“An environmentally friendly company is just like any ordinary company; it thrives for success”

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ABSTRACT

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Purpose: To explore whether the view on Business Models and Value Creation, can explain the lack of Venture Capital investments in green start-ups, by examining how green start-up Entrepreneurs, and Venture Capitalist investors, view these two factors.

Theoretical framework: The aim of this thesis is to address some of the key knowledge gaps in research available today, regarding why there is a lack of investments within the green start-up sector. By applying Behavioral Finance as a tool when examining Entrepreneurs and Venture Capitalist Investors view on certain factors, the goal is to receive a better understanding of the reasoning behind the investor's decision-making. This case study will concentrate on the two factors, Value Creation, and Business Models, and together with Behavioral Finance these three theories will build up the theoretical framework of this thesis to find answer to the research questions and purpose.

Methodology: This study is a qualitative case study of the view on Business Models and Value Creation with elements of an adductive approach. A theoretical framework was developed and compared to the empirical findings from eight semi-structured in-depth interviews.

Results: To summarize the results, Venture Capitalist Investors view Value Creating and Business Models of green start-ups differently, but a general theme is that investors tend to be aiming more for Profit Maximization. On the other hand, green start-up Entrepreneurs view Value Creation and Business Models out of a Shared Value perspective, but realize the importance of building up an attractive track record. Behavioral Finance can to some extent function as a good tool and theory for explaining the underinvestment in green start-ups. A Skepticism towards the green start-up sector was described by several of the interviewees. The skepticism was grounded in a lack of "success stories" and track record within the green start-up sector and therefore the findings of this case study indicate that the view on green start-ups is to some extent damaged by several bad historical results, previous weak return on investment and lack of strong track records.

Key words: Venture Capital, Green start-ups, Behavioral Finance, Value Creation, Business Models

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Sincerely,

Eric Jacobson

New York, June 2016

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Abbreviations

C-E	Circular Economy
VC	Venture Capitalist
IOT	Internet of things
COP	Conferences of the Parties (UNFCCC Parties)

Glossary of terms

Triple Bottom line	Triple Bottom line is when a entrepreneur thrives to balance finance and economics, social equity and environmental resilience (Elkington, 1997)
Green start-up	Green start-ups offer products and/or services that provide environmental protection or substantially reduce environmental impact compared to other existing products and services. (Bergset, 2015)
Behavioral Finance	Behavioral Finance suggests that investments are not solely number driven. A relatively recent phenomenon in research in the finance sector is the Behavioral Finance theory. The theory of Behavioral Finance started as a contest of the acceptance of ordinary finance and its acceptance of perfect allocation. (Frankfurter & McGoun, 2002)
VC investments	Relatively early stage investments (Investopedia, 2016a)

I. INTRODUCTION

This thesis focus on green start-ups, Venture Capital (VC) and the theory of Behavioral Finance, to investigate the reasoning behind why green-startups have not yet become successful and attractive on the global market. This introductory chapter will present an outline of current and historical views on green start-ups. It will also present a first suggestion to why sustainable ventures have not yet reached a “boom” in the market, as some expected, similar to what took place in the fin-tech, internet, and other industries.

There is a growing positivity towards building up a sustainable and environmentally friendly world. During 2015, several conferences focusing on the environment and climate change took place, conveying the message that the time has come for all of us to act together and change our behavior today. (Davenport, Gillis, Chan & Eddy, 2015, 12 Dec & UNFCC, 2015) There are many national policy initiatives that send a similar message. One example is Barack Obama’s statement last year, that it is time to initiate a Clean Power Plan, to boost America´s economy and transition to build up a renewable energy generation. (Whitehouse, 2015) The agenda stressing the importance to initiate a transition towards an environmentally sustainable society has been around for decades, the COP conferences started 1995 and last year the 21st conference was held. (UNFCC, 2014 & UNFCC, 2015)

One way to support the holistic change is to support and invest in green businesses. According to Johan Rockström (2015, 28th of December) using new Business Models, built on principles related to the Circular Economy and Shared Economy, could be a possible way to create a common understanding that sustainable initiatives must take off now. On 25th of September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development, which includes of 17 Sustainable Development Goals (SDG´s) to end poverty, fight inequality & injustice and tackle climate change by 2030. Alongside with this project, the United Nations (UN) has started a sustainable development fund. (Baxter, Rivera & Torres-Rahman, 2015)

The overarching goal of the fund is to:

> *“Unlock the transformative potential [of the private sector... and invite] businesses to apply their creativity and innovation toward solving sustainable development challenges and to engage as partners in the development process”*- Baxter et al. (2015 P. 2)

Ban Ki- Moon argues that it is:

> *“Time to mobilize the global business community as never before. The case is clear. Realizing the Sustainable Development Goals will improve the environment for doing business and building markets. Trillions of dollars in public and private funds are to be redirected towards the SDG´s, creating huge opportunities for responsible companies to deliver solutions.”* – Ki- Moon (2015, 26 Sep)

The idea of support and create opportunities via investing in environmentally sustainable business has been around for many years. One key example aiming to support sustainable and green business ideas is by Porter and Kramer (2011), who argues that *“Companies must take the lead in bringing business and society back together”*. They believe that companies that are both profitable and creates social value (Shared Value) will be the top competitors on the market in the future. More and more companies are creating Shared Value. (Porter, Hills, Pfitzer, Patscheke & Hawkins, 2012).

In order to narrow down the large topic of sustainability and green investments the following chapter will describe the key investments and business categories examined in this thesis. As an investor, you have many sectors and possibilities to invest your money in. One sector, which is a relatively early stage investment, is known as the Venture Capital (VC) industry. The VC market is an extensive market full of various growth opportunities for start-up companies. Only in the US, $48,3 billion was invested in Venture Capitals in 2014 (NVCA, 2015). Moreover, there are several previous success-stories within green start-ups, such as the sharing economy and resource-efficient company AirBnb. AirBnb was founded in 2008 and is today worth 20 billion dollars. (Clampet, J, 2015, 28 Feb). The interest of green start-ups has increased significantly and lately a few new platforms have been launched such as Green Rocket. Green Rocket is the first crowdfunding platform in Austria specializing in sustainable businesses (energy, environment, mobility and health). (Wollenhaupt, C, 2014, 10 Aug).

Start-up organizations have to overcome many hurdles before reaching a final market breakthrough, and some hurdles are more substantial than others. Financing is a vital barrier to overcome for young and innovative firms. As well as for larger companies with riskier Business Models that include systematic and radical innovations, especially within green Business Models. (Beltramello, Haie-Fayle & Pilat, 2013). Financing is essential throughout the whole innovation cycle. However, one of the most critical phases is the *valley of death,* where the company goes from an innovation to a commercialization. This is a proven gap of financing between initial public funding and private financing. (Grubb 2004; Hampl 2012 & Murphy; Edwards, 2003 & Wüstenhagen & Menichetti, 2012) Therefore the Venture Capital investments play a crucial part in the survival of the companies.

An absence of investments has been identified within the green start-up sector. The lack of investments in the green start-ups sector has been well known for many years, as stated by Della Croce, Kaminker & Stewart (2011), that point out the need of supporting green growth initiatives by Pension Funds. With the above-mentioned positive view on green business and the need to be fiscally supported in the important step towards commercialization, an absence of investments has been identified. There are very few Venture Capitalist funds that have specialized in green start-ups compared to other industries. A recent study made by the advisory group Probitas, sited in green tech media, only 5 percent of Venture Capitalist in the US were going to invest in green-focused funds, the second-lowest category out of 26. (Day, 2015 & Probitas Partners, 2015) Green start-up companies are struggling to get more attention from investors, which is tough, because they are not seen as profitable as other start-up investments. (Grubb 2004; Murphy & Edwards 2003, Randjelovic & O'Rourke, 2003 & Yunus, Moingeon & Lehmann-Ortega, 2010) Furthermore, the lack of investments has been confirmed among this study's interviewees. (Ericsson, ETF) Lastly, there is a recent study published by O'Neil & Ucbasaran (2015), where one of the main findings is a lack of support from investors to green start-up entrepreneurs: *"Their [green start-up entrepreneurs] ambitions to 'break free' and enact their 'hopes and dreams to make a difference' often need to be tempered by the realities of attracting investors and other stakeholders whose primary goal is making money and not environmental issues."*

Why is there a lack of VC investments within the green start-up sector? The lack of investments in the green sector can be seen as particularly odd when headlines in journals like Harvard Business Review could look like this: *"Companies that invest in Sustainability do better financially".* Gerrit, (2012, 19 Sep) who wrote this article is an author and writer at Harvard Business Review and comments that it is a *"common misperception that green start-ups are only about a good intention and therefore the return of investment are lower".* He argues that *"nothing could be further from truth… resource efficient companies tend to produce higher investments returns and display higher levels of entrepreneurship and innovation."* (Gerrit, 2012, 19 Sep)

Studies of why there is a lack of investments in the green start-up segment are not many, but there are a few recently published theories of the reason. Bergset (2015), who also argues that there is a lack of investment (Borderstep, 2016) has tried to explain the absence of investments with the theory of Behavioral Finance. In Bergset's study (2015), Behavioral Finance has been used as a tool to explain why investors may or may not invest in green start-ups. Behavioral Finance captures the different mindsets that the investors have and one of her key findings was that Behavioral Finance *"reveals why it is easier for investors to stay within the sectors and technologies they already know well and* *have built up networks in and not to venture into the new, relatively unknown field of green start-ups."*

This study will continue where Bergset (2015) left of and restrict the main focus to solely Venture Capitalists investments by interviewing Green start-up Entrepreneurs and Venture Capital Investors. The aim of this thesis is to address some of the key knowledge gaps in research available today, regarding why there is a lack of investments within the green start-up sector. By applying Behavioral Finance as a tool when examining Entrepreneurs and Venture Capitalist Investors view on certain factors, the goal is to receive a better understanding of the reasoning behind the investor's decision-making.

According to Masini & Menichetti (2012) there are several behavioral factors that affect investors decision-making such as: Business Models, team members, profitability outlook, timeframe, market environment, R&D Pipeline, Value Creation, Investor Trends on the market, etcetera. This case study will concentrate on the two factors, Value Creation, and Business Models. These two factors are introduced and discussed more in-depth in Chapter III.

To conclude the introductory chapter, a lack of investment within the green-startup sector has been identified but the reason as to why this is the case has not yet been fully explained. There are several market trends, initiatives, conferences etcetera mentioned above that try to encourage a "*booming*" of the green-start up sector. Nevertheless, according to several research the "*booming*" has not yet arrived. This case study will explore Entrepreneurs and Investors view on Business Models and Value Creation, in the aim of finding out why investors are not more interested in funding green start-ups.

As a note: "*Behavioral Finance"* will be defined and named as *"the view on"* throughout the thesis.

Purpose

To explore whether the view on Business Models and Value Creation, can explain the lack of Venture Capital investments in green start-ups, by examining how green start-up Entrepreneurs, and Venture Capitalist investors, view these two factors.

Research Questions

How does Venture Capitalist investors and green start-up entrepreneurs view Value Creating and Business Models of green start-ups?

Can Behavioral Finance function as a good tool and theory for explaining the underinvestment in green start-ups?

1.2. Disposition

Following is a brief description of the essay's structure and some clarifications of structural choices that has been made.

1.2.1. An introduction to Venture Capital and "green" entrepreneurs

To fully understand the theoretical aspects of investments in green start-ups, a practical understanding will be provided in chapter 1.3. The report will begin by explaining the different alternatives for start-up to finance its business, especially the Venture Capital alternative. A common thought about green start-ups are that they are businesses that deliver a triple bottom line. As mentioned in the introduction Elkington (1997) describes this way of thinking where not only profit is the main focus; instead these kind of businesses creates both social, financial and environmental value. These kind of idea of business will be presented, as well as arguments that proof that investments in the green sector can deliver high profits, just as in other industries. Thus it could seem inconsistent that the green start-ups scene is not getting the same attention as other start-ups.

1.2.2. Links to previous research

The main focus of this study is to use Behavioral Finance as a tool to investigate whether the view of Value Creation and Business Models can give explanations to the lack of Venture Capital investments in green start-ups. To fully understand the role of Behavioral Finance in start-ups finance a brief theoretical background will introduce the reader to adequate literature within both regular start-up finance, green start-up finance and Behavioral Finance.

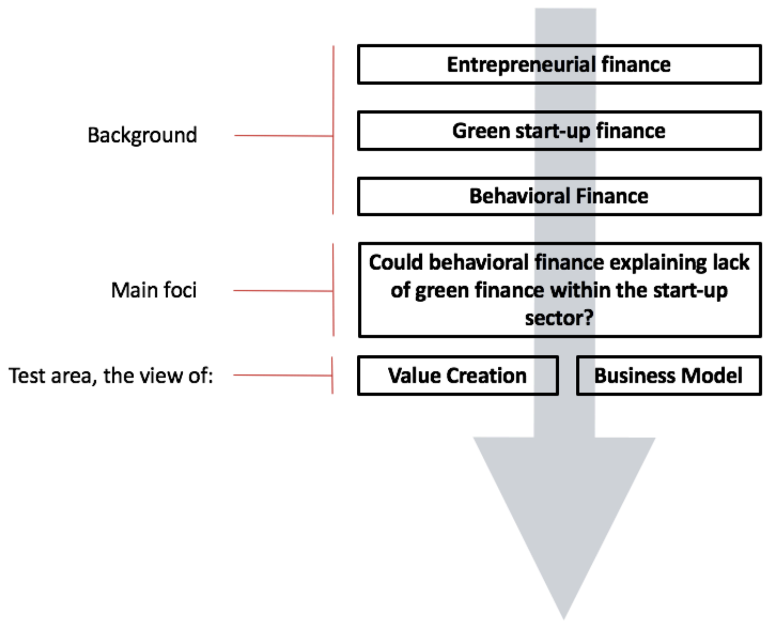

Figure (1) Illustration of the structure of the essay.

1.2.3. Theory

It will then present the academic foundation of which the analysis is based on. Some authors argue that behavioral finance plays an important role in explaining investing in green start up. In this chapter the role of Behavioral Finance and its importance in the category of investing in green start-up will be clarified. The theory of Behavioral Finance comprises many different factors, and the relevance of the view of these factors are stated. In this study we are going to concentrate/focus on two of these factors, Value Creation and Business Model. Other studies emphasize the importance of the view of these two factors when investing in greens start-ups, however it has so far only been theoretical discussions of the implications, a heuristic discussion. Therefore, are this study going to closely investigate the impact of the view in reality. To do that, a deeper understanding of the attributes with in value creation and business model will be presented. Value and business model, can be looked at in many different ways, in this study we are going to focus on three central views of value creation within green business. The three views of business model have its common understanding of green values that are in some way included in the model.

1.2.4. Method

This report will illustrate the research methodology that has been used, and explaining the choices of methods, participant selection, data collection, interview process, and data interpretation. Furthermore, we will draw attention to data quality concerns and limitations.

1.2.5. Empirical findings & Analysis

Further on the study will present the empirical findings and analysis, and additionally provide a summarized conclusion of the results. The result, which is based on the thesis empirical findings will help out to fill out the gap in earlier studies of Behavioral Finance applied at the theory financing green start-ups, and its implication to explain the lack of investments. Previously, it has been possible through the deeper understanding of the view of Value Creation and Business Models among investors, entrepreneurs and analysts. The interviewees originate from and are located in different parts of the world, some specialized in green investments and green entrepreneurship, some are not, but everyone is well aware of green businesses in general.

Lastly, there will be a discussion about the limitations of this study and provide suggestions for future research.

1.3 An introduction to Venture Capital and "green" entrepreneurs

When examining Venture Capital investments within the green start-up sector, a couple of basic points of knowledge are necessary to discuss. First of all, in what kind of different ways can you invest in start-ups in general? Moving on, this chapter will present the idea of a green entrepreneurs and in what way a "green" mindset differs from other entrepreneurial mindsets.

1.3.1. Venture Capital investments

Venture Capital is a source of financing for new companies. A VC investment is an initial loan to start-ups with a long-term growth potential. (Investopedia, 2016a) It is fundamental for a start-up to be financed in an early stage, and it is crucial for the growth of the start-up company with high potential. (EY, 2014) It is a particularly important challenge to overcome for young and innovative firms, especially for companies that has adapted a green Business Model. (Beltramello, Haie-Fayle & Pilat, 2013). It is an especially important source of capital because the start-ups in this phase regularly do not have access to capital from other sources. From a Venture Capital Investor perspective these kind of investments includes a high risk but at the same time a potential high return. The factors a VC investor is looking for could be the team, scalability, product or/and the business model. (Investopedia, 2016a)

There are though other ways to be funded as a small company, for example by Angel Investors, by government funds, private funds or crowd funding. All alternatives have positive and negative sides, in general there are more financial rules and models when applying capital from Venture Capital and Funds compared to Angel Investors. (Investopedia, 2016a) However, in this research VC´s and are going to be the main focus.

1.3.2. Green start-ups

This study will define green start-ups as; "a start-up that offer products and/or services that provide environmental protection or substantially reduce environmental impact compared to other existing products and services". (Bergset, 2015) An idea of corporate social responsibility became popular in the 1960's. However, it took several decades before it really had its place in grounded theory. It was Elkington who, in 1994, came up with the idea of the phrase "triple bottom line". (RealizedWorth, 2014) Elkington (1997) describes the triple bottom line as when a "entrepreneur thrives to balance finance and economics, social equity and environmental resilience" The focus in this study are foremost investments in start-ups that mainly seek two of these legs, positive environmental impact and profit. Moreover, as an investor there are several alternatives to invest more environmentally sustainable. One way is to filter out unacceptable products, like weapons, gambling and/or tobacco. However, Berry & Junkus (2013) identifies that investors prefer to have a more holistic approach and selects firms proclaiming an overall positive practice. According to research Business Models are crucial, and green start-up entrepreneurs are focusing too little on business plans and financial forecasts. (Choi & Gray, 2008 & Nicholls & Pharoah, 2007).

II. LINKS TO PREVIOUS RESEARCH

Start-ups has been around for thousands of years but the theory of entrepreneurial finance has only a history of a couple of decades. To get a deeper understanding of why there is a lack of green investments in start-ups, and then also understand why Behavioral Finance are a fundamental part of green start-up finance, an introduction to adequate theory will be presented. Firstly, to fully understand green start- up finance a brief initiation to entrepreneurial finance will be presented. Later on the green start-up finance will be at focus, and a greater understanding of why Behavioral Finance are important in investments in the green start-up sector. Lastly we will introduce behavioral finance, which will be even further dissected in the next chapter.

2.1. Entrepreneurial finance

Ideas and and studies around the expression entrepreneurial finance has developed and has been intensified during the last 30 years. (Denis 2004 and Barry 1994) It studies new, innovative smaller companies that are usually very different from larger corporations and are characterized by other values. To grow a company and finance business, access to debt has to be provided. Cooperation's which are publically traded primarily access debt easier than start-ups, due to often a longer track record and proven Business Model. Small and new start-ups may struggle to get financed (Value of death) and therefor it is very critically to access funding in early years to survive. Access to debt finance are one of the parameters that decide the success of a company, but it is not solely the one, there are many more factors that affect. (Barry, 1994) Funding of start-ups with capital from VC investors are dominant in the academic literature. However, there are more examples to get funding as small and entrepreneurial company. One example is by banks, who play a central role especially in Scandinavia. (Mac an Bhaird 2010) An other example are private investors, often named as Angel Investors, who has an entrepreneurial background with high net worth. (Denis, 2004) Moreover, the founder and their family and friends are important as well, and according to Steier (2003 p. 598) it is "*likely the single largest source of start-up capital in the world".* A recently new way of funding has emerged, called Crowd funding, where the start-up asks at online platforms for money. The investors are ordinary private persons; it can be compared to a stock market. (Chemmanur, 2014)

Moreover, the different sources of capital are not equally prominent in all stages of a start up. Private, Business Angels and further informal sources are more frequently used in early stages. Venture Capital and Banks overlaps the pre-seed investments, and invest mostly in a growth stage. (Denis 2004; Berger & Udell, 1998 and Mason, 1999) Long- term loans are usually viable only in later stages. (Petty, 1993)

Summarized

There are several ways an entrepreneur can be founded. One of the most important factor that determines from who the start-up can be founded from are; in what stage the company is in. Early stage investments are mostly grounded on friendship, belief in the idea and etcetera. Investments in later stages made by VC´s or Banks are grounded on numbers and track-records.

2.2. Green start-up finance

Green start-up finance is seen as rather different compared to more ordinary entrepreneurial finance. (Shepard & Patzelt, 2011) A recent qualitative study of sustainable Venture Capital, coin the involved investors *"pragmatic idealists"* as they not only seek financial return but also a social return on investment, for example a Blended Value or Shared Value approach (see chapter 3.2 to get a deeper explaining of value). (Porter & Kramer, 2011; Emerson, 2003; Bocken, 2015; Hebb, 2013) It is therefore assumed that green start-ups may experience more or other challenges than other start-ups do. (Bergset, 2015) Green start-up finance has not yet been fully explored in environmental sustainability research, but are slowly getting more attention. (Bergset, 2015; Moore & Westley, 2012) A limited, but growing number of Venture Capital firms have a specific focus on cleantech, which is one sub segment of environmental sustainability. (Bocken, 2015; Randjelovic, Rourke & Orsato, 2003) A few VC philanthropists target green start-ups in order to strengthen their ability to have a societal impact. (Nicholls & Paton, 2009 & John, 2007). Even though green start-ups generally are for-profit or at the very least strive to be financially self-sufficient, their different levels of environmental externalities may impact the company's profit levels. It is therefore assumed that green start-ups may experience more or other challenges than other start-ups. (Bergset & Fichter, 2015) Interviews with stakeholders in the field further revealed the acknowledgment of potentially reduced profits in return for an increased social or environmental "return". (Bocken, 2015)

However, a gap in investment is found particularly at the early stage investments, as green VC firms are wary of the high risks involved. (Randjelovic et al., 2003) Environmental entrepreneurship research, has also investigated financial issues by looking primarily at cleantech companies with high capital demand (CAPEX), funded by Venture Capital (Randjelovic et al., 2003; Bürer & Wüstenhagen, 2009 & Ghosh & Nanda, 2010). In addition to the absence of patient VC´s three lacks were identified in the Randjelovic et al. (2003) study. Firstly, the lack of networks where investors and entrepreneurs within environmental sustainability can find each other. In addition to lack of networks, a lack of financial planning where identified as a trend amongst green start-up entrepreneurs. Thirdly, a lack of investor understanding green Business Models where identified. (Bergset, 2015; Randjelovic et al., 2003) Which are supported by Bürer & Wüstenhagen (2009) who argues that specialized VC´s has an increased expected return with better knowledge on environmental technology.

Summarized

Entrepreneurial finance applied in the green start-up sector identifies a couple of important factors and barriers for green start-up entrepreneurs. For example, the general view on green start-ups, especially the value of environmental return these companies create and the lack of understanding green Business Models.

2.3. An introduction to Behavioral Finance

Behavioral Finance suggests that investments are not solely number driven. A relatively recent phenomenon in research in the finance sector is the Behavioral Finance theory. The theory of Behavioral Finance started as a contest of the acceptance of ordinary finance and its acceptance of perfect allocation. (Frankfurter & McGoun, 2002) The theory are observations of investors who invest satisficing more then optimizing. (Gilad, Kaish, & Loeb, 1984; Rubaltelli, Pasini, Rumiati, Olsen, & Slovic; 2010 & Subrahmanyam, 2008) Shiller (2003) and Ritter (2003) argues that this so called "herding behavior" could lead to a lack of diversification.

Furthermore, Shefrin & Statman (2003) argues that biases are common among investors but aren't of any systematic character. On the contrary Behavioral Finance argues that the biases and dissertation are noteworthy and systematic. (De Bondt, Muradoglu, Shefrin & Staikouras, 2008 & Baker &

Nofsinger, 2002) Bonnet & Wirtz (2011) debates that the mindsets are influenced by learning processes, both individual and cooperative. Further on he also argues that new knowledge and information are collected and are seen very differently from one person to another, due to personal education and experience. In summary, the main focus of Behavioral Finance is the role of emotions in and the impact of social group-psychology on investors.

Emerson (2003) has applied the Behavior Finance theory on investments in green start-ups and implies that investors may choose companies based on something else than risk and return. Further on Bonnet & Wirtz (2011) describes why investors may reject green start-up Business Models regardless of the merits of that business model. An other explanation Bonnet & Wirtz (2011) suggests are subjective thoughts and different view on the world.

Summarized

Behavioral Finance is one way of explaining why investments not ultimately follow numbers and calculations. Different mindsets amongst the investors are significant in the theory and could be applied on for example green start-up finance.

In next chapter Behavioral Finance will be further explained, especially when applied on green-start up finance.

III. THEORY

A central part of Behavioral Finance when applied to green start-up finance are the view on Business Models and Value Creation. To figure out if the investors and entrepreneurs view are crucial in the decision of investing, we first have to establish a better understanding of the different mindsets and views within Value Creation and green Business Models. Does a different mindset, in above described factors influence the attitude to green investments? First, Behavioral Finance will be presented and then the study will clarify why Value Creation and business models plays a central role. Later on, three central perspectives of Value Creation will be presented; Profit Maximization, Blended Value and Shared Value. Further on, two common environmental sustainable Business Models will be presented, which represents new groundbreaking environmental sustainability thoughts. And lastly, a framework of sustainable business model innovation will be presented.

3.1. Behavioral Finance applied on green start-up finance

The origin of the studies of Behavioral Finance are derived from investments in the stock market, and that is were the focus of the majority of behavioral research have been since. However, recent events in start-up finance theory has opened up for applying Behavioral Finance with green start-up finance. (Bonnet & Wirtz, 2011; Yazdipour, 2009a) When studying Behavioral Finance applied on start-up finance the difference between Business Angels and VC´s are articulated. Business Angels are often going for the gut feeling rather then numbers and systematic analysis. The VC investors, compared to Business Angels are doing more of an analytical due diligence an are looking for market and technology. (Bonnet & Wirtz, 2011) However, even though VC´s are supposed to do a more formal analysis of the companies they are, according to Zacharakis & Meyer (1998), systematically affected by biases.

Moreover, Yazdipour (2009b) says that the Behavioral Finance explains investments in start-ups to be a feeling for a company and attractiveness of the idea, instead of an objective analysis. In a research conducted by Franke, Gruber, Harhoff, & Henkel (2006) it is identified that VC investors favors the ones with comparable background, education and business experience. Coelho, de Meza, & Reyniers (2004) also recognizes an additional sceptic view towards entrepreneurs and founders with an especially extra optimism and an unrealistic expectation. Coelho et al. (2004) believes it to be a quite common feature among green start-ups.

Value Creation

Moreover, one of the biggest contribution of Behavioral Finance on green start-up finance are most likely that VC investors in practice often choose companies to invest in based on something other than theory of risk and return. (Bergset, 2015) Bergset (2015) says it both may explain why investments are done in the green-start ups scene and why its not. Further on, Emerson (2003) believes that the Behavioral Finance or in other words, the view on value creation, amongst the investors contributes to explain why some investors are investing and some are not.

Business Models

Bonnet & Wirtz (2011) believe that different approaches usually separating entrepreneurs and investors. Further more, the fact that the green start-up segment and green Business Models are relatively “new”, can explain why investments are not made. Bonnet & Wirtz (2011) says that investors may reject the Business Models if green start-ups that that do not fully consistently with traditional entrepreneurial behavior. Due to, their own world view rather than the actual merits of that business model.

Summarized

When green start-up entrepreneurs and VC investors look at Value Creation and Business Models they see different thing depending on a vary of factors. The green start-up segment can be a difficult sector to invest in due to lack of experience and Green start-ups can see this as a strange behavior, because VC´s are known to be more number oriented than Business Angels.

3.2. Central views of Value Creation

A reason to apply a strategic decision as a company often aims to generate a higher Value Created. To fully understand Behavioral Finance and why different views of Value Creation can be vital in investments decisions following chapter will shortly describe three different views of Creation of Value. Two of them are approaches which are common mindsets within environmental sustainability, Blended Value and Shared Value. The third one is Profit Maximization, which are the most classic view of Value Creation.

3.2.1. Profit maximization

Profit Maximization are defined by Nationalencyklopedin (2016) as *"the pursuit of highest profit"*. For over 100 years' neoclassic economic theory recognizes companies as firms that maximizes profit and Tollison (2002) says that the profit-maximization hypothesis is basically a non-issue today. When calculating the profit of a company there are two central variables, costs and revenue. (Hirshleifer, 1976) Further on Lipsey (1975) divides costs incurred by a firm into two groups; variable and fixed costs. Fixed costs are incurred by the business at any level of output, such as rent and wages. Variable costs change in conjunction with the level of output, increasing while more products are generated, such as materials and overtime wages. Fixed cost and variable cost, combined, equal total cost. (Lipsey, 1975; Baumol, 1977) Revenue is the amount of money that a company receives from its normal business activities, usually from the sale of goods and services (Samuelson & Marks, 2003) According to Anderson & Ross (2005) it is assumed that the firm automatically maximizes the profits and minimize costs, Hirshleifer (1976 p. 265) agrees and says it in a classic formulation; "*the aim of the firm as a decision-making agent is to maximize economic profit"*

3.2.2. Blended Value

A Blended Value approach is a way of broader the understanding of value. The framework is trying to challenge the traditional way of thinking and expands the definition of investment and return. It focuses on investment strategies that creates financial returns while simultaneously creating social and/or environmental return. Emerson (2003) who first came up with the idea of Blended Value believes that investing in social and environmental returns promises shareholders a new kind of value, a value that they not yet have considered. Emerson (2003) believed that there is/was a tension between profit and social environmental good, with his new idea of Blended Value he intended to showcase that both profit and social value could be created at the same time, not a tradeoff between them both. In Bonini & Emerson´s (2005) study, Maximizing Blended Value, it seems to be much more difficult to create Blended Value investments and run a successful venture in comparisons to a straight commercial version. Further on, Bonini & Emerson (2005) concluded in their research that the market often is very bifurcated, divided into two sorts of investments. They believe that it is very rare to find financial investments in between. Either you as an investor do a non-profit investment or a for-profit investment, when trying to sell something in the between you get a response of confusion. (Bonini & Emerson, 2005)

3.2.3. Shared Value

When including social goal within the profit maximization overall goal, Shared Value is created, a long term competitive advantage. Michael Porter is one of the most well-known economic professors in modern history. For a long time, he has been developing theories in the subject of Value Creation, he has been collaborating with different co-authors. One of his latest theories is Shared Value, an idea he developed together with Kramer. (Porter & Kramer, 2007; 2011) The overall idea is to illuminate the explicit connection between tackling social issues and achieving economic return. The latest news in the Shared Value sector is an idea of measuring Shared Value. By doing so the ones working with Shared Value hope to "*diminish investor skepticisms and transform how the investment community rewards companies working with Shared Value"*. Despite that Shared Value was invented 15 years ago the way of thinking is in its infancy. (Porter, Hills, Pfitzer, Patscheke, & Hawkins, 2012) Porter & Kramer (2011) can see that more and more companies are creating Shared Value by developing profitable business strategies that deliver tangible social benefits. They believe that this mindset is creating major new opportunities for profit and competitive advantage at the same time as it benefits society by unleashing the power of business to help solve fundamental global problems. But despite the *"widespread embrace"* of the Shared Value concept there are not a high number of companies that are doing it in reality. (Porter & Kramer, 2011)

Summary of the three thoughts of Value Creation

In order to, in a simplified way understand the differences between the three views of Value Creation that has been presented, illustrations are outlined below. The equations and numbers is a method to do make the illustrations more understandable, not to be reviewed as an exact equation.

Profit maximization 1=1

When creating profit and investing in a maximizing manner the overall goal is to earn as much money as you can.

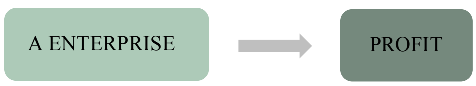

Figure (2)

Blended value 1= 0,8 Profit + 0,2 Social Value

When creating profit with a Blended Value Approach you are willing to earn a little bit less money to support businesses that work in certain areas. The investor think it is not possible to earn equally as in another industry, but they are still believing that the company/investment will lead to profit.

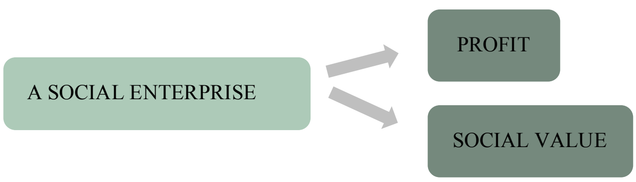

Figure (3)

Shared Value 1= 1,1 Profit + 0,1 Social Value

When investing in developed solutions that helps the society in another way, the company will in the long term succeed better than the ones that are not investing in social improvements, which in the long run can lead to larger market shares, a more efficient company and that the company delivers more profit. These advantages are created at the same time as social value.

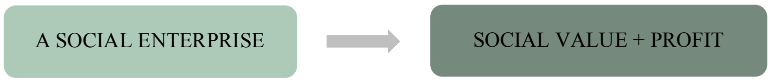

Figure (4)

3.2. Central views of sustainable Business Models

"A Business Model describes the rationale of how an organization creates, delivers, and captures value, in economic, social, cultural or other contexts". (Osterwalder & Pigneur, 2013) To fully understand Behavioral Finance and why different views of Business Models can be vital in investments decisions following chapter will shortly describe three different Business models and the view of them. Further more, the concept of Business Business Models is a rather young concept, which established in research about 20 years ago. (Baden-Fuller & Morgan 2010 and Wirtz, 2010) Commercializing innovations, which often requires the creation of new markets and motivation of willingness to pay, is a Business Model´s task. Bringing socially and environmentally beneficial products and services to market is often a question of Business Models (Boons & Lüdeke-Freund, 2013); Schaltegger, Lüdeke-Freund & Hansen, 2012 & Tukker & Jansen, 2006) However, Bonnet & Wirtz (2011) believes, the different approaches of Business Models can separate entrepreneurs and investors. Therefore, follows an exposition of three sustainable Business Models to enable a better understanding of the empirical findings in the study.

3.2.1. Circular economy as Business Model

Within the segment of circular economy businesses there are several branches of other business models. The most common way to describe circular economy is an approach of smart resource efficiency. To enable this way of thinking into practice there are circular economy business models, and other business models that fit in the same category, resource efficiency.

Circular economy has its roots in the industrial ecology, a theory that developed in the 1950´s. By recognizing the efficiency of resource cycling in natural environment, the industrial system was remodeled. (Von Bertalanffy, 1950 & Allenby & Graedel, 1993). When the system is perfectly aliened the system is a closed loop. (Stahel, 1981) The overall idea with a Circular Economy is to help developing countries to advance and increase a well being without the dependency of resource prizes, as well as do not harm the national environment. This idea has spread and has evolved as business models in the developed countries. Ellen MacArthur is one of the main actors in promoting Circular Economy as a Business Model (CEBM), and a recent report from McKinsey Company reports that there is an enormous potential in adapting CEBM. (Ellen MacArthur, 2014) When adapting the the Circular Model Ellen MacArthur foundation argues that it both saves money and reduce the negative environmental impact at the same time. One of the reasons that the CEBM has not been used more frequently before is the lack of technology, the new era of technology information system has opened up avenues that were previously unavailable. (Benkler, 2004, Botsman, & Rogers, 2011 & Ellen MacArthur, 2014)

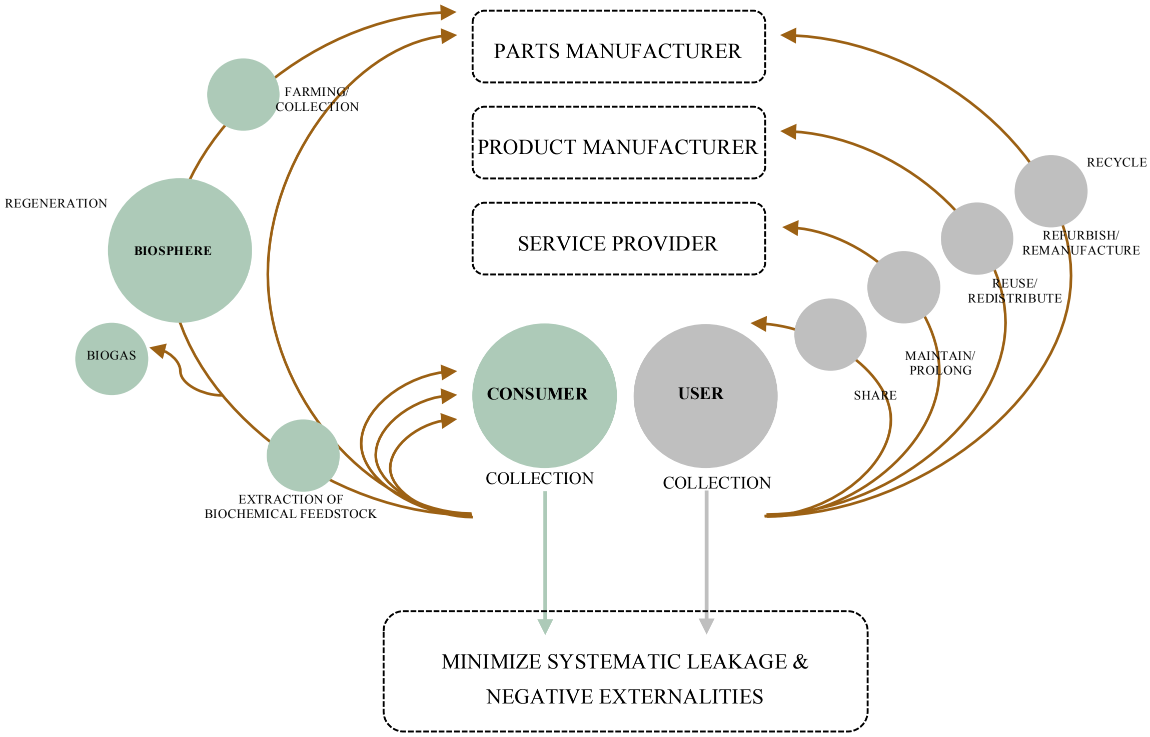

Figure (5) A Picture of the branches of circular economy, like the butterfly diagram by Ellen Macarthur Foundation (2014).

3.2.2. Sharing Economy as Business Model

When applying the idea of Circular Economy as a Business Model, different resource efficient business models has evolved, one of the resource efficient Business Models is Sharing Economy. This report defines Sharing Economy as platforms, that are online and help people to share and access to assets, resources, time and skills. The approach includes a broad spectrum of businesses and Business Models, it could tentatively be peer to peer marketplaces, where you sell products, or sharing services, such as Car Clubs, where you have access to cars but do not own them. (Benkler, 2004, Botsman, & Rogers, 2011) The businesses in this segment are growing and it is approximated that 25% of the inhabitants in the UK are sharing something at an online platform in some way. (Stokes, Clarence, Anderson & Rinne, 2014) The concept of sharing economy and the collaborative consumption is trying to replace the conventional ownership mindset with business where lending, renting trading, sharing are central. To enable these kind of businesses to succeed, it is required to change the consumption patterns, and by doing so, lead the way from business as usual. (Benkler, 2004, Botsman, & Rogers, 2011)

Sharing Economy as platforms, that are online and help people to share and access to assets, resources, time and skills.

3.2.3. Business Model for Sustainable Innovation

To help companies create new sustainable solutions and adapt to a resource efficient concept there is a segment of business models for sustainable innovation. As in the spectra of circular economy as a Business Model there are a lot of different ideas to choose between, in this study a model developed by Lüdeke-Freund (2010) has been chosen. There are many models to choose between but this one will be used as a general description of the idea of, Business Models for sustainable innovation.

In the Lüdeke-Freund (2010) Business Model for Sustainable Innovation (will be referred henceforward as the BMfSI) there are five factors/headlines that are central to the model. Four of them are internal factors; Business infrastructure/Supply chain, Value proposition, Customer Interface and the Financial model. The fifth factor (D) is the Financing interface, which is the external factor and is the most adequate in this study. The Financing interface will be explained a bit more thoroughly than the other internal ones.

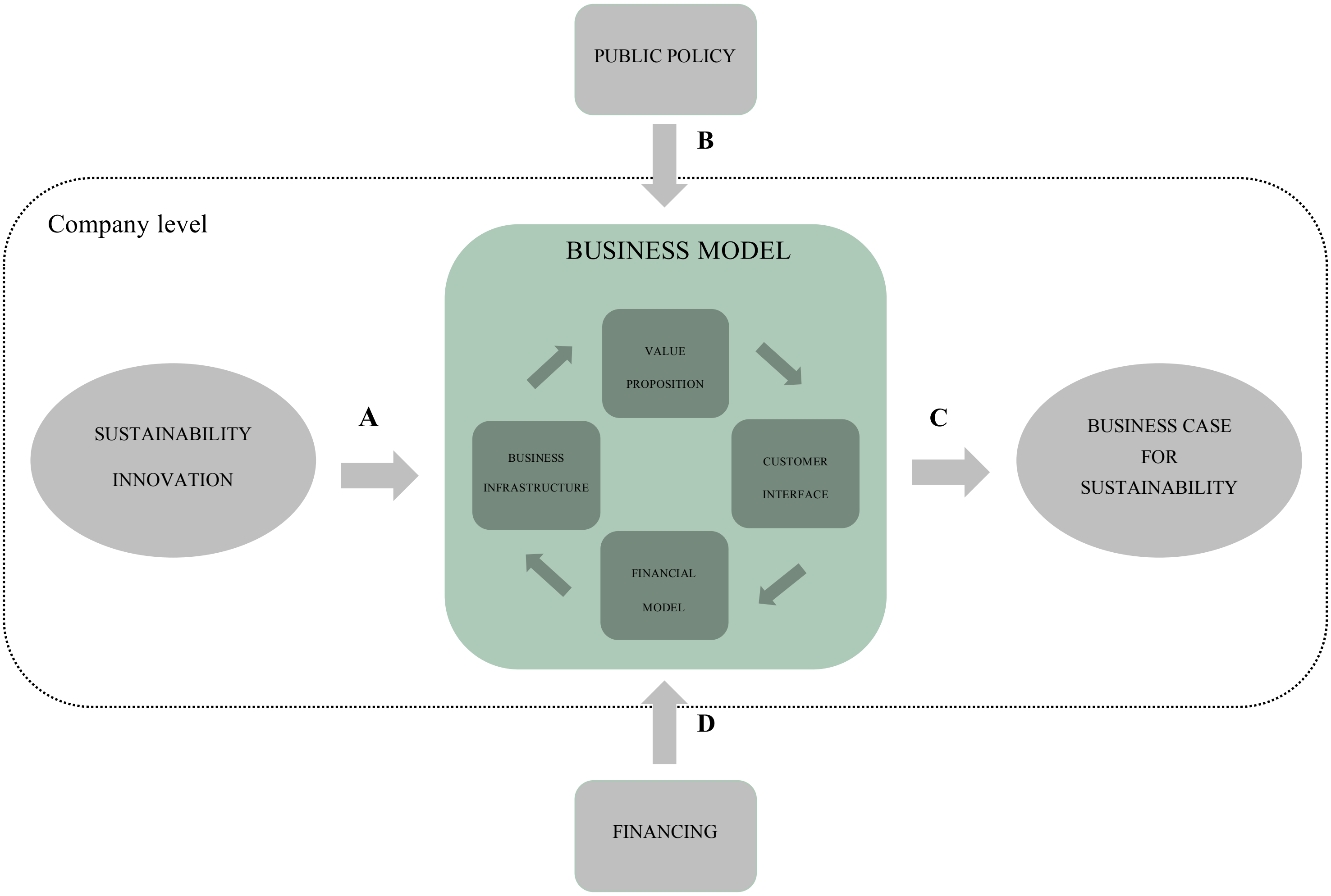

Figure (6) BMfSI by Lüdeke-Freund (2010)

Business infrastructure/Supply chain

To compass a sustainable supply chain, the company, the stakeholders and all suppliers has to take responsibility. A company working in line with the BMfSI do not shift socio-ecological burdens to its suppliers. This requires the company to involve all the suppliers into a sustainable way of thinking. (Seuring & Müller, 2008)

Value proposition

The value proposition emphasizes the importance to measure the ecological and/or the social value. An example of such tool is the measurement of Shared Value which are discussed in chapter 3.2.3. The value proposition reflects the combination of economic return and social/ecological winning and the balance between these. (Geels, 2005)

Customer Interface

The Customer interface is a way to provoke the customers into taking responsibility. The customer has a liability of their own to purchase and consume goods that are socio/environmental friendly. The company does not shift any burdens to of ecological or social character to the customers. (Hart & Milstein, 1999).

Financial model

The financial model includes the economic costs and benefits, which should be distributed among actors within the business model and reflect the ecological and social impacts. (Maas & Boons, 2010)

The financing interface

The fifth and last BMfSI interface concerns the financing issues, see arrow D in Figure 6. A major reason for public support in eco innovations is the limited availability of financial capital. (Grubb 2004; Murphy & Edwards 2003 & Yunus, Moingeon & Lehmann-Ortega, 2010) Financing is a vital and an important challenge to overcome for young and innovative firms. As well as for larger companies with riskier Business Models that include systematic and radical innovations, especially within green business models. (Beltramello, Haie-Fayle & Pilat, 2013). Financing is needed throughout the whole innovation cycle. However, one of the most critical phases is the *valley of death,* where the company goes from an innovation to a commercialization. This is a proven gap of financing between initial public funding and private financing. (Grubb 2004; Hampl 2012 & Murphy; Edwards, 2003 & Wüstenhagen & Menichetti, 2012) Another difficult path, out of a financing perspective is when a sustainable product and/or service is going from a small market to a global market, which often can decide the difference between survival or not. (Hockerts & Wüstenhagen, 2010 & Schaltegger & Wagner, 2011) In a research conducted by Lüdeke-Freund & Loock (2011a, b) the solar panel market were investigated and the result revealed bias and a dependence of business model characteristics. The experiment and research also reported a brand bias, an employment of brands in the higher and premium segment was voted as the most important criteria. This kind of behavior can be seen as an overconfident decision. A Behavioral Finance characteristic, where choice is based on "the rule of thumb" (heuristic), because of complexity in the decision, you simplify and make an over confident decision. (Lüdeke-Freund & Loock 2011b) An approach to the high end segment would then support the BMfSI. However, the market changes rapidly and its maturing which means it maybe not is the right choice today. (Hansen et al. 2013) New business model design principles like a preference-based segmentation of investors might offer new pathways to overcome finance-related barriers to the diffusion of clean technology innovations. (Lüdeke-Freund, 2013)

IV. METHODOLOGY

The method that has been used, approaching the lack of investment in green start-ups, has been based on Saunders, Lewis, & Thornhill´s (2009) Research Onion. To figure out how to discover this lack of investment, the method has been helpful while choosing approach, method and way of gathering data. Below there is a picture of the Research Onion and the different choices that can be chosen. Further on, each layer/zone of the onion will be presented, and the arguments behind the choices will be presented.

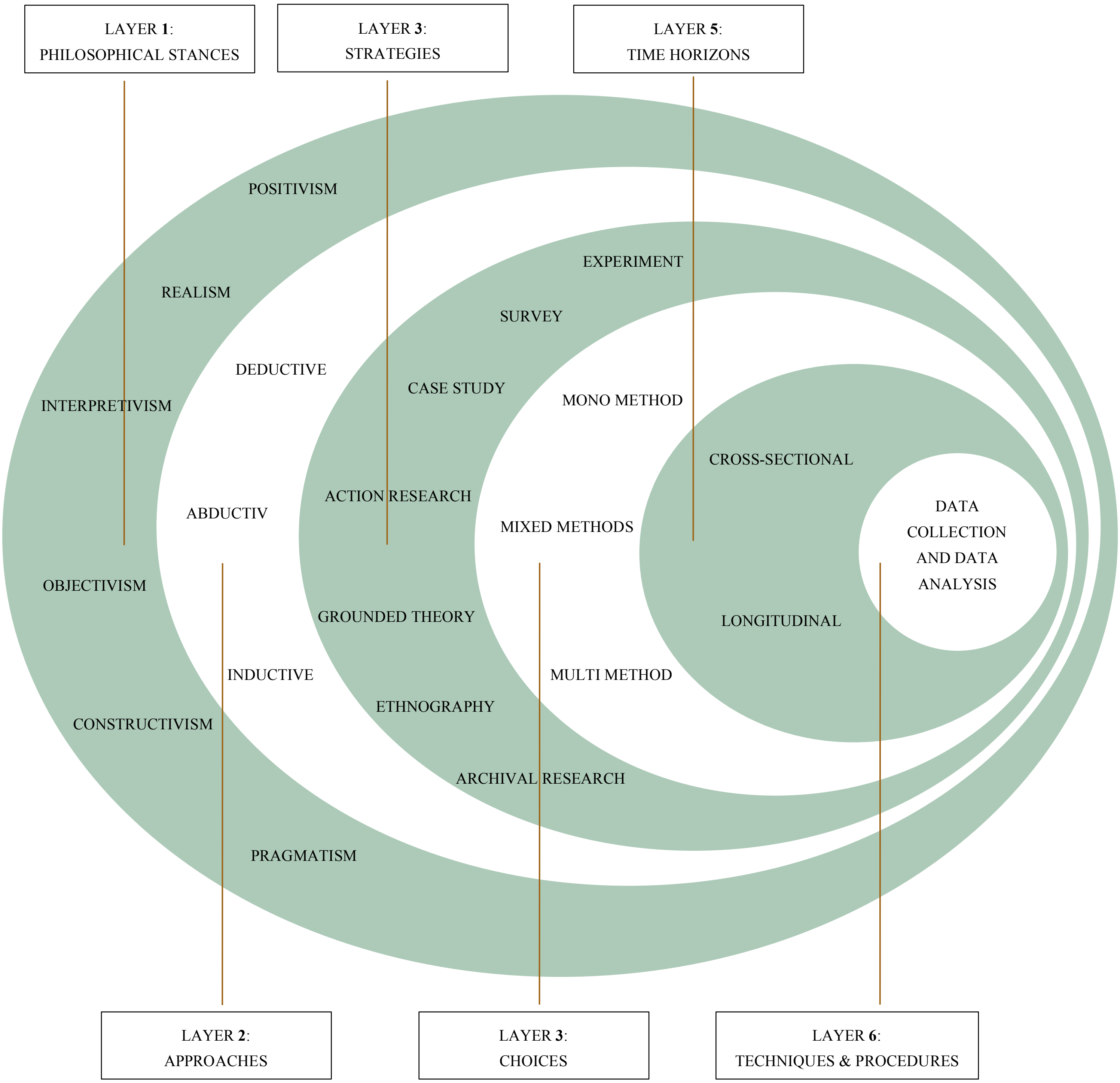

Figure (7) Research Onion Diagram (Saunders et al., 2009)

4.1. Philosophical stances

To help the study clarify assumptions, understand the approach to the work and plot the route, a discussion of its research has been done, which Burrell & Morgan (1979) recons important. In order to study if the view of the Business Models and Value Creation, amongst investors and green start-up entrepreneurs could be a part of the explanation of the lack of investment in the green start-up sector, a philosophy of radical humanist paradigm has been prominent. Saunders et al. (2009) define radical humanist paradigm as a subjective and radical change dimension where its importance is at changing the status quo. Burrell & Morgan's (1979 P. 32) has a comparable definition of the philosophy *"to articulate ways in which humans can transcend the spiritual bonds and fetters which tie them into existing social patterns and thus realize their full potential."*

Furthermore, a pragmatic standpoint has influenced the study. A pragmatic philosophical stance argues that both constructivism and objectivism are valid ways to approach the study. The fact that Venture Capital Investments are not as frequent in the green start-up sector as in other sectors can bee seen as problem. The pragmatic standpoint is a good way to approach a study with that character because it allows the researcher to view the topic from either or both points of view regarding the influence or role of social actors and uses these to create a practical approach to research. (Saunders et al., 2009)

4.2. Approaches

When the report has been conducted, first a theoretical knowledge has been gathered and then combined with the empirical findings. Further on, when empirical findings work as a source of inspiration in combination with earlier presented theory the result is a study of abductiv, a combination of deductive and inductive character. (Alvesson & Sköldberg, 2008; Bryman & Bell, 2013 & Yin, 2003).

4.3. Strategies

Further on the research design of the study will be presented, where the general plan of answering the research question and defining the research question.

The purpose of the research is to understand lack of investment in green start-ups. To be able to fulfill that study the approach has been of exploratory character. Robson (2002) explains the exploratory research design to focus on understanding what is happening and seek new insights. Instead of focusing on explaining the relation between two variables as an explanatory research does. The study had initially a broad focus but the focus became narrower as the research progressed. When the theme of the study narrowed down to theory of Behavioral Finance and the research question was set, a case study was chosen to answer the research question. The reasoning behind this choice of strategy was to be able to gather information in a real life context and from multiple sources of evidence. Robson (2002) explains a case study to be good empirical investigation and Robson (2002) recommends it to be a good way of exploring existing theory.

4.4. Choice of method

When investigating the lack of investments, one single method has been relevant, qualitative semi-structured interviews and qualitative analysis of the answers. Because of the the research question´s character, exploring why Venture Capital investors do not invest as much in green start-ups as in other industries, one way to find out why was to ask both parts in the direct relationship, investors and founders.

4.5. Time Horizons

This report was supposed to be written in a 5-month period hence a cross- sectional approach has been chosen. A snapshot in a particular time has been taken and the time period of when the interview took place was from Mars to April 2016.

4.6. Techniques and procedures

In the last chapter in methodology, the decisions of the tactics will be further explained, which includes; exact technique that has been used to collect data, limitations and etcetera.

The study has a strategy of exploratory character and therefore has the selection of interviewees been a self selection sampling. To gather empirical information, semi-structured interviews has been used and only founders of green start-ups as well as investors and analysts at Venture Capital firms has been interviewed. In according with the the research question´s character, these persons with their type of positions seemed like the most adequate to interview. Even though other professionals such as professors and politicians also would be interesting in a research perspective, the main focus was to understand why the lack of investments is a fact. To be able to understand that phenomena, the one exploratory way is to ask both the ones that invests and the ones that are invested in.

The focus has been green start-ups and Venture Capital firms. The Venture Capital firms that are included in the study has been either especially interested or not interested in green start-ups. This choice of sampling is made to create a better understanding of the different views of green start-up businesses. Among the start-ups there were only founders with green business ideas included, which resulted in that only green industry representatives were to be investigated.

The study has only investigated the Dutch, Swedish and American market but regardless, the study has no geographic limitation. The industry of green start-ups is global and the ideas can most likely be applied world wide.

All of the interviewees where made over phone and every interview was recorded and transcribed (besides one on request of the interviewee).

A convenience sampling has been applied in this study. The study has been conducted at Recycling Advisor´s office and therefore the founder of the company has been interviewed. The other interviews have been chosen by self selection and of convenience, the ones that has been able to participate and seemed to contribute with an adequate point of view. (Bryman & Bell, 2013)

A list of the interviewees follows.

	Investors	Entrepreneurs
Name *Position* *Company* *Reference* *Website*	**Breugelmans, Robert** Senior Investment Associate Start Green Capital ("SGC") Breugelmans (SGC) www.startgreen.nl	**Ahlqvist, Carl-Ivar** Co-Founder & CEO RecyclingAdvisor Ahlqvist (RecyclingAdvisor) www.recyclingadvisor.com
Name *Position* *Company* *Reference* *Website*	**Ericsson, Per** Venture Partner Environmental Technologies Fund (ETF) In text: Ericsson (ETF) www.etf.eu.com	**Koponen, Juha** Co-Founder & CEO Swap.com In text: Koponen (Swap.com) www.swap.com
Name *Position* *Company* *Reference* *Website*	**Garberg, Egil** Investment Associate Investinor Garberg (Investinor) www.investinor.no	**Tamm, Sebastian** Founder & CEO Recycla.se Tamm (Recycla) www.recycla.se
Name *Position* *Company* *Reference* *Website*	**Sonnek, David** Head of SEB Venture Capital SEB Venture Capital (SEB VC) In text: Sonnek (SEB VC) http://sebgroup.com/large-corporates-and-institutions/our-services/seb-venture-capital	
Name *Position* *Company* *Reference* *Website*	**Large American investment fund,** Assistant Vice President & Research Associate ESG investing In text: George (Invest) -	

Table (1) List of interviewees.

The questions (see Appendix A & B) are conducted in a way that they do not ask directly of their view of Business Models and Value Creation. In the end of the interview there is an open question, where the overall topic of the study was presented. This question generated a lot of insight of the general problem and sometimes it even described very clearly the different views of Value Creation and Business models. The interviews followed the structure of the Appendix A & B, additionally questions that seemed interesting in the moment were asked

With a strong emphasis on evidence, the majority of time allotted to the research of this report was devoted to the preparation and analysis of the evidence collected. In regards to preparation, the focus was laid on reading relevant scientific journals and developing the interview-guide. When analyzing previous research, theories, and concepts were employed, as tools to understand and explain the findings.

Due to the study was conducted in New York while nearly everyone of the interviewees was living in another country, each interview besides one was made over phone and recorded.

The empiric data has been transcribed and qualitative analyzed. Four of the interviews where held in English and four were held in Swedish. The Swedish quotations has been freely translated into English. The answers are not statistically secured. The data collection process focused on two types of evidence. Firstly, evidence that challenged theoretical assumptions or contradicted previous research regarding the view of Value Creation and Business Models. Secondly primary data was used from the interviewees.

4.6.1. Reliability & Validity

Reliability refers to, as Easterby-Smith, Thorpe, Jackson, & Lowe, 2008 sais; “to the extent to which the data collection techniques or analysis procedures will yield consistent findings.” Further on the answers in this study will not be exactly the same when asking other companies. In the analysis citations has been used, the overall picture of the interviewed has been explained and the interviews has been transcribed, which help uplift the level of transparency, which is important to have a high level of reliability.

Validity is concerned with whether the findings are really about what they appear to be about. The thesis is a case study using qualitative interviews and analysis, therefore is the study bias. (Yin, 2009)

External validity sometimes referred to as generalizability. This could be a major concern for example if it is a case study research in one organization, or a small number of organizations. However, a few choices made in the study increase the validity; interviews are made in with persons from different parts of the world, different companies have been interviewed, both investors and entrepreneurs and, investors with different approach to green start-ups.

V. EMPIRICAL FINDINGS & ANALYSIS

In the following chapter, the empirical findings and analysis will be presented. Section 5.1 & 5.2 will discuss the entrepreneurs and investors view on Value Creation (in the content of green start-ups), and in section 5.3 & 5.4 the view of Business Models will be presented, in the same content as Value Creation and by the same interviewees. The structure is the same within each chapter. Firstly, the empirical findings from the Investors will be presented, then secondly, the interview answers from the entrepreneurs and lastly a summarizing analyzing piece; combining the empirical findings to the theoretical framework in chapter 4. To summarize, the following four chapters are divided into three different parts: Investors, Entrepreneurs and Analysis.

5.1. Value Creation- three points of view

Whilst examining the lack of investments in green start-ups, three key views on how to evaluate Value Creation are central. These three views are 1) Blended Value, 2) Shared Value, and 3) Profit Maximization. The interview questions try to understand if there is any underlying pattern, or a way of thinking of Value Creation, that could explain the gap of investment in green start-ups. In this chapter the different views of the investors and founders view on Value Creation will be presented, discussed and analyzed.

5.1.1. Investors

The empirical findings indicate that the interviewees represent all of the three above-mentioned views on Value Creation. For example, Breugelmans (SGC) notes that SGC does not invest in companies in order to reach pure Profit Maximization:

> *"The solar market is booming, the investments are already profitable and can become even more profitable. The companies that we look at have several environmental benefits, and we are not only looking at the investment out of a purely profit maximization perspective. We are pleased with the additional benefits that these investments bring us. I may have a different approach than others, but because we are a government fund, we are not looking at maximum return, we are looking at a decent return as long as other more critical criteria's are met."*

Breugelmans (SGC) view is in line with the Blended Value approach, where both financial and societal returns are being considered in investment decision making. Sonnek (SEB VC) view Value Creation in a similar way and present a perspective that he *"can allow a lower return of investment, if the investment clearly indicate resource efficient results."* At the same time, he is very clear about the fact that SEB VC never would allow a non-profit investment, and also that return of equity is very important to them.

Ericsson (ETF) solely invests in green start-ups, and he believes that *"an environmentally friendly company is just like any ordinary company, it thrives for success"*. The aim of becoming the next successful environmentally friendly company is similar to trying to become the next "booming" tech company. Garberg (Investinor) has a similar approach to investments as Ericsson (ETF), but instead of supporting the green start-up sector, Investinor tries to help the Norwegian industry: "*Our overall goal is to achieve high return on equity. Help develop the Norwegian industry, and try to match lack of capital. That's our main goal.*"

The concept of, as a company, creating profit and at the same time doing good for the environment will lead to additional profit creation, which is known as 'Shared Value'. Garberg (Investinor) sees this kind of mindset among some of the companies that he analyzes. Both Ericsson (ETF) and Garberg (Investinor) implies to have a strong belief in Profit Maximization, at the same time Ericsson (ETF) mention that for the most parts, it is easier to sell environmentally friendly products.

Moreover, Garberg (Investinor) believes that the strong team of green-startup companies can increase the valuation of the companies, which for the most part can be beneficial but it can also create valuation risks:

> *"One of the reasons why there is a high valuation of green start-ups could be that the founders, the management, and the employees of the company really believe in what they do. When you believe very much in what you do, it is a very god thing because you get an enthusiasm in the team and work a lot and really try to make it to function."*

Garberg (Investinor) consider the Shared Value approach to sometimes be problematic for the companies with an environmental approach, because they create an overconfidence for the company's future: *"One problem is that since everybody believe that this is the future, seed companies and the founders of the company often price themselves too highly, that they do not manage to receive any additional external money in the end."*

5.1.2. Entrepreneurs

Juha Koponen (Swap.com) has been an entrepreneur for many years, and Swap.com is his second green marketplace. He sees a problem among some of the green start-ups, because founders often believe that it is the "green image" that will be attractive and selling, but it´s not always as simple as that:

> *"Sometimes the vision about the bright future is stronger than the actual business case that companies are offering. As an entrepreneur that's probably where you mind is, I have seen it by myself. You think the solution is to save the world. The problem is that you do not save the world without a business model that earns money."*

At the same time Koponen (Swap.com) emphasizes that *"if the investors believe that its more important for the entrepreneur to make the good thing than make the money they are merely impact investors and do not know if they are going to get the money back."* He continues and describes his business and explains that it is positive when "*you can earn money, and can serve this bigger cause at the same time, that's what we are trying to do."*

Ahlqvist (RecyclingAdvisor) believes that the company *"has an extra value"* because of the market they are in, the green market and recycling market. But, as he clear states during the interview is that RecyclingAdvisor do not rely solely on the green image, because the customers come to them to find a solution for their problems. Ahlqvist's idea of their business and Value Creation is in line with the Shared Value theory. Aside from the value adding reasoning, Ahlqvist (RecyclingAdvisor) explain that their business often provides the customer with information. *"they call us and do not really know what they are looking for, we educate them so they can decide what they want".* The education part is also inline with the Shared Value way of thinking. Tamm (Recycla.se) describe the business in a similar way; *"the business is first of all driven by business opportunities. But at the same time it is a company working in the field of sustainability and is socially beneficial."*

5.1.3. Analysis – How are the three aspects of Value Creation represented?

First of all, the view of Value Creation mentioned in the theory chapter 3.1. is represented among the investors and entrepreneurs. A diverse picture of Value Creation is illustrated because there are many different drivers and attributes that create value. There was no pattern among the investors view on

Value Creation. The ones that more frequently invested in green start-ups had both a Blended Value approach and a Profit Maximization mindset. In Linda Bergset (2015) research it is suggested that the view of Value Creation contributes to the lack of investment in the green start-ups sector. In this case study it is partly confirmed that the view of Value Creation affects investments in start-ups. It is interesting to observe the different views on Value Creation covering everything from Breugelmans (SGC) who tend to work more in a Blended Value way, to the Entrepreneurs from RecyclingAdvisor, Recycla or Swap.com who aim to create a more Shared Value approach, to the contrast of the investors more of a Profit Maximization and Blended Value attitude. However, a common understanding is that it is necessary for the customer to have a need for the product or/and service before buying it. The start-up scene is very competitive, and products need to be valuable and attracting to the worldwide audience.

Koponen (Swap.com) expressed that most of the green start-up entrepreneurs are unfortunately thinking too highly of themselves and can be related to what Michael Porters Shared Value (2011) is suggesting; that the ones that are working in environmentally friendly companies will be more competitive in the future. This argument can definitely be true, but the problem is that being "more competitive" is a vague expression, and Venture Capital-investors are analyzing financials more than non-financial factors. In comparison to Angel-investors, who are more likely to look at non-financial factors such as value adding positive environmental outcomes etcetera. The fact that no one can truly tell how much the environmentally friendly strategy is worth, makes the investments in green-startups more complex and riskier than regular investments that have a track record.

To summarize Value Creation

All three aspects of Value Creation 1) Profit Maximization, 2) Blended Value and 3) Shared Value is represented among the interviewees. The view of Value Creation does affect the view of a company and their probabilities to succeed. Overall, the conclusion can be made that the entrepreneurs have a more Shared Value approach and the investors tend to lean more towards Blended Value and Profit Maximization approach.

5.2. Value Creation- Investments trends

In the previous chapter (5.1.) the three major different views of Value Creation was presented and the conclusion was that all of the views were represented, and affect both the investors and entrepreneurs. But it was hard to find clear patterns in what underlying reasoning exists to explain why investors decide to invest or not invest in green start-ups. Moving forward, the following chapter (5.2.) will lead the conversation into other aspects of Value Creation, and examine what factors impact the investors and entrepreneurs professional view of Value Creation. A major finding in this chapter is the behavior of funds and other financial actors that invest in the VC firms. The interviewed Investors explain that a herding behavioral exists among the actors that invest in the VC market.

5.2.1. Investors

As an investor you are affected by many variables, which impact the decision making process. The variables affect what values you as an investor see in a company and in the end what your final decision will be to invest into.

A majority of the interviewed investors agrees upon the fact that there has been a lack of Venture Capital investments in green start-up segment. One of them who agree to this is Ericsson (ETF), yet on the other hand he suggests, *"that the future seems to be brighter"*. This is especially due to new technologies such as the 'Internet of Things' (IOT). For instance, he explains, *"a couple of years ago most of green investments was associated with heavy investments and industries like biofuel. As soon* *as the spectra of investments have broadened within green start-ups sector, we will see an increase of investments."*

Both Sonnek (SEB VC) and Ericsson (ETF) describes the money market flow in Sweden and explains that a substantial part of the money invested in the Venture Capital industry indirectly comes from the Pensions Funds. Moreover, Sonnek (SEB VC) believes that: *"the Pension Fund managers tend to follow each other and experience a difficulty to change strategy and to invest in a more diverse portfolio than what they are doing today"*. He explains that one reason is due to the fact that the Pensions Fund has limited resources for research, and therefore prefer to invest in already proven technologies that does not requires a lot of resources for new research. Ericsson (ETF) states that clean tech companies are unpopular amongst a large portion of the investors. He argues that Skandia[1] does not look at clean tech at all, the CAPEX[2] is too large and *"sun, wind and water does not give any return (on equity/capital), it takes too long time and is too risky"*. Garberg (Investinor) agrees upon the low interest for solar these days and recall what happened in 2012:

> *"We had different solar investments that unfortunately crashed and burned after China's market entry. Most of the investments got into solar coma. Both the industry and the investors have experienced this."*

Breugelmans (SGC) operates in Holland and has a different view on the green sector, particularly the solar sector: *"The market is booming, the investments are already very profitable and can become even more profitable."*

Even though Garberg (Investinor) had a bad experience from investing in the solar industry he believes in the environmental sustainability sector:

> *"It is very easy to see that in the long term this sector are the winning sectors. You do not have to be a rocket scientist to know that the combusting engine will be dead in the long run. The electric car or the hydro car is going to be key in the future market."*

Despite the strong belief in the market he cannot interpret who will be the winners or losers, and he reckons it to be harder to analyze the green industry compared to other industries. Besides that, you as an investor have to believe in the business idea, and several factors have to be met. Subsides is a way for the government to support businesses, Garberg (Investinor) think subsidies does the choice of investment even harder. *"The Political arena keep changing, so as a Venture Capitalist you cannot rely on the governmental subsidizes too much"*. As mention earlier, Sonnek (SEB VC) and Ericsson (ETF) explains that Venture Capital funds invest in start-ups, where the capital invested usually originate from bigger players on the market such as Pensions Funds or insurance companies. Ericsson (ETF) states that the interest of investing in environmentally friendly companies is primarily because the investors of ETF are interested in environmental technology, but on a personal level Ericsson has a genuine interest in investing green.

A topic that was raised by almost every interviewee was the need of "success stories". Garberg (Investinor), speak warmly about Elon Musk and two of the companies that he is involved in (Space X and Tesla). *"They are like a leading star for a lot of companies, I know that venture capitalists invest in green technology just because of these examples. Without Elon Musk and Tesla, the interest in green technology would be smaller."* Furthermore, Breugelmans (SGC) states that a method that his company has to use in the process of finding new investors is to first of all find a co-investor. This is helpful when looking for new investors, because they can indicate a track record of other investors

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[1] Skandia is one of Sweden's largest Pension Fund and insurance company. (Skandia, 2016)

[2] CAPEX: Capital expenditure, are funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment. It is often used to undertake new projects or investments by the firm. (Investopedia, 2016b)

being interested, believing in their products, increase credibility and to be more attractive to new investors.

To conclude, the investors raise several items that are significant as to why investors do not invest more in the green start-up segment. Historically green-startups were heavily industry focused, bad CAPEX and seen as too risky long-term investment. Today investors are emphasizing the importance of success stories such as TESLA to build up attractiveness and track record of return on investments, in order to receive more attention from today's investors. Another key item that was raised in this chapter is the significant role the investment companies and Pension Funds play, and that without their attention or willingness to invest in green start-ups, the *booming* of green start-ups will not occur.

5.2.2. Entrepreneurs

The entrepreneurs view on Value Creation within the green start-up segment withholds an overall positive attitude. However, the reason to the positive attitude toward the green start-up segment is different among the interviewed entrepreneurs, some emphasize certain factors more than others. These factors that will be observed is selling a product due to its product solution, or sold with a premium, or sold due to the fact that the product is green.

Tamm (Recycla) and his company operates within the green start-up segment and he believes that there "*are definitely good investments in the recycling business"*. Tamm (recycla.se) is confident that a lot of green businesses and start-ups are dependent on behavioral changes, "*it tries to push the buttons human's goodwill, and therefore we have to pay a premium to make the world into a better place"*. The premium way of thinking is in line with the Blended Value approach and that approach is the reasoning why a lack of investments in the green sector can be observed. Tamm (Recycla) further comments:

> *"The whole green sector relies on a premium price mindset. And I do not think the investors see that the broad segment of people is ready to pay that price yet, and therefore not invest as much in that category. Even though the idea might be brilliant, they [the investors] see that the distance to the customers is further away than expected."*

Ahlqvist (RecyclingAdvisor) believes that the value of products or/and services is found in the simplicity of the new product solution that they deliver:

> *"As a customer you want a simple solution, you want to go from A to B. Uber is a great solution, it's one click on a button, the same goes for AirBnb. Before we entered the market, it felt easier to go through a green-card process than to find a good recycling company in the US."*

Both Ahlqvist (RecyclingAdvisor) and Tamm from Recycla believe in the green market but especially in the disruptive business, and see the disruptive business as the key to success. For them it is vital to create *"transparency"* and *"be problem solvers"*.

On the other hand, Koponen (Swap.com) who has a long work experience as a green entrepreneur, believes that the premium price and Blended Value approach is the wrong way of thinking for products aimed to general public and not just to the deep green audience. To think that you automatically have a stronger business case with a green approach is according to Koponen (Swap.com) not the case, you have to compete on the same conditions as your competitors. He has seen this approach among other entrepreneurs: *"The vision about the bright future is stronger than the actual business case [they] are offering; I have seen it myself."* Koponen's (Swap.com) view corallines with Shared Value. All three entrepreneurs agree on the importance of creating a solution for the customer and that the customer always is in main focus. Yet, the view of paying a premium or not slightly differs from the three.

To summarize, the key takeaways from this chapter is that all entrepreneurs have a positive attitude towards green start-up business and that it is essential for green start-ups to sell an attractive product that creates value for the customer, maintain transparency and act as a "problem solver". Also discussed in the chapter above is that it is possible to motivate customers to pay a premium but investors are not yet ready to pay the premium when the added value will not show as an immediate profit for the company or the customer. The fact that the value will be added to the society as a whole and not profit for the company or the customers correlates with the Blended Value theory.

5.2.3. Analysis – The big players set the rules

The green start-up entrepreneurs have to attract both customers and investors. Among the interviewed entrepreneurs in this study, a Shared Value mindset of Value Creation has been the most present one. Sonnek (SEB VC) is one of the investors that articulate the role of the Pension Funds, and also describe them working towards reaching Profit Maximization and aim for secure investments. The Pension Funds can be one key reason as to why there is a lack in green start-up investments. Firstly, because the view on Value Creation is different from most of the green start-up entrepreneurs and investors, in comparison to how the Pension Funds regard the green start-up segment. This difference can be explained by firstly, the Blended Value approach does not aim to maximize profit and secondly, the Shared Value approach makes investors suspicious. As examples of this Both Koponen (Swap.com) and Garman (Investinor) implies that a promise of a higher value from an entrepreneur, because of the green approach can lead skepticism. As Koponen (Swap.com) states "*the idea of the business cannot be better than the actual business case.*"

When conducting this study, the starting point was to find out why a lack of investment in the green start-ups sector can be present even though a lot of initiatives have been made by several large actors on the market to push investors in the green direction. To understand this behavior a lead by Bergset (2015) has been followed up, and Entrepreneurs and Venture Capital investors has been interviewed. To view this behavior and somewhat dilemma for green start-ups it is important to illustrate the whole picture and money market flow. The money flow in the green start-up market does not end with the entrepreneurs and Venture Capital investors. The money invested on green start-ups by VC´s is capital invested by other investors, such as Private investments and Pension Funds. The Pension Funds and private investments are often the ones that set the rules of the investment thesis[3] of the VC firms. The VC´s that has been interviewed describe a herding behavior amongst their institutions. As a limitation in this case study the focus remains to examine VC investors and entrepreneurs view of Value Creation and Business Models.

[3] An investment thesis is the beliefs that Venture Capital investors decide to use when determining what investments to purchase or sell, when to take an action and why. An investment thesis helps investors establish goals for their investments, and measures whether they have been achieved, either in written form or simply as an idea. (Investopedia, 2016c)

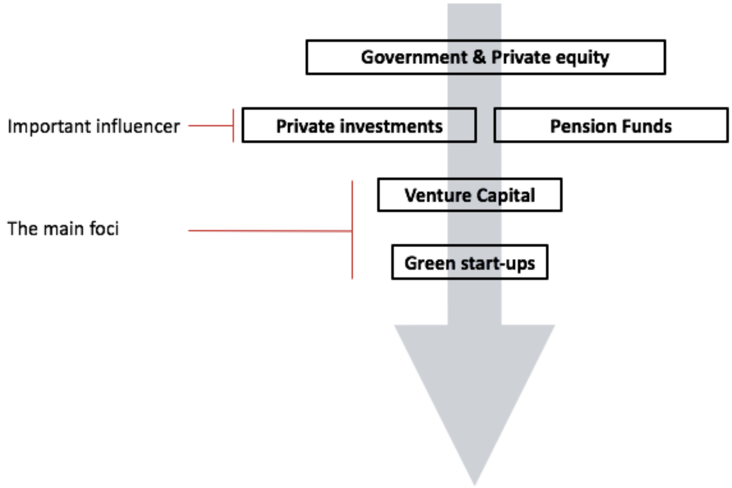

Figure (8) Illustration

Behavioral Finance elemental foundation is that investments are based on a good "gut-feeling" instead of solely following the financial figures and prospected outcome. The gut-feeling instinct is a combination of all the influences a VC investor has, partly from the society and previous experiences, but mainly from the ones investing in Venture Capital firms (such as Pension Funds). The view of Value Creation affects the investments in the green start-up sector, but probably mostly by the view of investors such Pension Funds, or a mix of them, see figure below.

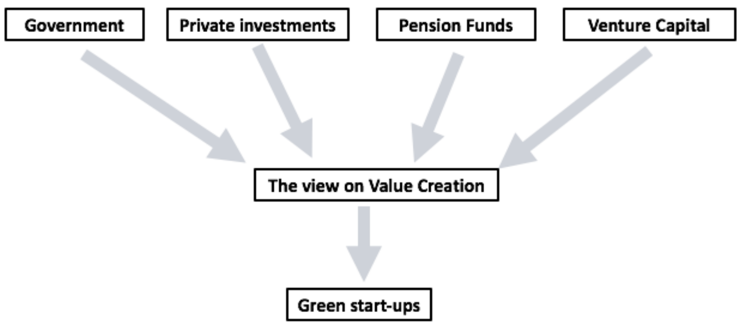

Figure (9) Illustration
Description: In the illustration above "the view of" is an image of behavioral finance and how the view of Value Creation affects green start-ups. As illustrated the government, private investments, Pension Funds and venture capitalists all impact the view of green start-ups.

<u>To summarize- Do the big players set the rules?</u>

To summarize the above chapter, it has been observed that it is important to take a look at the bigger picture including the money flow in the market to find out why there is a lack of investment in the green start-up segment. This has resulted in a somewhat unexpected finding that the role of the larger players such as Pension Funds and private investors have a large influence and play an important role in green start-up financing. Some of the investors have identified a herding behavior amongst these intuitions, which mostly can be explained by the investors view of maximizing profit and a skeptical view of Shared Value.

5.3. Business Model- Is the Business Model key for investors?

Bergset´s (2015) research suggests that the view of green Business Models raise new dynamics to why there is a lack of investments in the green start-up segment. When Venture Capitalists decide to invest in a company or/and a start-up, many factors are crucial to evaluate, such as team members, timing, *business idea, market trends etcetera. After having interviewed green start-up entrepreneurs and investors an important finding was made that a strong track record is the foremost important factor.*

5.3.1. Investors

As an analyst, when analyzing businesses models, a wide spectrum of different factors has to been taken into consideration. A majority of the interviewees mention and emphasize the importance of the company's team to be the most vital success factor. George (Analyst) said that they were not very driven solely on the company's financial results in their investment research; they observed more the operational track record and the team of the company. Sonnek (SEB VC) on the other hand states that the team is not the most important factor, even though he highlights the importance of the team to be as good as they say themselves to be, and that they fully understand the industry they act within.

Breugelmans (SGC) point of view is that it doesn't matter which Business Model the company has or in which particular industry they work in: *"It could be in every kind of Green business, clean tech, or something that is related to* CO^2 *reduction, like a parking app. So basically working for an environmental or social cause."* At the same time, he is very clear about the essence that the company always thrives for return on equity and is screening the market for companies that are capable of offering an attractive return on equity: *"We are after all a commercial company, so we have to find return on equity."* He continues and describes their strategy in investing and uses the circular economy model as an example "*we attend many events that are related to circular economy, and where we are likely to meet companies that are involved with circular economy."* Business Models are dependent on what kind of service or product you are selling, Garberg (Investinor) describes the business environment in Norway and he defines the green start-ups to be working with "*green hardware rather than software businesses, an example are large windmills."*

Furthermore, a common theme among the investors is the belief in strong track records and proven Business Models. The majority of VC's, invest in the stage where the development of the product/service is beginning to become finalized. The next step is to start a production or scaling up. It is therefore important to know that the Business Model works and that the customer see the value in the product or/and service. Ericsson (ETF) identifies that: "*the entrepreneurs start too late with the customers. You have to reach out to customers the first thing you do. It could be the best product in the world, but you have to know how to reach out to the crowd."* Sonnek (SEB VC) discuss the future of 3D printing, and believe that it is going to be a huge hit/breakthrough, because of the possibilities to satisfy the costumers, and the capability to change quickly and adapt to the needs of the customer. Others might see the 3D printing as a great opportunity for resource efficiency, but that is secondary according to Sonnek (SEB VC). Even if you as an investor have a genuine interest in green solutions, business ideas and Business Models, the well-functioning of the actual product or/and service will have the final say. According to Ericsson (ETF): *"Our business is dedicated to investing in great growth companies with global aspirations that are making a big environmental impact".* Breugelmans (SGC) emphasize the importance of a reliable Business Model that has been tested several times, one example is:

> *If someone comes along with an idea for an urban windmill, we say that they should test it and they agree. But if we only test and analyze it in a wind tunnel it is not enough for us, we have to place the product on a roof for a year and potentially on a second roof, and this will then have been tested as a real life example. And then we start to invest. –Breugelmans (SGC)*

Furthermore, Breugelmans emphasizes that if they can see great potential in company, that it can grow and clearly distinguish itself in comparison to their competitors, in terms of what it can add in for the society and for the environment, then Breugelmans and SGC will be interested to invest.

5.3.2. Entrepreneurs

According to research, Business Models are crucial and green start-up entrepreneurs are focusing too little on financial planning. (Choi & Gray, 2008 & Nicholls & Pharoah, 2007) In this research it was found out that the interviewees were very focused on the business. They all had chosen an industry or a way to do business that is green. However, they all were very well aware of business strategy and focused on having a Business Model that are working with customers. Koponen (Swap.com) describes his Business Model (where the customers can sell and buy pre-owned clothes) and explains that it is *"important for the sellers make money!"* and *"on the buyer side that we offer experience matching in a very good new item shop."*

On the question if their Business Model is sustainable all interviewees answered *"absolutely"* or *"yes"*. Tamm (Recycla) says that Recycla's Business Model in a way could be applicable in many areas like cleaning services and such, but the fact that they are in the recycling business and encourage recycling, makes their Business Model environmental sustainable.

Further on, Ahlqvist (RecyclingAdvisor) describes his point of view and emphasizes the importance of Business Models that have been legitimized: *"People are frightened for unproven Business Models".* In order to succeed even if the company does not yet have a track record the theory of measuring Shared Value can be implemented. Shared Value suggests that it is essential that the value proposition provides measureable ecological and/or social value in correlation to the economic value. *"First set the Business Model, then get the pilot customers, test and iterate and then when it works, then scale*", Koponen (Swap.com) highlights the importance of a Business Model to be tested, and comments with a relief that Swap.com recently have left that phase and nowadays instead are aiming to grow and scale up their business.

When Tamm (Recycla) takes a look at their company he definitely believes it to be a green start-up, but at same time he believes that they solve a problem that their customer looks for in a solution. So instead of articulating that their Business Model in fact has a rather green character Tamm (Recycla) finds added-value that the company's business idea/model is transparency in that sense that it can be applied in many different areas. Ahlqvist's (RecyclingAdvisor) view of their business is the same as Tamm´s (Recycla) that they are *"problem solvers."*

5.3.3. Analysis- The proven Business Model wins

Venture Capital Investors are open-minded and invest in many different Business Models, as long as they can believe in the Business Model to work and potentially grow on the global market. According to both the interviewed investors and entrepreneurs, the most significant thing in order to not fall into *the valley of death* is to prove to the investors that the Business Model work well and/or has a strong track record. The theory of Behavioral Finance is partly correct to the extent that the view of a Business Model decides if an investor will proceed with an investment or not. Nevertheless, the reputation of a Business Model is majorly based on facts and track record. The green Business Model is not an exception, if the Business Model has a good track record there will be investments. Additionally, a bad reputation of clean tech solutions has been present during the last couple of years. This repetition of a bad track record can be one reason to the lack of investment in the green start-up sector. Based on the above interviews it is not possible to prove that this is fully the case, but the interviews indicate that due to that the historically investment spread a more negative image of the green start-up industry it has hurt the industry by not delivering positive track records and "success stories". So Behavioral Finance theory applied on Business model can partly explain the lack of investment. But it seems like if an entrepreneur has a Business Model with a god track record a Venture Capitalist will not care if it's green or not, they will decide to invest.

To summarize- Is Business Model key to investors?

Behavioral Finance applied on Business Models can partly explain the lack of investments in the green sector because bad reputation and a couple of poor historical investments in clean-tech.

However, the foremost important factor for both the investors and entrepreneurs is to build up a Business Model with a good track record.

5.4. Business Model- Views on Green Business Models

In this thesis the definition of a green start-up is a company that offers products and/or services that provide environmentally friendly or substantially reduce environmental impact compared to other existing products and services. This chapter will include the interviewees different view on Business Model is presented.

5.4.1. Investors

A circular economy Business Model is a green Business Model by its definition to be resource efficient. George (Invest) thinks it's too difficult for a business in the US to be entirely circular, but believes that it is easier for companies in Europe to be circular: *"It is hard for a company to be exclusively circular. Aspects that are moving to circular, not entire firms. European companies are probably a little more advanced."*

He could be right, because according to Ericsson (ETF), who argues that an environmentally friendly company have a holistic approach and integrates environmental sustainability in their Business Model. Sonnek (SEB VC) thinks green Business Models often are different compared to a regular one *"it is a lot of co-operations and crowd sourcing and social networks. So the Business Models are for sure very different compared to models of a traditional company."* Among the investors there is a divided view on green start-ups, Ericsson (ETF) believes in green technology:

> *"It is easier to sell environmentally friendly products; nobody wants belting filled with dirt. There is where clean-tech can help us with sun, wind and water. Resource scarcity is another possibility, were IOT[4] industry are growing, there are in many areas you can improve the processes."*

Sonnek (SEB VC) thinks that it is hard for companies nowadays to improve the efficiency so much that the invention is worth investing in: "*Because a lot of processes in the industry and value chains are already very optimized today, makes it hard to improve them. They are high up in their learning curve."* He also describes his point of view of sharing economy business, a standpoint where he does not believe in the concept.

> *"I do not think we are going to dream about the fact to share things. If it is not imperative because of crises or similar. We will continue to buy a hammer for ourselves, we do not want to share it with our neighbors. There are a couple few things like cars that we might consider to share."*

Sonnek (SEB VC), continues to explain why this is his mindset and refers to individualism.

"Consumption is much more than using the product. It has to go very far before you as a person sacrifice independence, a grounded individualism. I am therefore quite pessimistic regarding the idea of a sharing economy"

George (Invest) the most important factor and is to keep up with preferences of the customer, and the most important factor is trust, and it need to be integrated in the Business Model.

[4] IOT- Internet of Things

5.4.2. Entrepreneurs

Among the entrepreneurs there is a common understanding that green businesses have a different approach compared to other companies, but at the same time their main focus is always to be a successful business. Ahlqvist (RecyclingAdvisor) believes the recycling business and industry are quite different.

> *"There are very few that realizes how much a company can save when you have the waste streams in order, there is an enormous amount of money going into get rid of trash. We have example of companies that has saved up to $40 000 per month. I would say that there are a lot of lack of knowledge and that the fact that it is more exiting to work with selling than to cut costs."*

Ahlqvist (RecyclingAdvisor) also see´s that the green start-up market is different because it is often very disruptive, which involves a lot of risk and coordination. An example he refers to are soda bottles, both the market, the soda companies and the producers has to change the way of thinking to make a great idea of a new bottle happen.

Koponen (Swap.com) says Swap.com i.e. his solution and business is absolutely in line with resource efficiency. However, he doesn't always think that a green image helps. He takes his previous marketplace as an example and say's that they communicated a green solution and only those customers who liked that message made the extra effort to use the marketplace. He did not attract enough paying customers, there are not that many who willingly see more effort to use a green service. Nowadays, with Swap.com Koponen instead promotes the company as a good competitive solution to a problem. The idea is still green but that is not the focus:

> *"We could actually communicate the company as a green solution. But the other company I started, had more of a eco focused message. We learned that most of the customers look at the price and convenience first. Most of them think it is good that we are sustainable as well, but they are not making decisions because of those factors*."

5.4.3. Analysis- is it relevant to have a "green" Business Model?

In this chapter two key questions arises. Firstly, is it better to brand your company as a green start-up business? And secondly, what are the key pillars that creates a successful Business Model? When reviewing green Business Models both the entrepreneurs and investors state that it is attractive to work for sustainability but it is not always the case that it will be for the better. Koponen´s (Swap.com) ideas of not branding their company primarily in an environmental friendly way is one of the strongest evidences. By having an environmental friendly Business Model, he can sell a business solution for clothing, and at the same time fulfill his long term goal to be resource efficient. The view on green Business Models in this case suggests that customers buy the product or/and service is whether they find them more attractive, with a competitive price and can prove a strong track record.

To conclude, when examining the view on green start-up Business Models, there are several indications to the fact that if a Business Model is green is irrelevant. We are living in an individualistic environment as Sonnek (SEB) states, and it is the Business Model per say that creates an attractive product or/and service and not that they are green. A sharing economy could both be successful as well as unsuccessful, and it is not always possible to foresee the outcome. It depends on surrounding circumstances and competitive environment around the Business Model. According to Bonnet & Wirtz (2011) the gut feeling can at many times explain why Venture Capitalist's may reject the Business Models. If green start ups do not fully align with the "conventional" entrepreneurial behavior, it may be due to investors own world view rather than the actual merits of that Business Model. Different mindsets generally separate entrepreneurs and investors. (Bonnet & Wirtz, 2011)

5.5. Conclusion

The starting point of this case study was to find out why a lack of investment in the green start-up sector can be present even though a lot of initiatives have been made by several large actors on the market to encourage and motivate investors to invest in green start-ups. To understand this behavior a lead by Bergset (2015) has been followed up, and Entrepreneurs and Venture Capital investors have been interviewed with the purpose to explore whether their view on the Business Models and Value Creation, can explain the lack of Venture Capital investments in green start-ups. In order to explore this area of interest two question have been examined:

1) How do Venture Capitalist investors and green start-up entrepreneurs view Value Creating and Business Models of green start-ups?

2) Can Behavioral Finance function as a good tool and theory for explaining the underinvestment in green start-ups?

When analyzing the empirical findings four themes has been identified and evolved into the chart below illustrating the themes together with the results of this case study. The table below answers the following question: "Did Behavioral Finance function as a good tool and theory for explaining the underinvestment in green start-ups?"

Theme	**Character**	**Yes**	**Partly**	**No**
Are all aspects of Value Creation represented?	Value Creation		√	
Do the big players set the rules?	Value Creation	√		
Is Business Model key to investors?	Business Model		√	
Is it relevant to have a green Business Model?	Business Model		√	

Table (2) Themes are presented together with the results on research question

All three aspects of Value Creation 1) Blended Value, 2) Shared Value and 3) Profit Maximization is represented among the interviewees. The key take-away is that depending on what aim the interviewee or/and investor has with its investment, this will affect their view on the investment that they speculate to take part in or not. An overall conclusion can be made that the interviewed Entrepreneurs in this case study has more of a Shared Value approach and the investors tend to lean more towards articulating a Blended Value and Profit Maximization approach. The Pension Funds can be one key reason as to why there is a lack in green start-up investments. Firstly, because the view on Value Creation is different from most of the green start-up entrepreneurs and investors, in comparison to how the Pension Funds regard the green start-up sector. This difference can be explained by firstly, the Blended Value approach does not aim to maximize profit and secondly, the Shared Value approach makes investors suspicious.

Moreover, the conclusion can be made that to a large extent the actual product or service that the company sell is more important that it is a "problem solver" for the customer, more than the importance of the product being "green". A key finding is that the view on the Business Models from the green start-up entrepreneurs is more positive and sometimes naive to believe that solely due to the fact that the company is “green” the company automatically will do well. The essence is to provide a product that the customer finds added value in and/or that solves a problem. The fact that the product or/and service is environmentally friendly is added value for the view the company and several research states that these companies will become the top competitors on the market in the future.

Behavioral Finance applied on Business Models can partly explain the lack of investments in the green sector because bad reputation and a couple of poor historical investments within the clean tech sector. A Skepticism towards the green start-up sector was described by several of the interviewees. The skepticism was grounded in a lack of “success stories” and track record within the green start-up sector and therefore the findings of this case study indicate that the view on green start-ups is to some extent damaged by several bad historical results, previous weak return on investment and lack of strong track records.

To summarize, Venture Capitalist Investors view Value Creating and Business Models of green start-ups differently, but a general theme is that investors tend to be aiming more for Profit Maximization. On the other hand, green start-up Entrepreneurs view Value Creation and Business Models out of a Shared Value perspective, but realize the importance of building up an attractive track record. As illustrated in the graph above, to some extent can Behavioral Finance function as a good tool and theory for explaining the underinvestment in green start-ups.

VI. DISCUSSION

The research in the category of Behavioral Finance applied on green start-ups is relatively new and up until now, no other case study with semi structured interviews has been done. However, this study is too small to confirm any patterns or leave any certain answers. Further on, the study is of an exploratory character and tries to understand how the lack of investments can exist. With all the gathered research some explanations have been received and a solution has been presented. Additionally, three suggested further researches connected to the limitations of the study has been presented.

A main cause for the lack of investments in the green start-up sector were limitation of track records and good examples. Another finding was the suspicion regarding the mindset among entrepreneurs, who often adopts Shared Value strategies. Measuring Shared Value Written by Porter et al. (2011) encourages companies to practice more calculation and hence proof the connection to value. However, these kind of reports are often expensive. They both take time and has to be done over a longer time-period, resources start-ups rarely have. A proposition which might solve these problems is a marketplace, which also may open up for new relations. The marketplace will be in particular oriented to map environmental sustainable companies. When mapping out and tracking these kind of companies it creates a benchmark for the investors. Additionally, information about companies that adopt Shared Value approaches, but are unwilling to advertise it, as Koponen (Swap.com) explains, could lead to openness, and facts will be available for the public/investors. As mentioned in the introduction the interest for the green start-ups is growing, but simultaneously there is not yet a defined structure for this developing ecosystem. The proposed marketplace would therefore have potential to accelerate interest, insight and the investments in environmentally sustainable start-ups and businesses.

6.3. Limitations & Further Research

Following the scope of this paper, we can also see an opportunity for future studies that could consider further factors other than those presented in this thesis. These future paths are tentatively; to compare different geographical behaviors, include Pension Funds and other actors in the research and lastly a comparing study with other industries' Business Models.

In the empirical findings the role of Pension Funds and the other investors in Venture Capital firms were enhanced. Their role is in more detail discussed in chapter 5.2.3, where it is shown that the Pension Funds affect the whole Venture Capital's climate. A suggestion for future research is to include Pensions Funds´ point of view in the same context as this case study, to deepen the understanding of money flow in the green start-up segment.

This case study has been limited to solely green Business Models. However, in research there has been literature explaining investors to reject new Business Models in general. The green start-up scene is described to have a tougher market entry than other entities. An interesting angle on a future study could therefore be to investigate the reason to that while comparing the green business entry to other new industries' market entries. A comparative study questioning if the green business entry is that different as it is described.

When exploring the lack of Venture Capital investments in the green-start-up sector there was a hope for finding a pattern among investors and entrepreneurs in the mindset or find a distinguished answer of why there is a deficiency. It is concluded that Behavioral Finance together with Business Models and Value Creation can partly explain the lack of investments. However, mindsets among the interviewed were different from each other. The study did not have enough participants to do any conclusions, but the difference between participants in Sweden compared to the Dutch interview were astounding. The two countries are thought to be very similar-minded when it comes to green businesses, which made it interesting that the interviews were quite different from each other. Hence a possible further study could be to narrow down the scope and only concentrate on the Swedish and Dutch market and see if their viewpoint on green start-ups still is differentiated. An additional study to figure out the reasoning behind the different mindsets could succeed to an answer why there is a deficiency in investments.

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Interviewees

Ahlqvist, C-I. Co-Founder & CEO. RecyclingAdvisor Inc. Phone interview 2016-04-19

Breugelmans, R. Senior Investment Associate. Start Green Capital. Phone interview 2016-04-28

Ericsson, P. Venture Partner. Environmental Technologies Fund. Phone interview 2016-04-20

Garberg, E. Investment Associate. Investinor. Phone interview 2016-04-28

George (Anonymous). Assistant Vice President & Research(ESG) Associate at a large American investment fund. Phone interview 2016-03-18

Koponen, J. Co-Founder & CEO. Swap.com, Inc. Phone interview 2016-04-11

Sonnek, D. Head of SEB Venture Capital. SEB Venture Capital. Phone interview 2016-04-15

Tamm, S. Founder & CEO. Recycla AB. Phone interview 2016-04-18

APPENDIX

APPENDIX A. INTERVIEW GUIDE- INVESTORS

Intro

-What is your background and for how long have you worked at this position?

-How did you get involved in your organization?

-What is your vision with your investments?

Green start start-up finance (Shared Value/Profit Maximization/Blended Value)

-What is the core values of the company and how do you invest, are their any investment thesis?

-How do you communicate and get investment leads?

Financing of the business

-In what phases do you invest? (just in the beginning, kind of steady, etc)

-How were you financed in the beginning?

-Describe a regular investment routine

-In which way are the businesses financed right now?

-Is it easy to get finance by your business?

-What type of investor was/is it?

-Do you invest in any kind of companies?

-Do you now if it was the first time in your industry?

-Was it the first time in your kind of business model?

-How do you evaluate businesses? Which metrics do you use?

-What is important for your company to grow?

(profit maximization, team, demand, social value?)

-For how many years do you plan to hold an investment?

-Politics?

Sustainability

-What is sustainability for you?

-What is environmental sustainability for you?

-How should venture capitalists/investor select start-ups/companies that deliver environmental sustainability?

-Which criteria should they use?

ESG, index

Footprint

Behavioral finance- Business Model

1.Business infrastructure

-What is important in a start up?(What factors)

-Can you describe a business model that you like?

-How does the supply chain look like, what partners do you have?

-Are you familiar with any particular sustainable business models?

(use examples like uber and airbnb, resource efficiency)

2. Value proposition: a promise of value

-The user experience, what is the most important factor?

-Do you have any examples how a company should work, so that the customer achieves a good experience?

-Do you think the environmental approach/sustainability approach contributes to the success of a company?

3. Customer Interface

-Do you think sustainability products or/and services are very different from other services and products?

4. Financial model

-Do you think the financial model of a green start up are very different from a regular company?

5. Financing

-When you research and then later on invest in a company that uses a model that is good for the environment. Do you ultimately use other aspects than the financial numbers, such as brand or other factors?

Summon up

-How does the future look like?

-Business wise?

-Your industry?

Open question:

Describe there is a lack of VC investments in green start-ups, do you have any thoughts?

-Anything you want to add?

APPENDIX B. INTERVIEW GUIDE- ENTREPRENEURS

Intro

-What is your background and for how long have you worked at this position?

-How did you get involved in your organization?

-What is/was your vision?

-Where did the idea come from and why did you start your business?

Green start-start up finance- Shared Value/Profit maximization

-What is the core values of the company?

-How do you communicate and promote your business?

-How do classify business/ what kind of business?

-Green

-Sustainable

-Sharing Economy

-Just a regular business

Financing of the business

-In what phase are you in right now? (just in the beginning, kind of steady, etc)

-How were you financed in the beginning?

-In which way are the business financed right now?

-Was it easy to get financed?

-What type of investor was/is it?

-Do that investor invest in any kind of companies?

-Do you now if it was the first time in your industry?

-Was it the first time in your kind of business model?

-Which criteria should they use?

-What did you feel the investor look at?

-How should venture capitalists/investor select start-ups/companies that deliver sustainability?

-How do you evaluate your business? Which metrics do you use?

-What is important for your company to grow?

(profit maximization, demand, social value?)

-What is the long term goal?

<u>Behavioral finance- Business Model</u>

<u>1.Business infrastructure</u>

-What is important in a start up?

-What factors?

-Can you describe your business model?

-How does the supply chain look like; what partners do you have?

-Are you familiar with any particular sustainable business models?

(use examples like UBER and AirBnb, resource efficiency)

<u>2. Value proposition: a promise of value</u>

-The user experience, what is the most important factor?

-Do you think the environmental approach/sustainability approach contributes to the success of a company?

<u>3. Customer Interface</u>

-Do you think sustainability products or/and services are very different from other services and products?

-How do you think the customers is feeling about it?

<u>4. Financial model</u>

-Do you think your company is working very differently from other companies?

-Do your company use a very different financial model than a regular company?

<u>Summon up</u>

-How does the future look like?

-Business wise?

-Your industry?

<u>Open question:</u>

-Describe there is a lack of VC investments in green start-ups, do you have any thoughts?

-Anything you want to add?

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