made and to have a clear overview of the new entries on multiple pages.	Faster execution of Blog activities, like to identify experts, Observe experts, Connect with experts, Share ideas, evaluate ideas and co-create new ideas.	Empathic design, lead user technique
Virtual worlds Examples: Second Life, World of War craft,	Allows users to join a visually created, alternative reality world. This can either be a realistic or science fictional world.	Test products, create sales forecast, product refinement	Information acceleration, category appraisal, empathic design, customer idealized design

2.4 Obstacles that influence social media use

In order to establish what possible factors might influence the social media usage of the entrepreneurs, and especially which obstacles they face and how different personality traits influence the usage of social media, this research first analyses which obstacles have been identified in existing literature, after which the influence of personality traits on social media usage will be discussed. This literature will help to identify and evaluate the obstacles the entrepreneurs suggest they experience during the interviews.

2.4.1 Obstacles

Although the web 2.0 has been around for more than a decade now, a lot of organizations have not yet adapted to, or accepted, social media usage (Buehrer et al., 2005 and Venkatesh and Davis, 2000). Research done by Buehrer et al., (2005) and Venkatesh and Davis (2000) has led Michaelidou, Siamagka and Christodoulides(2011) to identify five main barriers to the adoption of new technologies, such as social media. These five are shortly described below.

2.4.1.1 Lack of money

Entrepreneurs often do not possess the resources to invest in either the equipment necessary to utilize the applications, or to hire personnel to utilize the applications.

2.4.1.2 Lack of time

Entrepreneurs often have very limited time, which might be an obstacle to get accustomed with a new medium of communications. People also often perceive social media as time consuming (Michaelidou et al., 2011).

2.4.1.3 Lack of training

Even though entrepreneurs can be familiar with a certain technology or application, most of these applications are not perceived very intuitive (Michaelidou et al., 2011) which can lead to the entrepreneur not knowing the possibilities of an application, or not knowing how to use these possibilities.

2.4.1.4 Negative views about usefulness

Because of the abundance of user-generated content, which for more than 99% is considered as spam, idle chatter or discussions that go beyond the interests of the individual (Berkman, 2008), social media might not be perceived as a useful medium or means for communications. Most businesses see social media only as a marketing tool, or as not relevant for businesses at all due to a lack of knowledge, bad image or other reasons. (Kaplan and Haenlein, 2010; Kietzman et al., 2011)

Chapter 3. Methodology

This research is part of a bigger research into the possibilities of social media to acquire and adopt information by venture developers, more often called; entrepreneurs. A previous research (Den Engelse, et al., 2012) investigated the use of social media amongst entrepreneurs who participated in the business incubator VentureLab Twente using a quantitative research method. The results of this research led to the use of this same sample group for this qualitative research. This research is therefore based on 17 in-depth interviews with entrepreneurs who participated in two different business incubators, VentureLab Twente based in Enschede, The Netherlands, and one based in Rochester, New York. To find out how VentureLab can help these entrepreneurs to use social media to conduct market research more efficiently the interviews will give more insight in current barriers for entrepreneurs to use social media, and which methods they deem plausible to conduct for their business. The second smaller set of interviews, done overseas in the United States have been done to examine differences in social media usage and to explore possible 'best practices'. The result of this research will allow us to make recommendations on how entrepreneurs can be helped to use social media, which allows for the formulation of hypothesis' and further research.

3.1 Exploratory study: Preparation of the interview

This qualitative research is conducted after an initial quantitative has shown that entrepreneurs that participated in VentureLab Twente make little use of social media, both as market research tool but also in general. This research aims to uncover the barriers that entrepreneurs face in using social media, and why they are not currently using the features social media applications offer. This research is an exploratory research, which is an approach that is typically conducted when a researcher wants to examine a phenomenon or problem to reveal more information about this problem or opportunity (Earl & Babbie, 2006). The nature of this study is inductive because we first look at how, theoretically, social media could be used by entrepreneurs and then focus on a concentrated sample (Verhoeven, 2011). To maintain the validity of this research the questions asked will be open ended in order to avoid any bias in the questioning.

The sample used in this research consists out of entrepreneurs who have participated in VentureLab Twente. This is a business-incubator based in Enschede, the Netherlands. In this incubator, 14 entrepreneurs have been interviewed. These entrepreneurs have all participated in the previous quantitative study done by Den Engelse et al. (2012) and where selected for this research because they scored the most extremes in the quantitative study. These entrepreneurs where contacted through a coordinator at VentureLab. The business idea's these entrepreneurs had when they entered are mostly high-tech and business to business oriented, which was to be expected as VentureLab is a high tech incubator. Based on Kvale and Brinkman (2009), we believe that we should have conducted atleast 10 interviews, which we succeeded in. Kvale and Brinkman (2009) state that between ten and fifteen interviews is usually sufficient before the law of 'diminishing returns' intervenes. This means that adding more respondents would produce low to none novel information (Kvale & Brinkmann, 2009, p113).

In addition, we interviewed 3 entrepreneurs who participated in a business incubator in Rochester, New York. These interviews have been conducted in order to identify current uses of social media, because it is believed that users in the United States use social media more often for both personal

use and professional use, such as market research or brand building (Singh, Lehnert and Bostick, 2012). This could help us identify possible applications of social media in market research for the Dutch entrepreneurs. These entrepreneurs where all recently, or almost graduated. Table 4 provides a summary of the characteristics of the respondents.

Table 4: Characteristics of the respondents and their business idea's and behavior.

Respondents	Business idea	Phase of business	Informational needs	Social media applications used	Information search activities
Respondent 1	Telecom service provider	Exploitation	Organizational, Financing, specific technical answers	Twitter, Fora	Observing through search engines and fora, outsourcing
Respondent 2	Company take-over or partnering	Identification	Search for strategical alliances	Twitter, LinkedIn, Facebook, Instagram, Blogs	Google search engine
Respondent 3	Fireplace reseller and information authority	Exploitation	Market information, Industry information	None	Direct contact with customers, visiting expositions, networks
Respondent 4	Broad spectrum of human development coaching	Exploitation	Forecasting information, industry information, Scientific support	LinkedIn, Twitter, Facebook, RSS	Internet search, Google,
Respondent 5	Location based services	Exploitation	Market needs	Google+, Twitter, Facebook, YouTube	Outsourced, networking, experimenting
Respondent 6	Advanced liquid volume measurement systems	Exploitation	Market Needs, Forecasting	Twitter,	Internet search, question & answering applications
Respondent 7	Content and text writer	Evaluation	Market information, Industry information	LinkedIn, Facebook,	Google search engine, Observing LinkedIn groups, Coach,
Respondent 8	Marketing and communications bureau	Exploitation	Market information, market needs	Facebook, Twitter, LinkedIn, RSS	RSS feed, Social media search and questioning
Respondent 9	Medical appliances	Evaluatie	Market information, market needs, possible applications	Facebook	Google search, Company pages, wiki's, personal network,
Respondent 10	DNA analysis technologies	Exploitation	Market information, potential customer information	LinkedIn, Twitter	Keyword searches, Search engines,
Respondent 11	Aluminium spray-casting	Exploitation	Market information, organizational information	LinkedIn, Twitter, Yammer	Outsourced
Respondent 12	Luxory tent rentals	Exploitation	Potential customer information, market needs, market information	Facebook, Twitter, LinkedIn	Social networking search, keyword

					search,
Respondent 13	Membrane technologies	Evaluatie	Network, possible applications	LinkedIn, Twitter, Facebook	Contact with customers, personal network,
Respondent 14 (USA)	Mobile campus safety app	Exploitation	Product feedback, potential customer information, market information	Facebook, Twitter, Blogs, RSS,	Focus group, generating feedback through users offline
Respondent 15 (USA)	Online platform to engage with volunteers and local businesses	Exploitation	Market needs and information	LinkedIn, Facebook, Pinterest, Google+, Podcasts, Quora, Youtube	Offline observing, keyword search
Respondent 16 (USA)	Mobile games and game engine development	Different phases	Technical solutions and market trends	Content communities, Blog, Facebook, Twitter,	Offline networking, online observing
Respondent 17	Machine electronics advisor	Exploitation	Legal and organizational infromation	Facebook, LinkedIn, Search engine, Content community	Offline observing and networking

3.2 Interview protocol and operationalization

The interviews conducted are semi-structured, which means there is a premeditated course of interaction within the conversation but there is leeway to let the respondent elaborate on questions or topics of his own. The advantages of a semi-structured in-depth interview are a positive relationship between the interview and the interviewee, which allows for emotions and feelings to be observed. The second biggest advantage is the high validity of the data; the respondent is allowed to speak in detail and in depth which can give better insights in the true meaning or motivation. The third advantage is the ability to ask complex questions and raise bigger issues on which the respondent can elaborate. The final advantage is that the data is not static, but the respondent can also help steer the conversation to include important aspects that the interviewer might not have thought of while constructing the interview. An interview script has been constructed in order for the researcher as a guiding line through the interview and to make sure most questions are covered, but the interviews themselves where not conducted strictly by this script.

Most interviews lasted approximately one to one-and-a-half hours, which turned out to be enough time to first get a better insight into the business and ideas of the entrepreneur. The interviews where build up out of 5 main sections:

- First a general introduction was given about the study that was being conducted and permission was asked to record the interview and to get acquainted with the respondent.
- The second stage based on getting to know more background information of the entrepreneur and his business. The four main topics asked and discussed in this section are the business idea, or entrepreneurial opportunity, that they are working on, secondly the activities they have done in the past 12 months to realize this business, third the information needs that they have and have had in the past 12

months and fourth and finally the social media applications that they have used so far.

- The third stage consists of questions directly from the theoretical framework that has been conducted in this research. In this section the four entrepreneurial behaviors are discussed in relation to their matching market research methods and example social media applications to see whether or not the entrepreneur has used this method, what barriers might be and if they think these methods would be applicable.
- The fourth section questions how entrepreneurs assimilate the information from these social media. This section is based on two parts, firstly how entrepreneurs determine the value of the information that is acquired and secondly how they assess the quality of this information.
- The fifth stage of the interview questions entrepreneurs how and for which activity the entrepreneur used the information he acquired on the social media.

The entire interview protocol including the constructs can be found in appendix A

During the interviews several techniques identified by Easterby-Smith, Thorpe, & Lowe (1991) where used that ensured that the respondents meaning was clear and could less easily be misunderstood. These techniques are:

- The basic probe: The interviewer repeats a question in order to prevent the respondent from wandering too much off the question.
- The explanatory probe: The interviewer asks for examples or explanations of a given answer in order to extract more information
- The focused probe: A technique to get information about a specific topic with questions like 'What type of … did you use?'.
- Giving ideas or suggestions: Giving the respondent an idea to think about or advising them with certain activities, allows the interviewer to observe the respondents reaction.
- Mirroring: Repeating a summary of the respondents answer back to him to check if it is understood correctly and to let the respondent think of what he has just said.

3.3 Analysis

Qualitative data analysis is the non-numerical interpretation of observations, with the intent to uncover underlying patterns or meaning of relations (Babbie, 2007, p.394). After the interviews were conducted, they have all been transcribed in true verbatim, which means that every word or hesitation has been captured in order to increase the validity of the research, and this transcribing has been done by the same person for each interview. These transcripts can be found in appendix B. On average these interviews are between 1 and 1.5 hour of length and the average transcribing time was about 5 hours, resulting in an average of 23 pages, or 13.000 words, per transcript. In order to analyze the data we used the Generic Analytical Cycle as described by Bendassolli (2013). Bendassolli described the generic analytical process to be the analytic core of the many qualitative data analysis methods that exist today. As a combination between the grounded theory and the General Inductive Approach it is concerned with a set of central procedures of which the exact description could vary through-out different books or articles, but it keeps the fundamentals intact. This generic analytic cycle is made up out of three major parts.

The first steps in analyzing qualitative data begin when the researcher first comes into contact with the data, which in this case is the transcription of the interviews. During this process, the researcher can take notes or create memos in order to record patterns and themes that occur on first sight (Bendassolli, 2013) which can later be used to structure patterns and create theories.

Next the coding of the transcripts began, and this has been done by two separate persons. The first coder was R.R.M. Frenken (bachelor student Business Administration) and the second coder was N.D.G. Den Engelse MSc. These transcripts have been coded using a mixture of data driven and theory driven coding (Saldana, 2008) which means that codes are both derived from theory by judging which topics would be important to look at, and from the data itself in case themes, patterns or categories reveal themselves and seem relevant. This means that before the coding started a codebook has been constructed and during the coding process new codes have been added leading up to a final network of codes, see appendix D. Both coders have first coded 1 interview, after which they discussed their interpretations of the codes, to improve the coding process. Then both coders coded all interviews and these are again discussed in order to establish a higher reliability of the coding process. By using the coded transcripts after the second Cohen's Kappa, the reliability of the codes and therefore the analysis will be higher, and that is why these codes will be used for the analysis. The coding was done using a computer-assisted qualitative data analysis program (CAQDAS), which was Atlas.ti. The choice for Atlas.ti was based on user friendliness and the analytical possibilities it offered and the wide variety of information that can be found about using Atlas.ti. The final reason for this choice is that it is the supported software at the University of Twente.

The final step according to Bendassolli (2013) in the analysis procedure is the categorization and conceptualization. In this stage, the focus should be to reduce the material even further and to increase the abstraction levels by clustering themes and codes into categories (Thomas, 2006). This will enable the researcher to organize the information and create theories or conceptualize the information in order to explain the observed phenomena (Bendassolli, 2013). In order to achieve this, some methods have been described of which the following were used in this research; Contextualizing the findings, encompassing the wider picture in order for the theory or information to make sense, and compare that to theories in the relevant and extant literature (Bendassolli, 2013). To support this process and to structure the data for analysis, data matrices and frequency tables have been used (Miles and Huberman, 1994; Bendassolli, 2013).

Chapter 4. Analysis

While analyzing the data a threefold of categories emerged in which first the current situation, how entrepreneurs currently exhibit entrepreneurial search behavior and use social media, has been identified. Second the obstacles that these entrepreneurs faced in using these social media and finally it is identified which possible social media practices the entrepreneurs considered to be relevant, applicable and which they intended to use. This threefold eventually led up to a number of propositions in order to support or help entrepreneurs in using these social media to conduct market research.

4.1 Search behavior and social media usage amongst entrepreneurs

In order to learn how incubators could help entrepreneurs to conduct their market research through social media, it is important to first get a thorough understanding of how entrepreneurs currently exhibit entrepreneurial search behavior and use these social media. The intention was to also analyze the frequency and way of use of the market research methods as defined in our theory, however, during analysis it became apparent that most entrepreneurs did not use these methods but also commonly did not even know of these methods. We therefore do not analyze the market research methods in relation to the current use of social media due to the theoretical and practical mismatch. We discuss the utilization of the search behaviors discussed in the literature executed in both online and offline environments and the use of social media applications. Extra attention was given during the analysis of the social media usage of the Dutch entrepreneurs from VentureLab and the American entrepreneurs in order to see whether there are any differences that could lead to valuable information. This is done because during the coding of the interviews a suspicion rose that the Americans have already used these social media applications in ways that have not yet been applied in The Netherlands and might therefore provide new applications for the Dutch entrepreneurs. Finally, during the interview several affordances have been proposed to the entrepreneurs and asked whether they would find these plausible to implement themselves, these are also discussed. The sub question that will be answered by this discussion is: *how do entrepreneurs currently use social media to conduct market research?*

4.1.1 Entrepreneurial search behavior

During the analysis of the data it became apparent that the entrepreneurs did recognize the different entrepreneurial search behaviors, but most did not apply these behaviors consciously. The most often executed behavior in the offline context where observing and networking, in the online environment however entrepreneurs networked a lot less often. In order to analyze this data better a frequency analysis (table 5) has been constructed showing the times a statement regarding the entrepreneur executing one of the behaviors, either in an offline or online context.

Table 5. Frequency of types of entrepreneurial search behavior the entrepreneurs mentioned

	Offline				Online				
	Observing	Questioning	Experimenting	Networking	Observing	Questioning	Experimenting	Networking	
1	5	2	0	1	0	0	0	0	(NL)
2	1	0	0	2	4	0	0	1	(NL)
3	1	0	0	3	0	0	0	0	(NL)
4	1	2	2	4	1	0	0	0	(NL)
5	1	4	1	2	1	0	2	1	(NL)
6	2	0	0	0	0	0	0	0	(NL)
7	0	0	2	0	1	0	0	0	(NL)
8	2	0	1	1	2	1	0	3	(NL)
9	2	0	1	2	2	0	0	0	(NL)
10	1	2	1	0	1	0	0	0	(NL)
11	1	0	2	1	2	0	0	0	(NL)
12	0	0	0	1	0	0	1	0	(NL)
13	1	0	0	1	0	0	0	0	(NL)
14	0	1	5	2	3	0	0	0	(USA)
15	2	0	5	1	4	0	5	1	(USA)
16	0	0	0	1	5	0	1	0	(USA)
17	2	0	1	1	1	0	0	0	(NL)
Total	22	11	21	23	27	1	9	6	

What becomes noticeable immediately is the difference in frequency with which entrepreneurs use the search behaviors. Most entrepreneurs do show signs of the entrepreneurial search behavior and execute them in an offline environment. In the online environment however, it is clear that entrepreneurs use observing behavior just as much (even slightly more) as in the offline context, but barely show any of the other behaviors.

> ***-Interviewer:*** *"When you had the idea to make the e-learning package, did you also ask the same question to your target segment? Like, this is my idea, this is what I want, what would be subjects that would have to be addressed and how should such training look like?*
> ***Respondent****: I've asked that quite some times, yes. Although, to the people I had relations with at the moment.*
> ***Interviewer:*** *Do you also see the possibility to ask such question to people on social media?*
> ***Respondent:*** *With my customers? That's a tought one, I think that's hard. (…)"(4, 102~105)*

> ***"Interviewer:*** *And did you ever have a moment with a customer, for example.. that he was complaining about something and you thought; OK, if I could improve or solve this, that would be a potentially new business idea, or some sort of innovation, and that is how I will change my product or service.*
> ***Respondent:*** *Yea, and that usually has to do with a way of work, I've experienced that before, yeah.*
> ***Interviewer:*** *Well, that same thing, observing, you could do that through social media. Ehm, there is a lot of information and that makes it hard to find the right information, but because there is so much, there is bound to be something relevant aswell*
> ***Respondent:*** *But how would you find that?"*

These quotes are a clear demonstration of entrepreneurs that apply the search behaviors in an offline context, but as can be seen from their responses when asked if this method could be applied in social media, they see obstacles or do not possess the knowledge how to do this. These obstacles

will be discussed later in this analysis. Noteworthy is that the American entrepreneurs (R14,15 and 16) mention online search behavior more often than offline.

4.1.2 Social media usage

The social media usage of the entrepreneurs is analyzed using a qualitative data matrix, table 6 (Miles and Huberman, 1994). During the analysis of these statements it became apparent that a lot of these statements could be categorized as one of the four entrepreneurial search behaviors discussed in chapter 2; observing, questioning, networking and experimenting. However, after this process we noticed that there was another group of statements that did not fit the entrepreneurial search behaviors. After examination of these statements they were labeled as 'Self positioning'. This label 'self-positioning' was used when entrepreneurs used social media in order to create an image for their company by sharing updates for example or maintaining a blog, keeping their LinkedIn up-to-date, answering questions or preparing acquisition. The use of social media for the profiling of the business is congruent with research done by Michaelidou et al.,(2011) where they concluded that B2B companies primarily use social media to attract customers and start relationships with the consumer. Shown below is the qualitative data matrix, in which data has been organized on each entrepreneur which behavior they use on social media, which applications they use and for which purpose. As can be gathered from the table; most entrepreneurs only really used one sort of application, and therefore the purposes of this use are all gathered from this one application. There are only four entrepreneurs who indicated that they already actively used more than one application type, which are respondents 10, 15, 16 and 17. For all entrepreneurs however it became apparent that they didn't, or hardly, differentiated between the purposes each application had to offer, or which behavior they executed on which application. Therefore, the behaviors, applications and affordances listed in the table are generalized, which means that, for example, all behaviors that are listed for a respondent are exhibited on all the applications that are listed for that respondent.

Table 6. Qualitative Data Matrix – Respondents Social Media Usage

Respondent #	Which behavior?	Which application?	Which purpose or affordance?
1	Observing	(mini)Blogs	- Personal interest
2	Observing, Networking Positioning	Social networks	- Opportunity identification - Personal profiling - Personal interest
3	None	None	- None
4	Observing Positioning	Social networks,	- Keep updated with industry knowledge - Profiling the business - Personal interest
5	Observing	Social Networks, (mini)blogs	- Personal interest - Gaining market information
6	None	None	- None
7	Observing	Social networks	- Keep updated with industry knowledge - Personal interest
8	Observing Questioning Networking	Social networks	- Networking - Keep updated with industry knowledge - Starting discussions
9	Observing	Wiki's	- Answering questions - Keep updated on industry knowledge

10	Observing Profiling	Social networks, (mini)blogs	- Profiling the business - Posting Vacancies - Identifying persons
11	Observing	Social Networks	- Information search about persons
12	Profiling Experimenting	Social networks	- Profiling the business - Acquisition - Generating feedback
13	None	None	- None
14	Observing Profiling	Social networks	- Profiling and positioning the business - Personal profiling - Gather market information - Keeping updated on industry knowledge
15	Observing Networking Experimenting Profiling	Social networks Content communities	- Identifying and connecting to people - Generating feedback - Networking - Identify opportunities and ideas
16	Observing Profiling	Blogs Social networks Content communities	- Profiling the business - Identifying people - Information search - Acquisition
17	Observing	Social networks, content communities	- Keeping updated on industry knowledge

Next this table is analyzed by discussing each of the four search behaviors and finally the extra behavior that was identified.

4.1.2.1 Observing behavior

The most mentioned entrepreneurial search behavior that we identified where those that matched the observing behavior. In these statements three different reasons to use social media could be identified. In descending order of frequency these are; To find information about the area of expertise or specific answers, to find or identify specific people and to spot opportunities.

> *"I subscribed to certain newsletters because I know they sometimes contain information that I find relevant" (4, l159)*

> *You know, it is easy to listen to a podcast, because you can listen to them when you want to listen to them and they are always there. There is a few that I listen to that helps inform me on how to run the business causebucks.. (15, l269)*

The above quotes are examples of the quotes in which entrepreneurs state that they mainly use social media to stay up to date with what is happening in the field of their business.

> *"Yeah I often try to find people who are busy with technological stuff" 10, l82)*

> *"Yeah thats probably the #1 way we use it for because you can search for a business, you get the business, and then you can see who works there and who works there who you know or someone on your team who knows.." (15, l163)*

The above expressed phrases indicate examples of entrepreneurs that use social media to identify specific people that they can use, for example as source of knowledge or as a sales lead.

> *"Well yeah, things like 'company for sale' or company takeovers are the things that I follow, those kind of people as well. And yea, of course some sports and .." (2,30)*

> *"You know, if it's trending there... it's usually something that we can easily translate to our product. Does that make sense? (15, l70)*

These quotes resembles how an entrepreneur uses social media to spot trends or opportunities in social media, which he can then incorporate in his own business.

4.1.2.2 Questioning behavior

Question behavior is the behavior that has been mentioned the least in an online environment. Only once has an entrepreneur mentioned he uses social media to ask questions. This example shows how the entrepreneur has used social media to question his surroundings about which employee would fit in his business.

> ***Interviewer**: But moving on to the second form, which is the asking of questions, and ehm, specific questions. These are questions that challenge the current way of thinking or status quo. So like if you ask yourself "We are doing this this and this way, but why? Wouldn't it be better if we did it like this?" How much do you exhibit this behavior in an offline context?*
> ***Respondent**: Ehm, well I use my network both offline and online to ask questions, 'Gee, I'm looking for a german speaking marketer, or looking for a technician who can do this and that'. That's what I do use it for.*

4.1.2.3 Experimenting behavior

The experimenting behavior, much like the questioning and networking behavior have only been mentioned sporadically by the entrepreneurs in an online environment. The aim of this experimenting behavior has in each case been to generate feedback on their ideas or products in order to improve the product or to position this product.

> "A sort of poll.. yeah I sometimes use those groups for that aswell" *(8, l129-131)* – (Experimenting behavior by using polls to generate feedback through linkedin.)

4.1.2.4 Networking behavior

The networking behavior as described in the literature has, again, only been displayed very scarcely by the entrepreneurs in an online context. This behavior was primarily used to search for a new job or business opportunity and to create focus groups to get new ideas from or to let them solve problems.

> *" I often do that with LinkedIn groups, I've started a couple of groups myself to identify and group people that could be interesting for me and might be able to help me and that works pretty well, we have more than 1000 followers and I also follow several groups myself of which I think that they could be helpful for me, or I for them, that works both ways of course" (8. L69)* – (Example of networking behavior)

What is noteworthy is that the 3 American entrepreneurs discuss more uses of the experimenting and networking behaviors than the 14 Dutch entrepreneurs. They however did not discuss uses that resemble questioning behavior. Some examples of how they used social media for the search behaviors are shown below:

We've gotta pretty good engagement.. we only have 75 friends of which a lot are my friends and stuff.. but we are getting some feedback and stuff. But its tough.. ive always been..(14, l44)

So social meda is really for users and to show them what the product is and how they can use it, and we almost.. we havent done this quite effectively yet.. but we're trying to get them to tell the public safety officers like; heey I saw this thing, I want it here. You know?(14, l44)

"So we recruited people we knew on social networks to share and we shared.. thats how we were able to get as far as we did" (15, l51)

4.1.2.5 Profiling behavior

The fifth behavior that we have identified is an behavior that we have labeled the self-positioning behavior. After analyzing the four behaviors as mentioned above, it became apparent that entrepreneurs use social media to exhibit this profiling behavior more often than any of the entrepreneurial search behaviors. Gathered from the data is that it is often performed during the exploitation phase in order to build an image or reputation, often as a sort of marketing strategy or even to do direct sales. This behavior has been described by Michaelidou et al.,(2011). This behavior might provide very valuable utilizations, but do not provide the entrepreneur with the external information that would be gathered from conducting market research, as described in our literature. Some examples of how entrepreneurs used social media for these self-profiling purposes are given below, but this behavior will not be further discussed during this report.

"We also have a linkedin profile as a company, I use that pretty actively and that features all our products, we also invited our last intern to write a recommendation of our page and I've announced that we are holding a scientific post at a congress, so there are product descriptions and we sometimes have some communication with our followers." (10,13)

So social meda is really for users and to show them what the product is and how they can use it, and we almost.. we havent done this quite effectively yet.. but we're trying to get them to tell the public safety officers like; heey I saw this thing, I want it here. You know? (14,44)

And ehm, yeah on Linkedin, ehm.. yeah.. I do have.. I havae used it to ehm to send a message to people and to potential customers. So to create sales leads through LinkedIn messages, ehm yeah, I. ehm.. I think that for each type of communication there is a sort of social… a social circle or own network. (17,38)

To end this section it can be concluded that the entrepreneurs who do use social media for business uses mainly use these to conduct the observing behavior and barely to conduct the other three behaviors. This aligns with the results of Den Engelse et al. (2012) in which she states that 'only a third the entrepreneurs moderately to strongly agreed that they have used social media for observing. This number is even lower for questioning and experimenting" (Den Engelse, et al., 2012, p14). This aligns with our analysis that only part of the entrepreneurs utilizes social media for business purposes, and amongst those people observing behavior is the only entrepreneurial search behavior that is frequently discussed.

4.2 Obstacles

After the 'current situation' was analyzed, which is how the entrepreneurs behave both online and offline, the next goal of analysis was to uncover the obstacles that entrepreneurs saw against using social media, and later on, which methods or applications they would consider useful and applicable.

In order to understand which obstacles the entrepreneurs mention for the use of social media, categories were made for each type of obstacle. To analyze these obstacles however, a cut-off point was made at those obstacles that have been mentioned less than 17 times, which is the number of respondents. To get a better grasp of how the different obstacles influenced the search behaviors, a frequency table of the obstacles was constructed and this is shown below (Table 7), in this table the 5 major obstacles are listed against the number of times each respondent has mentioned this obstacle. The obstacles are then discussed on how they influence the search behavior. The obstacles that are discussed below are in this research considered to influence all behaviors. This analysis is supported by examples given by the entrepreneurs. The sub question that will be addressed by this analysis is: *What are the obstacles for entrepreneurs that prevent them from using social media as a medium for market research?*

Table 7. Frequency table: The five most often mentioned obstacles

	Image	**Industry/branche**	**Knowledge**	**Privacy**	**Time**	**TOTALS:**
P 1:	0	5	5	0	5	15
P 2:	1	1	10	0	1	13
P 3:	0	2	4	2	7	15
P 4:	0	1	4	0	2	7
P 5:	1	2	3	1	1	8
P 6:	1	4	4	0	1	10
P 7:	3	0	16	0	2	21
P 8:	0	1	4	0	0	5
P 9:	1	1	3	7	0	12
P10:	0	4	8	1	3	16
P11:	1	1	14	2	1	19
P12:	1	0	4	0	2	7
P13:	1	1	5	0	3	10
P14:	3	2	2	0	0	7
P15:	0	0	5	0	2	7
P16:	1	2	4	2	1	10
P17:	4	2	11	2	0	19
TOTALS:	**18**	**29**	**106**	**17**	**31**	**201**

What can be drawn from this table is that four obstacles; Industry/branch, Image, Privacy and Time have been roughly mentioned the same amount of times (between 18 and 31 times). Knowledge, however, has been mentioned 106 times, which is 53% of all the times the entrepreneurs have mentioned an obstacle. During the analysis the knowledge obstacle has also been subdivided into several knowledge categories, these will be discussed below.

4.2.1 Privacy

One of the complaints that have been frequently mentioned is the privacy aspect of social media. Most applications are open to the public, or even when your messages are private, your connections for example could still give away information to your competitors.

> *"On the other hand that would also be a danger, because you competitors can also follow you on twitter and they can see which leads you have in different countries, and that gives away part of your market knowledge". (3, l74)*

This quote is part of the response the respondent gave after the interviewer asked whether or not the respondent would deem it possible to identify experts in his field on social media in order to observe them.

Another entrepreneur stated that they do not gather feedback, or as described in our theory 'experiment', on social media because they do not want to give too much information away. When asked if they ever put prototypes or images online to generate feedback their response was

> *"No.. we are pretty secretive during development. We don't talk about current product very much" (16, l93)*

As can be drawn from the frequency table, 7 out of the 17 entrepreneurs indicated that they see privacy as an issue in using social media. They are careful with what they share on the internet as to not to inform their competitors too much or give away too much market insights.

4.2.2 Image

Image appeared to be an important factor on the usage of social media by entrepreneurs. Often when the interviewer asked a question about why the respondent hadn't used social media yet, or if they think it would be possible to use a certain application for a certain purpose, entrepreneurs often made a statement about their view of a certain application. This view often prohibited them from seeing the full potential of an application.

> "But, doesn't that provide you with an incredible amount of crap?" *(9, l62)*

> " (…) I mean my daugther is on whatsapp with her friends and she mentions that every now and then.. at the end of the day she says.. well.. if I'm going to meddle with that it would be a full time job.. if she turns her phone off and later she has 1000 messages (…). *(9, l66)*

These two quotes came from an entrepreneur when he was asked if he would consider identifying experts in order to observe them a useful and possible application. The first quote was an example of the image regarding the quality of the social media, while the second quote demonstrates the image the entrepreneur has about how social media should be used. This demonstrates that the image of social media in the mind of the entrepreneur can be influenced by users who use it for completely different purposes (the daughter for example). Because of this image, the entrepreneur does not see, or think it is efficient to use, ultimate affordance of the applications.

Another example comes from an entrepreneur who was asked if they used social media for market research purposes.

> *"If you are going to use twitter, if you apply social media or have an twitter account, in my opinion, then you also have to use it regularly, and not let it be a dead account in which nothing happens because that it not interesting for your followers". (11,33)*

The entrepreneur clearly states how he sees social media, in his opinion, when you use twitter you have to do it regularly. However, it can be inferred from this statement that he is talking about using twitter actively, while, as mentioned in the theory, it can also be used passively to observe for example. The conclusion made in chapter 4.1.2 about the fact that entrepreneurs use the self-profiling behavior a lot more frequently than any of the four entrepreneurial search behaviors might also contribute to the image of social media. Due to the common conception that social media is mainly a profiling or marketing tool, entrepreneurs new to the field might adopt or copy this view and not realize that social media has more to offer. This conclusion is congruent with the theory described in chapter 2, which described that negative or distorted views of social media might interfere with the adoption of social media as a market research tool by entrepreneurs.

4.2.3 Industry or branch

During the interviews, 14 of the 17 respondents have at some point indicated, often more than once, that they see the industry or branch they are in as an obstacle to use social media for market research. The nature of VentureLab Twente is that they associate a lot of with high-tech entrepreneurs, so as described in the methodology, the sample of entrepreneurs are often high-tech and in a business-to-business market. By comparing the frequency table with the characteristics of the entrepreneurs it can be observed that the 3 entrepreneurs who did not mention industry or branch as an obstacle all have non-technical based business ideas.

> *"I know most of them, but maybe this is a characteristic of my market, they don't do anything with that. That doesn't mean their customers think the same way, but yeah, I don't have direct contact with those customers" (1, 140)*

Here the respondent mentions that because he only speaks to the reseller, he does not have direct contact with the consumers and because their business partner doesn't do social media it would be rather pointless for them. This argument is heard in quite some interviews:

> *" Just logistics in specific, their social media usage isn't all that big. I don't know if there are areas of business where you could say it is, but I can say that it's not so much in logistics." (4,;69)*

> *"I wonder, if there are also communities in that area of expertise" (6, l160)*

> *"I know what it is, but I don't think our target group is active on that, I think that would be hard" (10, 252)*

What could be gathered from this is that entrepreneurs do not see how they could use the information that is available in the online environment into their own business, even though, there have been examples given during the interviews which made them realize that it might actually be helpful.

4.2.4 Time

The second most often heard obstacle entrepreneurs give during the interviews is time. Comparable to the industry obstacle, 13 out of the 17 entrepreneurs have indicated that they see time as a big obstacle in using social media. Entrepreneurs both suspect without experience, or speak from experience that using social media is a time consuming activity.

> *"But that also comes down to resources and time? That would in this case really be the biggest obstacle, how in god's name are you going to manage that" (1, l190)*

> *"Tijd, resources, middelen, ja .. ja dat is puur.. ik heb daar wel ideeen over, natuurlijk wel, maar je loopt dan puur tegen.. van.. ja dat is mooi, maar dan krijg ik intern ook wel de vraag; ga jij dat er ff bij doen dan? Dacht het niet. Dus dat is puur practisch." (1, l91)* – "Time, resources, ja.. that's purely.. I have idea's about that ofcourse, but then the problem is..ehm.. that's nice and all, but then the question internally arises; Are you gonna do that? I didn't think so! So that's a purely practical problem'

> *"There is a lot of things I wish we had time and people to do, but we just dont have time and people to do it." (15,169)*

> *"I indeed think that setting this up and maintaining it is too time consuming for me" (3,l44)*

These are all examples of statements that the entrepreneurs made after the interviewed proposed a method that they could execute through social media. A lot of entrepreneurs have indicated that time is one of the, or perceived as one of the, major obstacles they face in using social media. Combined with the fact that entrepreneurs are already known to often experience a shortage of time (Wong and Merrilees, 2005) this could be the reason that entrepreneurs are hesitant to try social media.

Another example is given by an entrepreneur who talked about wanting to post frequent updates of their business on their website. They had written an entire plan to redesign their website and post frequent updates about what they are working on. However, when the interviewer proposed some ideas on how to do this through social media, or use social media to determine the content strategy the entrepreneur started doubting how much time this would all cost.

> *"yea, but isn't all this going to cost a lot of time? Because, we're now talking about this, but do you have any idea? How much time this would cost per week?"* (13,l124)

This is an example of how once new concepts are introduced involving social media this entrepreneur first thinks about how much time it would cost to implement this. The next quote demonstrates the transition from the time obstacle to the knowledge obstacle.

> "Yes because I sometimes see my daughter, she's on whatsapp and twitter and I don't know what all and she sometimes say's; I haven't been on them for 2 hours and I've got 300 new tweets that I have to check. That is something I am not in for. Unless of course it brings a profit, and maybe this network here, that could be a very interesting lead and then you could start investing time in that"

Here, the entrepreneur states that even though it might cost a lot of time, if he knows that it would be profitable he would be prepared to invest the time.

4.2.5 Knowledge

The most often mentioned obstacle to the use of social media is a lack of knowledge. Entrepreneurs often express their lack of knowledge about social media, and during the process of analyzing all the statements about this lack of knowledge a three-way distinction occurred in the knowledge gaps.

These are; the knowledge of the existence of the applications, the knowledge of the functionalities of the applications and the knowledge of the affordances the applications can offer. This distinction has been made in order to allow for specific identification of which problem to tackle in case, for example, VentureLab is to develop workshops in order to help these entrepreneurs. These are discussed below.

4.2.5.1 Knowledge of the existence of the applications

Being able to fully utilize a feature or application first requires the knowledge of the existence of such application. What became rather apparent during the analysis of the interviews is that entrepreneurs only have limited knowledge about what social media is, and which applications there are available. Most entrepreneurs recognize the applications of Twitter, Facebook and LinkedIn. Even though the level of knowledge about these applications varies a lot, this will be discussed in 4.1.1.2. The following quote was given by an entrepreneur after the interviewer gave an example of the lead user technique, a way of finding and observing experts, and then asked if the entrepreneur thought it would be possible for him to apply this in the social media environment.

> *"Well, that is possible yea, that is possible. But I mean, it pretty soon starts to become a rather technical story, you know, you named Google Reader, I've never heard of that. You name Twitter, well I've heard of twitter and I know how to follow someone, but when you talk about Twitter Lists and then I think.. well.. I don't know how I should do all of that and whether or not I feel like learning all of that". (13, l61)*

Most entrepreneurs did have basic knowledge about social media, however while analyzing the data it became apparent that most entrepreneurs only know a limited amount of social media, and these where often limited to social networks. This is congruent with the data matrix (table 3, chapter 4.1.2) where the social media applications used are categorized and it can be seen that most entrepreneurs currently only use Social Networking sites. This suggests that the basic steps in helping entrepreneurs to use social media for market research would be to start with explaining the different sorts of social media.

4.2.5.2 Knowledge of the functionalities

The label of "Knowledge of the functionalities" has been applied to statements from the respondents that indicated that they know of the existence of an application, but have barely or no knowledge of the functionalities these applications offer. These kinds of statements have been recognized a lot more often than the knowledge of existence, which indicates that these entrepreneurs are often aware at least some social media applications, but do not really know what the functionalities are. During one of the interviews, the interviewer explained a method that functions on the basis of idea networking in order to let respondents come up with their ideal product. However, the first reaction of the entrepreneur after this explanation was as follows:

> *"But what kind of platforms do you use for that? Can you do that through twitter? Or what would you use for that?" (11,l213)*

This shows that the entrepreneur, instead of thinking of the possibilities on what he could do with this information, first thinks of how he could make this happen. According to the theory as described in chapter 2, a lack of knowledge on how to use these social media could prevent the entrepreneur from trying to use social media or to explore these social media. The next example is a clear example of an entrepreneur who is familiar with the application, LinkedIn in this case, but does not know how to use the functionalities that it offers. In this case the interviewer asked where the knowledge gap lies in using social media.

"Or to ask questions in a group, and where would you.. in which.. ehm yea how do you.. send them.. yeah I, at this moment, wouldn't know how to ask a question for example, it sounds really silly, but I really wouldn't know how to ask a questions to my connections, I really don't." (7, l202)

In the next example the interviewer explained that twitter could help to identify lead users, or specific leads and how to identify these people. This respondent has previously acknowledged that he knows twitter, but as becomes clear in this quote, does not know some of the basic functionalities.

"And there are filters for that?" (3, 89)

Some entrepreneurs did clearly state that they desire this information in a clear and understandable way.

"Yeah, actually, what you just told me are just simple tools and short explanations of what the possibilities are and by far not every entrepreneurs knows them, that you can make your own groups in which you can gather people with a certain thinking style or knowledge.. and ehm.. Yeah it is really structured how you tell it.. It's like a little market research". (8, 137)

4.2.5.3 Knowledge of the affordances the applications can offer

There are many ways in which both entrepreneurs and non-entrepreneurs can use social media. However, it is how this social media is used that creates its true value. As can be concluded from the data matrix in chapter 4.1.1, most entrepreneurs do exhibit the entrepreneurial search behaviors in an offline context, but not in an online context. The data from the interviews suggest that knowledge is one of the biggest reasons for this, entrepreneurs often do not see how they could use these social media applications for their business.

"And we are also busy with a project in eastern-europe to see where we could find a new production partner. I often have these kind of questions, and then I just solve them old-school, but how could you.. how could you use social media to get more information and faster.." (11, 42)

This is a strong example of an entrepreneur who does suspect that social media can help him to gather information quicker and more efficient, but lacks the knowledge of how to do this. Another example comes from an entrepreneur who describes how she searched for specific persons 'back in the days', which was by visiting the chamber of commerce and actually finding business information there.

"That was back in the time that that was the normal way, and then I'm thinking.. is there also a way to do that via social media, to identify companies that.. that are potential customers?" (7, 184)

It can be inferred from the examples that entrepreneurs often do know what kind of information that would want to have, or what behavior they would like to conduct, but simply do not know how to conduct this in a social media environment.

"How can I empower, in my case the users, how can I really push on them effectively to really feel.. empowered about the product enough to then talk to public safety officers. Do you have any techniques for that, in terms of social media?" (14, l183)

4.3 Possible applications for market research

In order to establish what the motivation for entrepreneurs could be to use social media, or as described in the literature, the affordances of these social media, the responses that entrepreneurs gave on proposed techniques are categorized. Possible affordances in each of the four entrepreneurial search behaviors have been identified by the entrepreneurs and will be discussed in that order. In all the interviews several of the market research techniques as defined in chapter 2 have been discussed, but because the interviews are semi-structured and therefore mainly guided by the entrepreneur themselves. This means that the choice for which specific methods would be discussed was adapted to the (information) needs and knowledge level of the entrepreneur. At the end of this section we will summarize all search behaviors and techniques that have been indicated as useful and plausible by entrepreneurs into a qualitative data matrix (Miles and Huberman, 1994; Bendassolli, 2013) in order to create an overview of techniques that are deemed applicable by the entrepreneurs.

4.3.1 Observing

As Den Engelse (2012) described, from the four entrepreneurial behaviors, observing is the only one that entrepreneurs in the study exhibited. Therefore it was also to be expected that entrepreneurs saw most possibilities in the techniques that where explained to them concerning the observing behavior. The most welcomed technique that was mentioned during the discussion of observing behaviors was the identification of lead users, and observing them with the goal to either gather market information and needs, or future trends.

> *- "That is.. yea I guess that that is something you'd have to find out but I do think it can be really interesting. It is actually what I am doing now, I'm going to a conference in Germany on Thursday and then on to Czech republic and that is how I hear information, and the same thing can be done on Twitter, but I'm doing it a lot more cumbersome." (3, 74)*

Some entrepreneurs, when explained how they could gather information by simply exhibiting observing behavior on social media, made statements that show that there are a lot of opportunities for them to grasp.

> *-"What you are saying, and I kind of like that, is that there are a lot of entrepreneurs, including myself, that we use the information that is available way too few, those situations, it is all up for grabs on the streets" (4,42)*

> *"**-Interviewer:** Okay, euhm.. well let me see how I can.. Im just gonna give a few examples.. I mean Ive also asked other entrepreneurs about what their needs are regarding social media for business development and what I heard was the following, just give me a response to that; the first one mainly has to do with the observing part. If you want to observe your extern environment you really need to define relevant keywords and you really need to know which search engines you need, the kind of booleanian operators, that kind of stuff, so more like the tactics for seeking information online. Would that be useful for you?"*
> ***Respondent:** That would be very useful too, I would like to know how to do that. Because, like I said, we are not doing that but I like to do that."(5,185)*

4.3.2 Questioning

Questioning is a behavior for which the least affordances have been discussed and actually deemed plausible. This could be related to the fact that entrepreneur already exhibit the questioning behavior the least in an offline environment, as can be drawn from the frequency table of

entrepreneurial search behavior. The technique that matches the questioning behavior that the entrepreneurs deemed useful and realistic was the free elicitation technique.

- *"**Interviewer:** And could you imagine yourself asking such question in those social media?*
  ***Respondent:** Yeah, yeah for sure.. and that.. we chose some kind of different approach, we have ehm, we have asked a student to do, that student would do questionnaires, and he could also do that through social media yeah, approaching our existing network, because they are all in the scientific network through-out the entire world, all people who know our technologies, and we planned to actively approach these people and say.. which customers would you see for this, and who are the leading customers.. but maybe that is just the conventional way, and maybe that social media would.. that might be a lot more effective and efficient."*

In this example, the respondent talks about using the free elicitation technique to stimulate people to think about how their technology or product can be used in different settings, or by different users.

Other techniques that are, amongst others, categorized as questioning behavior have been discussed and indicated as useful by the entrepreneurs, but these techniques are then executed as a different behavior. For example, the conjoint analysis or category appraisal have been indicated to be useful through social media, but the manners in which these are discussed aligned more with the experimenting behavior.

4.3.3 Experimenting.

Experimenting is one of the behaviors that a lot of entrepreneurs where surprised about the possibilities that social media offered. A lot of the techniques discussed in the theory have been discussed during the interviews, and most of these have also been confirmed by the entrepreneurs as being useful to conduct. Entrepreneurs found the experimenting behaviors especially useful to generate feedback on their own ideas and they often saw how quick and efficient this could be done. Their company name, brand or products could be displayed in different applications, by explaining them the different market research techniques and the application they could do it on.

For the conjoint analysis, multiple entrepreneurs reacted very positively towards the same explanation of the method.

> *"**Interviewer:** Okay and I've asked that, because I ask anything with a reason ofcourse. Why I ask that is because, what you could do is, you have several packages of products and you can price them differently. Lets say you have a product of 150 euro, a product of 250 euro and a produt of 500 euro. Then you make a list with all the features you offer and you ask the customer which features should be in a 150 euro product, what in a 250 euro product and what should be extra in there. That way you will get an insight in what people are proared to pay extra, so this is a way to get more insight.*
> ***Respondent:** Yes, this is completely applicable for e-training. There are delays in that process with us, at this point. That is because I have several assignments from different parties and everyone has their own specific wishes and I'm still searching ..*
> ***Interview:** And if you would ask this at different groups then you can match which group is willing to pay what. And that is a way to.. those.. would this be easy for you to apply?*
> ***Respondent:** Yes."*

Other replies from entrepreneurs after the interviewer explained this same method and asked if they thought this was useful or easy applicable are;

> *"I think this is a very method, I've never seen it before, but I think it is very nice" (8,100)*

"Yeah I think they are.. Well.. yeah.. to get familiar with it like that. I think they are very useful to unravel certain aspects." (6, 110)

One of the other methods that entrepreneurs mentioned could be useful was the free elicitation method. When asked if the free elicitation method would be relevant as a method, for example by posting the company name online and asking people to tag the 3 first words they associate with the name, the response was *"Yes, immediately". (4, 54)*

Another method that has been discussed is the category appraisal, a method to find out which product the consumer prefers over the other, and why.

Interviewer: *And you are still figuring out; okay, does it have to be A or B.. so... one way to gather feedback is, for excample, to ask the university to post it on their facebook page and then ask people to vote, which one do you like better? And why?*
Interviewer: *Have you ever thought about something like that?*
Respondent: *Yeah and I think that that is definatly an interesting question. We haven't really had the opportunity to do that here because they don't have the social media setup, and again, you know, it's interesting to take a tone, you know? But then again, like you say, people are gonna respond, they are gonna feel empowered and they are gonna feel like they added to the product and they are more likely to use it, so thats definatly .. (4,141~143)*

The final technique that matched the experimenting behavior was the Kelly Repertory Grid. The interviewer proposed the Kelly Repertory Grid with both the purpose to identify the market needs and secondly to position your product. The positioning was deemed less relevant, but generating the market needs was considered valuable.

"Uhm.. Noujah ik denk dat een gedeelte bruikbaar ervan is. Juist mensen, om toch erachter te komen wat de markt wil inderdaad." (6, 150) – "Ehm, well I think that part of that is useful. The right people.. to find out what the market really wants indeed.."

4.3.4 Networking

The two most prevalent techniques that aligned with the networking behavior were crowdsourcing and customer idealized design. Most entrepreneurs already do some form of networking, but mostly offline. In order to use this in the social media environment, an example given during the interviews was a method to gather ideas on how to solve a certain problem that the entrepreneurs observed.

- **"Interviewer:** Well then.. the next.. or a different form.. if you, for example, have identified a certain problem in the market, and.. well let me take the example of volume measurement systems again.. you have this system and you ask the customer; we have the money and we are able to build your ideal volume measurement system; how would this look like? So instead of you brainstorming yourself, you ask that question to your customer. The same thing can be done through social media by creating a scenario and.. ehm.. getting feedback on that. Is that useful?
  Respondent: Yes, yeah that is useful and I can directly translate that to my own service. I'm always thinking of how I could later on use my Linkedin groups for those kind of things." (8, 110)

This once again shows that the entrepreneur knew about the possibilities of the application, in this case LinkedIn, but did not know the affordances that it could offer. Another technique that was discussed was the crowdsourcing technique.

- "**Interviewer:** By the way, you just asked a question like.. we now have this, but we don't really know who to give it to, this technology. But you could also ask that question like.. hey guys I've got this technology but what could it be used for? So just asking people where this would be useful for and then there will come ..

Respondent: Yeah that's right
Interviewer: And this might even already be a question for your Linkedin network to ask. And then sometimes the craziest ideas rise, and maybe that is the best part that you'll think out of the box.
Respondent: Yeah, sometimes you get those people that are not restrained by any knowledge, and that could sometimes be the best in this phase, not all ideas have to be plausible, but it will give you ideas to select from.. and it prevents you from brainstorming with people who all have too much knowledge, because that prevents you from thinking outside the box."

4.3.5 Possible applications aggregated data matrix

Given below (Table 8) is an aggregated data matrix featuring the four entrepreneurial search behaviors and the market research techniques or affordances that entrepreneurs considered possible or useful. This information is gathered by documenting and analyzing the response of the entrepreneurs each time after the interviewer proposed a technique or affordance.

Table 8. Possible research methods and affordances as perceived by the sample group.

Entrepreneurial search behavior	Market research method	Purpose or afforance
Observing behavior	Lead user technique	Discovering market needs Discovering market trends Discovering lead users
Questioning behavior	Free elicitation	Identifying new uses or applications for a certain technology
Experimenting behavior	Kelly Repertory Grid Conjoint analysis Category Appraisal Free elicitation	Generating feedback on products Identifying important attributes Gathering information in the associations that people make Finding out preferred products and the reasoning
Networking behavior	Crowdsourcing Customer idealized design	Outsourcing your problems to a larger crowd of people, allowing for outside-the-box ideas Gathering the ideal product design in the consumers opinion

Chapter 5. Conclusions

5.1 Conclusions of the analysis

This research started out as a follow up study after Den Engelse et al. (2012) concluded that entrepreneurs who participated in VentureLab Twente barely or not at all use social media as a tool to conduct market research. The main research question for this research was therefore:

How can Venturelab Twente help entrepreneurs to use social media to conduct market research?

5.1.1 How do the entrepreneurs currently search for information and how do they use social media?

Looking at the sub questions, the first subject to analyze was the current situation. This analysis revealed that entrepreneurs quite regularly exhibit the entrepreneurial search behaviors in an offline setting, but hardly any of the entrepreneurs exhibited these behaviors online. The observing behavior was the only behavior that was moderately used in the online environment. This data has been presented in a frequency table (table 2). Next, a data matrix has been constructed to further examine which behaviors were executed, on which application and with which purpose. This data can be seen in table 3, and it can be concluded that the entrepreneurs who do use social media for business uses mainly use these to conduct the observing behavior and barely to conduct the other three behaviors. This aligns with the results of Den Engelse et al. (2012) in which she states that 'only a third the entrepreneurs moderately to strongly agreed that they have used social media for observing. This number is even lower for questioning and experimenting" (Den Engelse, et al., 2012, p14). This aligns with our analysis that only part of the entrepreneurs utilizes social media for business purposes, and amongst those people observing behavior is the only entrepreneurial search behavior that is frequently discussed. A behavior that was gathered from the data, which did not fit the entrepreneurial search behaviors but was often mentioned by entrepreneurs, is a behavior in which entrepreneurs try to profile themselves or their business.

5.1.2 Which obstacles do the entrepreneurs face?

After the current situation became apparent, it led to the analysis of the obstacles that the entrepreneurs mentioned. Why do they not use these social media? By far the most often mentioned obstacle that the entrepreneurs mentioned was a lack of knowledge, which could be divided into three sub categories: Lack of knowledge of the existence of an application, a lack of knowledge of the functionalities of the application and a lack of knowledge of the affordances an application could offer. Besides knowledge four other obstacles have been discussed, in descending order of frequency these were; time, industry or branch, image and privacy. While analyzing the statements that the entrepreneurs made, a suspicion arose that most of these obstacles could be solved by providing the entrepreneurs with more knowledge.

- *Time* was often called one of the biggest obstacles in using social media. Entrepreneurs mentioned that they are already under a lot of stress due to their various amount of tasks. However, while analyzing the responses it became apparent that entrepreneurs often do not know how to utilize social media time efficiently. By supplying the entrepreneurs with the appropriate techniques and knowledge of functionalities this problem can be addressed.

What also became apparent during the analysis is that entrepreneurs often don't see the affordances of these applications, which means they do not see the potential value. At that point, it makes sense that entrepreneurs do not want to spend their valuable time on something they don't see the added value from. This leads us to believe that when entrepreneurs are informed with the possible affordances, the time obstacle might be less relevant.

- *Industry or branch* was often mentioned by entrepreneurs who operated in a high tech startup and / or in a business-to-business environment. They often said that their customers do not use social media and therefore there would be no use for them to use social media. However, as discussed in interviews, there are still possible utilities, for example to stay up to date with the latest developments in a field or to co-create a new machine or technology through communities. This obstacle is therefore partially redundant when entrepreneurs are given examples or strategies of how they could profit from using social media applications in their specific branch or industry.
- *Image* Entrepreneurs have often picked up information in their direct or indirect environment about what social media is and what it is used for, sometimes even from their own experience. Based on this information, they often encounter misconceptions about the possibilities, functionalities and affordances social media have could offer. When an incubator for example would invite entrepreneurs for a workshop on social media, image is an important factor to keep in mind when communicating, as they might not be interested as long as they don't know what they could gain from participating in such workshop. Again, by informing the entrepreneurs with the possibilities and affordances social media could offer, this distorted image could be resolved.
- *Privacy* is the last obstacle frequently mentioned by the entrepreneurs. Due to the fact that confidentiality between business partners is an important part within strategic alliances the entrepreneur will have to construct some kind of policy about will and will not be divulged on social media. However, as discussed during the interviews, once this has been constructed, there can still be affordances that social media offers once given the right examples.

What can be drawn from this analysis is that most the obstacles circle around the fact that entrepreneurs either don't know the application (image), don't know the functionalities (time) or don't know how to use them for their business (Time, industry, privacy). Therefore, in order to help these entrepreneurs it would most likely benefit them to be thought in the three different categories of knowledge which could potentially turn into 3 different workshops at VentureLab Twente for example.

5.1.3 How can entrepreneurs use social media to conduct market research?

The final goal of the analysis was to reveal which research methods or affordances entrepreneurs deemed possible and useful which could be realized through social media. This analysis showed that entrepreneurs, when given the proper incentives do see the potential that social media has to offer. By proposing several of the in the literature discussed methods and affordances to them and analyzing their responses a categorization of affordances has been constructed that entrepreneurs deem useful.

- For Observing behavior mainly the lead user technique was found to be useful, with the purpose to discover market needs, trends and lead users.

- For Questioning behavior the free elicitation method was considered to be relevant, with the purpose to identify new uses or applications for a certain technology.
- For Experimenting behavior the Kelly Repertory Grid, Conjoint analysis, category appraisal and free elicitation where considered useful, with the purposes to generate feedback on products, identify important attributes, to gather information about the associations that people make and to find out preferred products and why these area preferred.
- For Networking behavior the crowdsourcing and customer idealized designs where considered to be useful. The main purpose of these techniques that seemed useful to the entrepreneurs where to outsource problems to a larger crowd of people, which also allows out-of-the-box thinking, and to let customer construct their own ideal product either for the product itself or to find out important attributes.

Combining the techniques and affordances that have been identified as useful by the entrepreneurs, with the framework constructed and discussed in chapter 2.2.4 and summarized in 2.3, the social media applications that can be used to perform the above mentioned techniques are as following:

- For the Lead user technique; Blogs, Wiki's, Social networking sites, Content communities, RSS and Virtual worlds can be used.
- For the Free elicitation; technique Social networking sites, Tagging and folksonomy and Content communities can be used.
- For the Kelly repertory; grid the Social networking sites, Mash Up applications and Content communities can be used.
- For the Conjoint analysis Social networking sites and Mash-up applications could be used.
- For the Category appraisal; Social networking sites, Tagging and folksonomy and Virtual worlds can be used.
- For Crowdsourcing; Social networking sites and Content communities can be used
- For the Consumer idealized design; Social networking sites, Content communities and Virtual worlds can be used.

5.2 Two factor theory – The link to reality

5.2.1 The theory

During the analysis of the obstacles that entrepreneurs faced and the possible affordances that they see, it became apparent that the situation the entrepreneurs are in showed a resemblance to the 2-factor-theory as described by Herzberg (Herzberg, 1966). Herzberg theorized that in order for someone to undertake a form of action, 2 things have to be done; first the 'hygiene' factors, those that prevent someone from doing something, have to be removed and second 'motivation' factors, those that motivate someone to do something, have to be added.

The hygiene factors in Herzberg's theory are considered to be factors that would prevent a person from taking a certain action, factors that are seen as clear obstacles to do something. However, the fact that these hygiene factors, or obstacles, have been solved does not necessarily mean that a person, even when there are no obstacles, has motivation to take action. It can be said that removing obstacles, or meeting the hygiene factors, can be seen as the step from being 'dissatisfied' to being 'not dissatisfied'. This state could also be called 'neutral'.

Motivation factors are different from the hygiene factors, these are the factors that actually inspire people, or motivate people, to take action. These factors take people from a 'neutral' state of mind

to a 'motivated' or 'satisfied' state of mind, in which they are motivated to take action. In other words, the opposite of dissatisfaction is *not* satisfaction but merely 'not dissatisfied'. The second step is to get a person from being 'not dissatisfied' to 'satisfied' (motivated) by making them realize what the benefits of taking action could be.

To give an example; in order to let someone buy a house the fact that a house has no toilet and shower would be considered to be an obstacle that will actively prevent someone from buying a house. However, the fact that a toilet and shower are present is in itself not considered to be a motivation to buy the house, the person would still remain 'neutral' about the house. A luxurious balcony with a built-in Jacuzzi on the other hand could function as a great inspiration or 'motivation' to want the house. Therefore, both the obstacles (by Herzberg called as Hygiene factors) have to be addressed (a toilet has to be present) and motivation has to be present (a reason to want to do something).

5.2.2 The link to reality

Comparing Herzberg's theory to our analysis, a resemblance became apparent between the hygiene factors that Herzberg mentioned to the obstacles our entrepreneurs mentioned, and the motivation factors as described by Herzberg compared to the affordances that social media can offer that entrepreneurs often don't know of. Some of the quotes that led to this realization are mentioned below.

> *"Yeah, it once again is a matter of filtering and that requires so much time with these things, yeah and that is really what the hardest part is in that phase. And yeah.. that's all funny and nice for someone who has the entire days' time to spend on this stuff, that's what I think, but this is such a small part of the whole process. (…) On the other hand, even if we could increase our resources then the priorities would still be somewhere else at this moment" (1, l78)*

The above quote is a reaction on the interviewer's suggestion to use social media as an observing tool. As can be seen from the above quote however is that even if the obstacle, which in this case is time, would be taken away this wouldn't automatically lead to the entrepreneur using social media. On the other hand, there are also entrepreneurs who do see the affordances that these applications have to offer, but face obstacles. The following statement was made by an entrepreneur after the interviewer proposed a technique to find lead users, observe them and use that information, through social media.

> *"That is very interesting, to be clear, I think that is very interesting. But I think that the problem with these kind of things is, it costs a lot of time to find the right people and then you have to filter that information. I think that that is the problem" (5,61)*

These quotes give examples of the point at which either the hygiene factors, or obstacles, are still present, or the motivation factors are not clear. Once this resemblance was discovered we took a better look at how entrepreneurs responded when both the obstacles were taken away and motivation was added (for example, by explaining the possible affordances). We found that entrepreneurs would indeed express their intentions to use these social media. In order to test this theory the 'intention to use' theme of data was examined.

> *"**Interviewer:** I am curious now, because we have discussed a lot of things now, but ehm, what will you be doing with it?*
> ***Respondent:** I think that I will be doing an attempt to identify the end-users and then observe one" (6,212)*

This statement shows that at the end of the interview this entrepreneur states that he intends to start observing through social media, while it can be seen from the search behavior frequency table (Table 2) that this entrepreneur has not exhibited observing behavior online before.

> *"No, I have gained a lot more knowledge, so I see some opportunities which I can test, and I certainly will, and then ehm.. then yea.. I've got to see what the experiences are and how that unravels" (11, 274)*

This is another example of a statement at the end of the interview where the respondent indicates he will 'certainly' apply some of the tactics discussed.

> *"Interviewer: To what extend would it be useful, you have those nonprofit organizations and they probably have the names of some people that are volunteering at their organisation, so would it be helpful to just observe those people via social media? To check on facebook or twitter to get an idea of what they're doing..*
> *Respondent: I haven't really thought of doing that yet.. I mean.. I guess we could.. yeah we could just friend them right ahead..*
> *Interviewer: Would that be useful though? Because if you know there is a volunteer that goes to the barber every Monday, then it would be like maybe useful to have a contract or kind of liason with the barber and then the volunteers get at least a discount that is relevant to them.*
> *Respondent: Yeah, I think never really thought of that specifically.. I mean.. I've heard it now so Im probably gonna do it hehe." (15, 133~136)*

In this last statement the respondent talks about ways he finds incentives to give to the users of his platform, the volunteers in this case, however until now the idea's for this came from the entrepreneur and his team themselves. By giving him the motivation to do so, or in other words, explaining the affordance of the social media, he now states he will 'probably' use it.

5.3 Recommendations

In order for VentureLab Twente to help entrepreneurs to use social media as a market research tool, we propose that the obstacles that entrepreneurs face have to be taken away, and the affordances that these social media have to offer have to be explained. This is based on Herzberg's theory that both 'hygiene factors' have to be addressed or solved and then motivation has to be added. If either one of the above things has not been done it will be unlikely a person takes action because they either still face obstacles (hygiene factors) or do not see a reason to take actions (motivation factors).

This means that the obstacles of time, image, privacy, industry/branch and mainly knowledge have to be addressed, and explained how entrepreneurs can deal with these obstacle. The main points from the analysis are that; entrepreneurs often don't know the application or have a misconception about what the possibilities are (image about relevance) or how social media should be used (image about use), do not want to spent too much time learning these applications or finding the right information (time), do not want to reveal information about themselves or their customers (privacy), think that social media has no added value due to the industry or branch they are in, or don't even know how or what to achieve with social media (knowledge). This last obstacle, knowledge, could be used to address the previous 4 obstacles because the data suggested that most of these obstacles originate by the fact that entrepreneurs either don't know about the existence of the right applications, the right functionalities or the right affordances.

When this is done, entrepreneurs also have to realize the possibilities, or affordances, that these social media have to offer. This means that the affordances as discussed in chapter 4.3 and summarized in 4.3.5 should be explained and introduced. In those chapters the appropriate social media applications and the aligning search behavior and research method have been displayed. The conclusion was that the affordances that the entrepreneurs saw as useful and possible are listed below (taken from table 8) and should therefore be the general issues used to motivate the entrepreneurs.

- Discovering market needs
- Discovering market trends
- Discovering lead users
- Generating feedback on products
- Identifying new uses or applications for a certain technology
- Identifying important attributes
- Identifying preferred products and the reasoning therefore
- Identifying the ideal product design in the consumers opinion
- Gathering information about the associations that people make
- Outsourcing problems to a larger crowd of people, allowing for outside-the-box ideas

What also became apparent during the analysis, and is noteworthy for the recommendation, is that entrepreneurs indicated that they prefer detailed examples of the affordances, and also the techniques and applications that should be used in order to realize these affordances. Important here is to distinguish specific industries to enable entrepreneurs to relate themselves to the examples and truly see the affordances it has to offer.

> I think providing examples is a huge thing. You know? And I also think paying attention to the different styles of use-cases, because like I said my business is really a b2b business, and so if they can adress those specific circumstances and provide distinction Im gonna feel like that is relevant to me. Whereas if they talk about how you can sell more shirts, I dont feel like that is really relevant to me. So really making the distinction and making it specific to the tone and type of your business that would be helpful. (14, 231)

Statements like the one featured above have been made more often and therefore we propose that if workshops or trainings are constructed in order to address the obstacles and affordances, the different industries that the incubator participants are active in should be taken into account and maybe differentiated amongst workshops.

Chapter 6. Discussion

6.1 Limitations

This research is bound to several limitations. Due to the scope of this interview, a limited amount of market research methods was analyzed and used during the interviews. Market research methods that have not been introduced in the literature study have also not been included in the interview protocol and therefore not been discussed. It can therefore be possible that there are more possible market research methods that could be applied in the social media than have been described in this research.

The second limitation is that this research assumes that if a method is deemed usable and applicable by one entrepreneur, is will also be useful and applicable for at least some other entrepreneurs. This research doesn't state that the affordances and applications mentioned in the conclusion will work for all entrepreneurs, but merely that these have the best chance of being successfully introduced and therefore are the best options to use in, for example, workshops given by an incubator.

The third limitation is that during the interviews some other factors that might play a role in the use of social media have been identified, the so called personality traits. These personality traits have also been described by Den Engelse et al. (2012) and can influence the social media behavior. However, because these have only been identified in a part of the entrepreneurs these have not been included in the analysis.

6.2 Scientific relevance

During this research a start has been made to develop a framework that matches traditional research methods that are typically conducted in an offline environment, to the emerging social media, or web 2.0, applications. These so called affordances that these social media applications offer have then been tested against a specific group of entrepreneurs, but this framework can inspire other researchers to develop a generalized framework or a best practice. This research also gives more insight into the information search behaviors of entrepreneurs, specifically related to the search behaviors as defined by Dyer et al. (2008). Both these research goals have more or less been done already for new product development as known within existing corporations, but not for the entrepreneurial opportunity development process. Therefore this research has focused on entrepreneurs who are at the verge of starting their own venture or have just launched their venture.

6.3 Recommendations for further research

Research into VentureLab entrepreneurs

Future research could be done to test our proposition by conducting an experiment in which entrepreneurs are identified who do not currently use social media, after which the obstacles mentioned in this research are addressed through an extensive workshop and then the possible affordances are introduced, explained and implemented. Afterwards the social media behavior of these entrepreneurs would be observed and measured.

Generalizing a best practice for social media market research

Future research might also want to focus on other possible affordances that social media has to offer to entrepreneurs. Due to the rapid development of web 2.0 technology and web 2.0 applications there are bound to be more ways to use social media in combination with market research methods to create new affordances. As mentioned in the limitations, this research concluded by stating the affordances that our sample group considered to be useful. This does not mean that there are not more affordances in the eyes of other entrepreneurs; further research could try to make a generalizable 'best practice' framework.

Personality and search behavior of entrepreneurs

The final focus of future research could be to investigate whether or not there are more factors that influence the social media usage of entrepreneurs. This can be expected due to the personality traits that were sometimes measured during the analysis but were not significant enough to include in this research. However, this does lead us to suspect that there are more factors that influence both the search behavior and social media usage of entrepreneurs.

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Appendices

Appendix A. Interview protocol

Introduction

Provide respondent with an introduction about the study
Ask for permission to record interview and ensure the confidentiality of data

Background

Entrepreneurial Opportunity	1. Please describe the business idea that you are currently working on? 2. How did you come up with this business idea? 3. What is the innovative aspect in your business idea /How is this product different than what is currently offered in the market? i. Existing product, existing market ii. Existing product, new market iii. New product, existing market iv. New product, new market
Decision-Making Activities	4. What kind of activities have you done in the past 12 months to develop the business idea?
Information Needs	5. Please describe the information needs that you had in the past 12 months? 6. How did you acquire the needed information? 7. What information sources did you use?
Social Media	8. Which Social Media applications do you use? i. If social media is used ask for which purposed the social media applications are used?I ii. If social media is not used, ask why not?

Information Acquisition

Information Search Behaviors

Previous research has identified that entrepreneurs use certain behaviors to acquire information that benefits the process of identifying and exploiting new business opportunities. I will describe each of these four behaviors and ask questions regarding your use of these behaviors. <u>*Questioning behavior*</u>

Questioning behavior involves asking questions that challenge the status quo. Questions that typically belong to this behavior include "what is", "what caused", "why", "why not", "what if" and "how might".

9. How have you used this behavior in the last 12 months for acquiring information that you needed for developing your business idea?
10. Have you used social media to perform this behavior?
11. Please give your opinion on whether social media is useful for conducting this behavior?

If considered useful:

i. ask how this behavior can be performed in social media environments?
ii. ask for examples of how they have used social media to <u>conduct this behavior.</u>

I will provide descriptions of methods and techniques that could be useful for asking questions in social media environments. After the description I will ask for your opinion on the usability of this method and technique.

<u>Questioning methods and techniques</u>

***Category Appraisal**: This is a method that attempts to derives consumers' needs by represent the underlying dimensions Respondents are asked to evaluate competing products based on preference and/or perceived (dis)similarity or (sensory) attributes.*

12 Have you ever used this method/technique?

If yes:

i. Please elaborate on how you have used this method?
ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?

An example of using this method in social media environment is as follows: you could post a picture of competing products and ask the user which one they prefer.

13. Please give your opinion about this method in terms of:
    a. Relevance b. Ease of use
    c. Usability

***Free Elicitation:** This method is useful for determining product and service attributes that consumers perceive as relevant. The method consists of presenting respondents stimulus probes or cues (usually words) and subsequently asks them to verbalize the concepts that come to mind.*

14. Have you ever used this method? (both in general and in social media environments).

If yes:

i. Please elaborate on how you have used this method?
ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?

An example of using this method in social media environment is as follows: you could post a certain stimulus or keyword on Facebook/Twitter and ask what comes to mind when thinking of the concept and/or ask them to tag a picture that visualizes the concept.

15. Please give your opinion about this method in terms of:
    a. Relevance b. Ease of use c.
    Usability

***Focus Group**: This method is used for identifying the most important drivers of consumer choice for a particular product and to learn more about consumer views and opinions.* This method is based on the systematic questioning of several individuals simultaneously in a formal or informal setting.

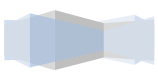
16. Have you ever used this method? (in general and social media environments).

If yes:

i. Please elaborate on how you have used this method?
ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?



An example of using this method by starting a discussion on Twitter that is characterized by a Hastag; or using webinar software or asking questions on social media applications that first

start off broad and unfocused and are than followed up with questions that are based on the comments of participants.

17. Please give your opinion about this method in terms of:
    a. Relevance b. Ease of use
    c. Usability

Lead user Technique: *Lead-user technique is based on identifying customers who face needs months before the bulk of the marketplace and are expected to gain high benefits from obtaining a solution to the needs they face. These users are useful for detecting future problems and find solutions for problems that lead users experience regarding the product and service.*

18. Have you ever used this method? (in general and social media environments).

If yes:

i. Please elaborate on how you have used this method?
ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?

Focus groups are also used for the lead user technique. Lead users can be defined as trendsetter whose current need will forecast the need of the general marketplace in the future. Once lead users have been identified creative group sessions are used to obtain data concerning their real-live experiences with the product of interest.

19. Please give your opinion about this method in terms of:
    a. Relevance b. Ease of use
    c. Usability

ZMET: *Zaltman metaphor elicitation technique is a projective technique in which consumers create collages that visualize their feelings, experiences and attitudes regarding a product or research topic.Respondents are asked to take photographs and/or collect pictures, which best express their feelings and experiences connected with a certain topic. The respondents are then further question on their choices.*

19. Have you ever used this method? (both in general and in social media environments).

If yes:

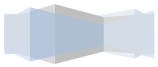
i. Please elaborate on how you have used this method?
ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?

Example: Ask users to send pictures that best express their feelings and experiences towards a certain topic using e.g. Twitter, Facebook, Instagram, or Pinterest and are asked for each picture how it represents their perception of the product.

20. Please give your opinion about this method in terms of:
    a. Relevance b. Ease of use
    c. Usability



Observing behavior

Observing Behavior is associated with paying attention to special encounters and everyday experiences to observe the environment and find new ideas.

21. How have you used this behavior in the last 12 months for acquiring information that you needed for developing your business idea?
22. Have you used social media to perform this behavior?
    If considered useful:
        i. Ask how this behavior can be performed in social media environments?
        ii. Ask for examples of how they have used social media to conduct this behavior.

Observing methods and techniques

Netnography is a technique that involves studying the cultures and communities that are emerging through computer- mediated communications (Kozinets, 2002). This technique uses the publicly available information to identify and understand customer needs (Kozinets, 2002).

23. Have you ever used this method? (both in general and in social media environments).
    If yes:
        i. Please elaborate on how you have used this method?
        ii. Why did you use this method/technique? What information were you expecting to gain?

    If not:
        i. Would you consider this method/technique to be useful?

Empathic Design: *Researchers observe the respondent's behavior in the environment in which the product is being used.*

29. Have you ever used this method? (in general and in social media environments).
    If yes:
        i. Please elaborate on how you have used this method?
        ii. Why did you use this method/technique? What information were you expecting to gain? .

11

    If not:
        i. Would you consider this method/technique to be useful?

(Example: A possibility could be to ask followers on Facebook, YouTube or Twitter to post pictures or videos of themselves using a certain product in their familiar environment.)

30. Please give your opinion about this method in terms of:
    a. Relevance b. Ease of use
    c. Usability

Experimenting behavior

Experimenting Behavior refers to the active use of experiments to explore the world and search for new ideas. Using this behavior, people explore the world with an open mind and try to broaden their horizon by surrounding themselves with influences that are not yet known to them (e.g. places, objects).

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28. How have you used this behavior in the last 12 months for acquiring information that you needed for developing your business idea?
29. Have you used social media to perform this behavior?
    If considered useful:
        i. Ask how this behavior can be performed in social media environments?

ii. Ask for examples of how they have used social media to conduct this behavior.

Experimenting methods and techniques

Kelly Repertory Grid: *This method is useful for determining aspects on which people differentiate between products. The technique is based on the notion to determine how two or more things are alike and thereby different from a third. For this method respondents are presented a set of products in groups of three (e.g. names or brands) and are asked how one trait differs from the other two and why.*

30. Have you ever used this method? (both in general and in social media environments).

If yes:

i. Please elaborate on how you have used this method?
ii. Why did you use this method/technique?

If not:

i. Would you consider this method/technique to be useful?

31. *Example: It is possible to carry out the Kelly reporter grid method on social networking sites such as Instagram. Here the researcher could, for example, post a picture of three products and ask users to choose two products based on a common attribute that differentiates them from the third. Respondents are then further questioned on their choice by putting an @sign before the username.)*Please give your opinion about this method in terms of:

a. Relevance b. Ease of use c. Usability

Conjoint Analysis: *The basic principle of conjoint analysis is determining users' preferences regarding product attributes and the ideal combination of these preferred attributes. The first part of the method involves*

developing a set of product attributes (e.g. price) and corresponding attribute levels (€10 or €20). Based on these attributes and corresponding attribute levels hypothetical products are presented to respondents and are asked to rate these on criteria like preference, acceptability or likelihood of purchase.

32. Have you ever used this method? (in general and in social media environments).

If yes:

i. Please elaborate on how you have used this method?
ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?

For the rating of hypothetical products, it is proposed to post these on pre- selected social media platforms and ask respondents to rate these products. A variation to this is asking respondents to customize their own product based on the set of product attributes and corresponding attribute levels. Thus, respondents develop their own hypothetical product.

32. Please give your opinion about this method in terms of:
    a. Relevance b. Ease of use
    c. Usability

Idea Networking Behavior is associated with entrepreneurs, who actively find and test ideas within a network of individuals that differ from them both in background and perspective.

33. How have you used this behavior in the last 12 months for acquiring information that you needed for developing your business idea?

34. Have you used social media to perform this behavior?

If considered useful:

i. Ask how this behavior can be performed in social media environments?

ii. Ask for examples of how they have used social media to conduct this behavior.

Idea Networking methods and techniques

Consumer Idealized Design encourages potential consumers to develop their ideal product. *Respondents are asked to picture a scenario in which a familiar product or service does not exist anymore and ask them to visualize an ideal product to replace it.* In proposing the design consumers are free of all constraints except two: (1) the design should not include any technology that does not currently exist and (2) it must conform to the law.

35. Have you ever used this method? (in general and in social media environments).

If yes:

i. Please elaborate on how you have used this method?

ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?

As this approach somewhat involves discussions between participants, a "hashtag discussion" could be a possible way to conduct consumer idealized design. In comparison to the focus group approach the users are not questioned on a specific topic but asked to visualize their ideal product. Other options would be to build communities for users to share and discuss product ideas.

36. Please give your opinion about this method in terms of:

a. Relevance
b. Ease of se
c. Usability

Crowdsourcing: *Researchers outsource a problem in the community and ask respondents to provide a solution.*

37. Have you ever used this method? (in general and in social mediaenvironments).

If yes:

i. Please elaborate on how you have used this method?

ii. Why did you use this method/technique? What information were you expecting to gain?

If not:

i. Would you consider this method/technique to be useful?

Information Assimilation

Cognitive Frameworks

38) How do you give determine the value of the information that you acquired? (In general and for social media environments)

i. Role of business and work experience

ii. Compare information with what the entrepreneur already knows

iii. Compare newly acquired information with certain examples of relevant concepts that the entrepreneur knows

of. Do you compare the new information acquired with what you already know existing prototypes to give it meaning?

Information Quality

39. How would you assess the quality of the information gathered in the Social Media Environment?
    i. Believability: How true and credible is the information?
    ii. Interpretability: Do you have difficulties interpreting the social media information? Why?

Relevancy: Is the social media information obtained in a relevant to you?

If yes:

i. Please elaborate on how it has been relevant you have used this method.

If not:

ii. Please elaborate why it wasn"t usefull.

Information Exploitation

Entrepreneurial Process Activities

40) For what purpose/which activities did you use the information acquired from the Social Media Environment?

i. How did you use the acquired social media information?

ii. How did the information acquired in the Social Media Environment influence the decision to further pursue this business idea?

iii. How did you use the information acquired in the Social Media Environment to further exploit this business idea (opportunity exploitation)?

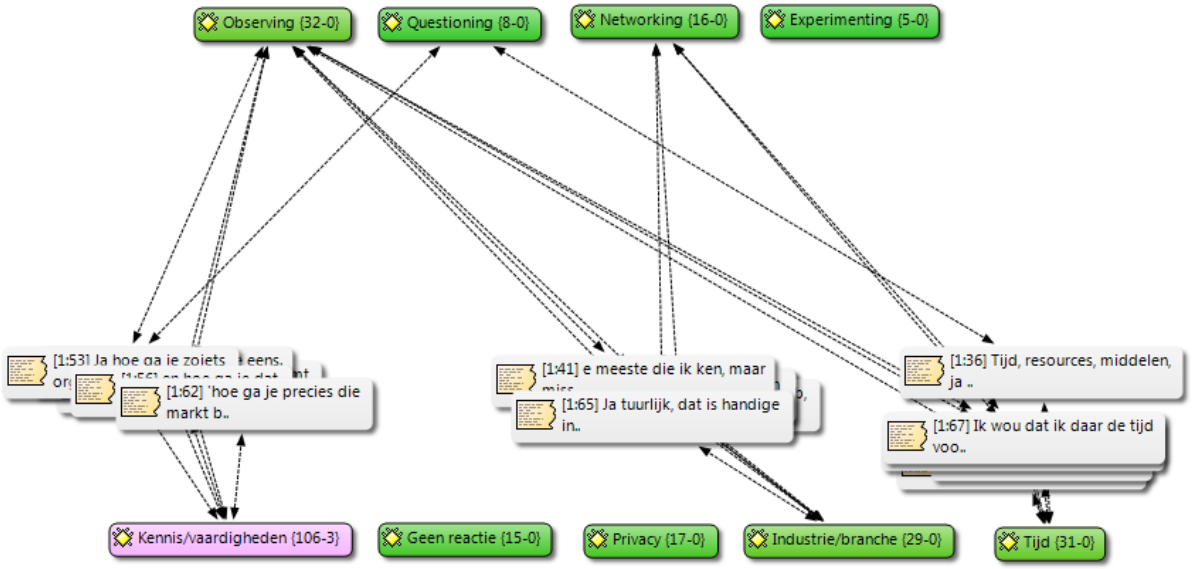
Appendix B. Transcripts

<not available in public version>

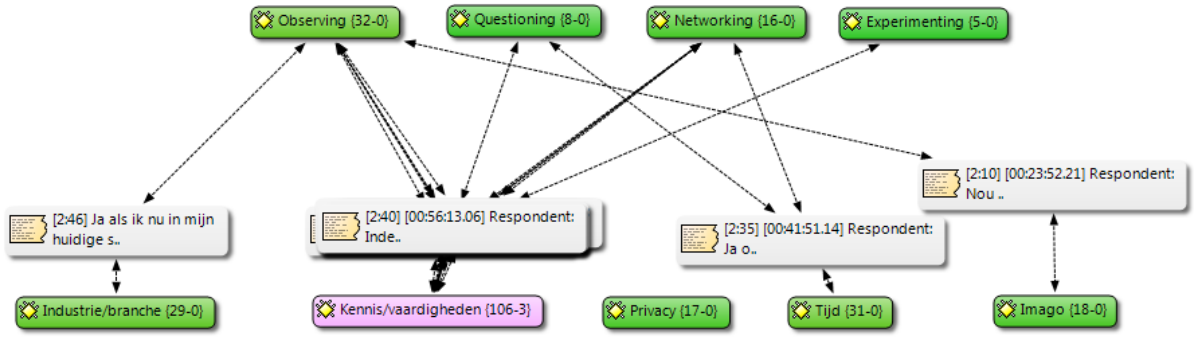
Appendix C. Network view of obstacles related to search behavior

Example of network view of quotations of obstacles related to entrepreneurial search behaviors:

Respondent 1:



Respondent 2:



Appendix D. Graphical overview of all codes.