UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

To Avoid Failure

An empirical study of common factors for failures in the Swedish Venture Capital industry

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Executive summary

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Title To Avoid Failure - *An empirical study of common factors for failures in the Swedish Venture Capital industry*

Background and academic problem
The industry of venture capital is characterized by high risk and potential high returns. Required return is the most common criteria measuring if an investment is successful or not. However, according to research, eight out of ten investments fail when measured by the required return. Various academic articles, thesis and studies have been written about the success of venture capital. On the other hand, the area of unsuccessful investments and what factors contribute to unsuccessful outcomes is poorly researched.

Purpose
The purpose of this thesis is to describe common factors for failure in the Swedish venture capital industry.

Method
This thesis uses a qualitative study approach where the empirics are gathered through interviews with venture capital firms with their main operations in Sweden. The theoretical part describes the decision process and the investment criteria used by venture capital firms when evaluating an investment using results of previous studies and stated theories concerning the subject.

Result and study findings
Most factors affecting the outcome negatively arise during the evaluation and deal structuring process. The criteria that cause most failures are the entrepreneur and the market. It has become evident through theory and empirics that it is the uncertainty regarding the competence, experience and personality of the entrepreneur as well as uncertainty about the market size and future growth that causes failures in the Swedish venture capital industry.

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1. Introduction

1.1 Background

Venture capital is a type of capital that is provided by investors or investing firms to new start-ups or growing companies. The founder of the venture capital industry, General George Doriot, states that a venture capital firm "*invest in things nobody has dared try before*" (Haislip, 2010).

The industry of venture capital is characterized by high risk and high potential returns. Venture capitalists typically search for companies in the areas of technology, cleantech and life science. These areas are knowledge-based and technologically driven, often with intangible assets, in developing fields and with little or no documented financial history. However, the companies have one characteristic in common that makes them extremely interesting for venture capitalists – they are expected to have the highest growth potential available in the market (Landström, 2007).

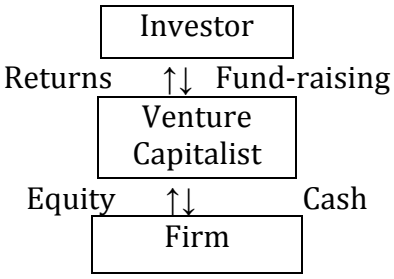

Figure 1. Basic illustration of the relationships within venture capital
Source: Recreated version of Gompers and Lerner, 2004, pp 11

Figure 1 illustrates the venture capital process. The investor is not allowed any involvement in the day-to-day management. The venture capitalist works as a mediator between the investor and the entrepreneur. The venture capitalist will inspect and decide what firm to invest in. In return, the venture capitalist receives a proportion of the investment called the management fee. If or when the firm makes a profit, the venture capitalist will return this to the investor and at the same time make his second profit from the specific investment (Gompers and Lerner, 2004).

A well functioning market for venture capitalists or venture capital firms is very important for the growth of entrepreneurs and entrepreneurial ideas, which is evident in the Unites States. The United States has a large and sophisticated venture capital industry and it is argued that it is the reason to why the United States has been exceptional at turning innovative ideas into high growth companies, with examples such as Google, Microsoft, Apple and Facebook (Maula et al., 2005)

1.1.1 History of the Swedish venture capital market

The venture capital market in Sweden started off in the 1970's when the first venture capital firm was established as cooperation between the Swedish Government and the banking sector (Olofsson and Wahlbin, 1985). Isaksson (1998) describes the history of the Swedish venture capital market as a market that has experienced three cycles. Due to unfavorable climate for investments in Sweden in the 1970's, the Swedish investors found the market in the United States to be an interesting example to study and imitate. This lead to an attempt to start the investment market in Sweden (Jörgensen and Levin, 1984). The venture capital market started off well, but due to the up-coming Swedish banking and real estate crisis in the early 1990's, the market faced another downturn. A couple of years went by with an almost non-existing venture capital market, but at the end of the Swedish crisis in 1992-1993, the Government was once again the driving force behind the re-establishment of the market. Profits grew both in the public and the private sector, which led to excess capital to invest as venture capital. Another reason for the expansion of the market at this particular time was the fast developing sectors of information and biotechnology, combined with the recently introduced market for minor shares of firms (Isaksson, 1998). The strong R&D departments of Sweden attracted international investors and thereby international capital (Baygan, 2003). Isaksson (1998) explains this to result in Sweden becoming the leading European country for venture capital in 1999. Unfortunately, this also led to the market becoming overheated and a decline followed. The venture capital market in Sweden has decreased significantly over the last 5 years. In 2008, the venture capital firms in Sweden invested 4,8 billion Swedish Crowns in start-up and growing companies. The number has decreased every year since then and the corresponding amount invested in 2013 during the first three quarters of the

year was 1,1 billion Swedish Crowns, and it is not expected to reach the amount invested in 2012. This shows a strong negative trend and is explained by lower investment amounts, as the number of investment has been steady between 300 – 400 investments per year (Leijonhufvud, 2013).

1.2 Problem discussion

Many thesis and articles are written about the success of venture capital and why they attract venture capitalists. What we find missing is research on unsuccessful investments and following failures. Therefore, we have chosen to describe what in the decision process leads to failed investments. Past research about the decision process in venture capital firms show that certain evaluation steps are considered before selecting or rejecting an investment. The five-step model developed by Tyebjee and Bruno (1984) is one of the first models showing venture capital firms' decision process. This model is still used as a reference in newer studies. Past studies also include the criteria that are most important in the evaluation process. The criteria include characteristics of the entrepreneur, the product, the market and financial characteristics. Every aspect includes some kind of risk and by having several criteria to take into consideration, the level of risk in the industry of venture capital is naturally high. Studies continue to refer to the different steps in the decision process, but no studies show if or how well implemented these steps are in the industry. This has therefore led to the first problem statement regarding how and if theory and practice deviates from each other. It is interesting to compare practice and theory and see how practice deviates from theory or if they cohere, and thereby see how much theory is applicable and coherent with practice when analyzing what in the venture capital decision process leads to failed investments from a theoretical and empirical point of view.

When referring to failed investments or failures in this thesis, it will be defined as investments that do not meet the required return set by the investors. According to research, about two or three firms out of ten financed by venture capital fail to ever return the capital to its investors. Another six out of ten will return the capital to the investors, slightly above or only the intrinsic amount. Even though they return the invested capital, they are to be seen as failures since they do not reach the required return. Only one or two firms will perform in a

manner that results in an exceptional level of return to its investors (Valliere and Peterson, 2003). These exceptional investments are often said to be the cornerstones of a portfolio and also cover failed investments. Common factors for failures should be originated in the decision process, and also be dependent on what criteria venture capitalists base their decision on. One of the thesis problem statements will thus be to ask what in the decision process practiced by Swedish venture capital firms leads to failed investments. By studying the decision process and what criteria that are used in practice, it will be possible to find common factors for failure originated in the decision process. This will be researched with the support of two additional questions regarding what venture capitalists believe causes failed investments and what the differences between successful and unsuccessful investments are believed to be.

Venture capitalists continue to invest in firms with a high-risk rate and this sparks the question of what the drivers behind this are. According to the statistics mentioned, eight out of ten firms fail. There should be common factors that explain the outcomes. The firms in the industry are aware of the high risk-rate in the business, and thus take certain precautions in the decision process in order to avoid investing in potential failures and minimize risk. Information on how venture capital firms work to minimize risk is poor, and especially information about firms active in the Swedish venture capital industry. The thesis is limited to Swedish venture capital firms with their main operations in Sweden, which makes it interesting to interview representatives of a sample of Swedish venture capital firms and discuss how they work to avoid unsuccessful investments and minimize risk. This is thus the final problem statement.

What we aim to find out is if it is possible to identify underlying common factors to why some investments are unsuccessful and how Swedish venture capital firms work to avoid these. This will steer the thesis to analyze the decision process from both a theoretical and practical point of view, and if and how they cohere.

1.3 Purpose

The purpose of this thesis is to describe common factors in the decision process that lead to investment failures in the Swedish venture capital industry. An assessment on how Swedish venture capital firms work to avoid failures will also be conducted, as well as the difference between the decision process in practice and theory.

1.4 Problem statement

- **How does the decision process in practice deviate from theory?**
    - *Is there a profile or investigation made for each investment where the risk and potential return are estimated?*
- **What in the decision process leads to failed investments?**
    - *What causes the failure of certain investments according to firms in the venture capitalists?*
    - *What is considered to be the differences between successful and unsuccessful investments?*
- **How do Swedish venture capital firms work to avoid unsuccessful investments?**

2. Method

2.1 General method

We will approach the problem statements of this thesis by using both theoretical and empirical sources. Theoretical sources will primarily be based on the results on previous studies on the subject. Our problem statements are to describe how practice and theory differ, what in the decision process leads to failed investments and how Swedish venture capital firms work to avoid failures, and therefore we believe that an analysis of firms active in the Swedish venture capital market is needed. We have chosen to use a qualitative study approach based on qualitative studies in form of interviews with Swedish firms in the venture capital industry. A qualitative study approach will be more suitable for our thesis since every interviewee will differ and it will provide a depiction of the Swedish venture capital industry (Saunders et al., 2000).

2.2 Data collection

Interviews with suitable firms have given us the primary data needed. Our purpose with the interviews was to discuss how the decision process of Swedish venture capital firms work and to find reasons for why some investments fail. We chose to interview firms since we believed that an interview could add more value to the thesis as the personal meeting gave us an opportunity to enrich the information given by the respondents. The interviews furthermore gave us the necessary information in order to be able to draw conclusions.

Theoretical data has been collected by studying relevant academic journal articles and dissertations. Besides these, other types of literature such as books regarding the subject have been used. The sources were mainly found through online databases, for example Business System Premiere (BSP), GUPEA, Libris and Emerald. These databases consist of resources that match our demand, and gather academic resources at one place. Key words used in the search process are words related to the subject, such as venture capital, return, risk and return, venture capital failure, unsuccessful investment, decision-making process, investment characteristics, investment criteria.

2.2.1 Interviews

We have chosen to use semi-structured interviews. Semi-structured interviews include a list of questions from which the interview will be based on, but the order and the importance of the questions may vary depending on each specific interview. It is the flow of the conversation that decides the order of the questions, and additional questions might be asked during the interview to obtain further explanations and clarifications (Saunders et al., 2000). The questions in the interviews follow a template created by us to fit our purpose in general, with exceptions for questions concerning the specific firm. The template was developed after the relevant theories were chosen, and are thus linked to the theoretical framework. We based one question on the table composed by Zacharakis and Meyer (2000). The question aimed to find out if the firms use the same criteria in the decision process as the included theories do. By recording the interview it has been possible to quote the interviewees correctly. The interview guide can be found in the Appendix.

2.2.2 Selection and respondents

We have chosen to limit our qualitative study to Swedish venture capital firms. The six firms interviewed have their main operations in Sweden, and are all institutional venture capital firms or corporate venture capital firms. Landström (2007) describes institutional venture capital as firms that professionally manage funds on behalf of investors, and corporate venture capital as firms that invest with corporate funds in external companies that will add value to the corporation as a whole.

We based the amount of firms on the time limit that we have. The sample includes firms of different size, number of years in the industry, and what stage they invest in. Because of this, the number of firms is large enough to provide a reasonable and credible depiction of the Swedish venture capital market. The firms relevant for our thesis can be found on the website of the Swedish Venture Capital Association (SVCA). The existing firms within the venture capital market in Sweden are listed and briefly described at this website. The respondents were chosen by the firms and are presented in the table below.

Respondent of:	**Position:**
Firm A	CEO
Firm B	CEO
Firm C	Investment director
Firm D	Associate
Firm E	Investment manager
Firm F	Investment partner

Table 1. Position of respondents representing the firms interviewed.

2.3 Execution

We contacted the suitable firms by email and informed them who we are, what the purpose of our thesis and the interview is, followed by the proposal for an interview. To give the interviewees the possibility to prepare for the interviews we sent the questions to the firms beforehand.

All interviews started by us introducing our thesis and the aim of the interview. We then used the questions to start the conversation with the interviewee. Some of the interviews demanded additional questions for further clarifications, while others did not. The questions did not follow the same order in every interview, but all questions were asked in all interviews. Depending on the interviewee and the length of the answers, the interviews lasted between 30 and 60 minutes. The interviews were recorded and transcribed immediately. The interviews were then summarized with only the information relevant for our thesis. Some questions asked during the interviews were asked to gain further knowledge and increase our understanding. This was important for us to be able to interpret the answers correctly and later hold a good discussion. Therefore some of the answers to questions that can be found in the interview guide are not to be found in the empirical part. For the empirical section of this thesis, we only used the information directly linked to our purpose and purpose statements. This information was compared to the theories presented in the theoretical part of the thesis and from this we developed the discussion, which led to our study findings.

2.4 Reliability and validity

We chose to base our primary data on interviews with relevant companies. The information and answers received in an interview are always skewed and biased towards the views of the interviewee. As we wanted to examine the side of the investments that have been unsuccessful, it was probable that the company and interviewee in question may not be completely open when discussing this. Therefore, it was crucial that we were critical of the answers given. Another issue with the method of interview was that we were more prepared and had gained more knowledge by the last interview compared to the first. The answers given were also dependent on whom we interviewed. This is because a person in the senior management can have more authority to be open about certain question than a person lower in the organization. Therefore, we have included a table of the positions that the respondents hold within each firm.

Concerning the written sources we need to be aware of the intention of the authors, for whom it was written and what the author wants to convey to its readers. Non-academic sources require a higher critical evaluation as it may want to portray an image that does not always correspond to reality, and have not been reviewed prior to publication. It was also important to be critical of the information given even though it is published in academic journals. Still, these types of articles or reports have a high credibility in general and are often reviewed by other researchers before publication. Another aspect we considered was that many of the academic articles and books are written by non-Swedish authors. We were critical of how much we could transfer and apply directly to the Swedish market. However, since the theories address decision-making in venture capital firms regardless of their location we believed that their results are applicable on the Swedish market as well.

The theoretical references have been critically reviewed throughout the thesis. The empirical data has been collected and processed with the awareness of that the opinions given by the interviewees are subjective. By continuously keeping this in mind, the ambition has been to give the discussion and study findings a high credibility.

3. Theory

Initially in the theoretical part the different phases that a venture capitalist can invest in will be defined. In the second part of the theory, we will present the history and developments of the decision process by providing a description of the most cited researches within this area. An overview of the most common impediments to make a perfect decision will also be presented, followed by research of the criteria used in the screening and evaluation process.

3.1 Introduction

The first research on venture capitalist's investment decision process was published in the 1970's (Wells, 1974) and has continued to be developed throughout the years by Tyebjee and Bruno (1984), Silver (1985) and Hall (1989). The research also examines what criteria venture capitalists consider during the first stages of the decision process. Several researchers have developed theories and taken characteristics into account that determine whether to invest or not (Tyebjee and Bruno, 1984; MacMillan et al., 1985; Zacharakis and Meyer, 2000; Franke et al., 2008). The first studies present a more general model for the different criteria and stages concerning a venture. More recent research presents more in-depth results and has developed the criteria, the stages in the process and discusses what factors in the decision are the most important ones.

3.2 Investment stages

Venture capital investments have through studies been presented as investments made in the early stage financing (Wright & Robbie, 1998). Although this phase is the most common one for venture capitalists to invest in, four phases are identified as possible investment phases.

3.2.1 Seed phase

The seed phase is the very first stage of a venture, where the technology and the business concept are not fully developed. Normally, it is so called business angels, an individual investing his own private capital, that invest in this phase and not venture capitalist firms. This can be explained by the fact that business angels often have the intention be involved in the company as a partner (De Clercq et al., 2006). In this phase, a small amount of capital is invested in what is more likely to be an idea than a finished product. The aim of the investment is to give the opportunity to develop the idea or the product (Landström, 2007).

3.2.2 Early stage

The early stage can be divided into two parts: the first stage and the start-up phase. The first stage is the phase where the firm has spent all their start-up capital and is in need of further capital (Isaksson, 2000). Furthermore, the business plan is analyzed and completed but the management team is still incomplete. The development of the product and the marketing is provided with financing in this phase (Landström, 2007). The typical investor at this phase is a venture capitalist firm that will help with follow-up financing (De Clercq et a., 2006).

De Clercq et al. (2006) explained the start-up phase as the one that occurs when marketing is established and the venture starts to grow or expand. Landström (2007) further declares that the management team is complete at this stage, and additional financing is needed to improve the product.

3.2.3 Expansion phase

The expansion phase is divided into second and third-stage financing. Isaksson (2000) explains that in these stages investments are made for improvement of the product, further marketing and as helping capital for further development of companies. The difference between the second and the third stage is that firms do not yet provide any profit in the second stage.

3.2.4 Buy-out phase

The last phase is called the buy-out phase and occurs when the company has established itself on the market. Apart from capital, expertise in how to execute a buy-out deal is invested in the firm to make the best profit from a buy-out (De Clercq et al., 2006).

3.3 Decision process

The first study of the decision process for venture capitalists (Wells, 1974) identified six stages in the process. The stages were *search for investment opportunities, screening, evaluation, follow-up, dealing with venture operations* and finally *cashing out.*

Tyebjee and Bruno described in their article from 1984 how a model of venture capitalists' investment activity is structured. Their study developed the model by Wells (1974) by bringing together the *evaluation stage* and the *follow-up stage*

into one step, and adding the stage *deal structuring.* They did not consider the last stage, *cashing out.* Five steps that aim to explain how venture capitalists find and decide which company to invest in is portrayed in the model:

- *Deal Origination* concerns how deals become considered for investments. Typically, the companies of interest are too small and too unknown for the venture capitalists to find themselves. Therefore they often use an intermediary with knowledge of the industry that presents possible investments to the venture capitalists.
- *Deal Screening* is the step where a large number of possible alternatives are further screened until only a few are left. Venture capitalists tend to limit the screening and continue to invest in areas of industry in which they feel comfortable. The limits are typically set by the venture capitalists familiarity to the investment in terms of technology, product and market scope.
- *Deal Evaluation* is the step where the venture capitalist must assess the potential of the investment, in terms of risk and return. Since very few of the companies in question have any historical data to present, the investor makes much of the assessment subjectively. The investor weighs risk and return against each other, but very few make a formal evaluation, simply as there is no data. The evaluation process seeks to evaluate the investment from a set of multidimensional characteristics.
- *Deal Structuring* refers to the step in the process when the venture capitalist has decided on which project or company to invest in. After that, the negotiation starts. The investor and the entrepreneur comes to mutual understanding concerning equity share or price, capital expenditures and also how and under which circumstances the investor may take control or exit the company, such as buy-out, force a merger or acquisition or liquidate the company. All this is possible even though the investor in general is a minority stakeholder.
- *Post Investment Activities* concern the time after the initial investment. The venture capitalist takes the role of collaborator or partner, which may be formal through a seat on the board, or informal as an advisor concerning daily operations. This varies from venture to venture. It is not common that the investor is active in the day-to-day operations, but

intervenes in times of crisis. After five to ten years, it is customary that the venture capitalist exits the company and cash-out their gains from the investment.

3.3.1 Further developments of the decision process model

The steps in the process of decision-making were in 1985 described in a similar way by Silver. One difference is that Silver omits the evaluation stage used in the two previous theories and introduces the *due diligence* stage, which included for example negotiations with the entrepreneurial team and an evaluation of financial statements. Another difference was that the cashing out stage was considered once again.

Hall (1989) established a model with a sixth stage between the second and third stage in Tyebjee and Bruno's process (1984). The stage is referred to as *proposal assessment*, where proposals that have passed the previous stages are evaluated.

The study made by Hall and Hofer (1993) aimed to refine the stages a venture capitalist goes through in the evaluation decision process and to identify the criteria made in these stages. They concluded that past theories all showed two key factors. The first key factor is that no matter what research is considered, all consist of a number of stages. The second key factor is that the decision concerning a venture investment will consist of at least two steps: screening and evaluation.

3.3.2 Actuarial decision process

Zacharakis and Meyer (2000) researched if actuarial decision models could help venture capitalists obtain higher decision accuracy. This would in turn lead to a higher rate of successfully funded ventures and thus a higher return. Actuarial decision models use a method that decomposes a decision into smaller parts and then recombine these in order to predict a future outcome.

Zacharakis and Meyer (2000) base their report on a series of hypothesis. The main hypothesis states that actuarial models would be superior to venture capitalists' current intuitive decision process. What Zacharakis and Meyer (2000) found was that the hit-rate, described in the paper as the number of correct decisions as compared to the actual outcome of the venture, is in general

significantly higher in the cases when an actuarial model is used. They conclude that most relationships proposed in the hypotheses were supported. They continue by arguing that actuarial decisions models are underused in the venture capital industry even though the industry would be a particularly good fit to use such aids in. The models could be used to make it easier for the firms to not only attain a higher hit-rate and thereby a higher return, but also provide a way to critically evaluate previous unsuccessful and successful investments and thus avoid making the same mistake due to lack of formalized decision-making process. Zacharakis and Meyer (2000) suggest that such models would be of help in the screening process, the first step in the investment evaluation.

3.4 General impediments to optimal decision-making

Venture capitalists always strive to find the perfect investment, the "home-run" of their portfolio. According to theory, they tend to follow an intuitive decision process of certain steps or stages, for example as described by Tyebjee and Bruno (1984). However, as the process is highly intuitive, decisions are therefore also much dependent on the individual or individuals making the decision (Zacharakis and Meyer, 2000). Equally, as previous research has shown, an individual is not perfectly rational but bounded rational (Cyert and March, 1963; Newell and Simon, 1972; Simon, 1955), meaning that the decision is biased and influenced by heuristics. It exists different types of bias, which all impede the decision-maker from making the optimal decision. For example, availability bias causes the decision-maker to recall successful investments more easily than unsuccessful investments (Dawes, 1988; Dawes et al., 1989).

Zacharakis and Meyer (2000) mean that for the case of venture capital, this may cause the venture capitalist to accept a current venture investment proposal due to its similarities to a previous successful venture. This might happen even though the proposed venture might not fully satisfy all criteria or have certain information suggesting it could fail. On the other hand, if the venture capitalist uses satisfying heuristics he may pass on ventures because it does not satisfy one criterion, but fulfill the other criteria significantly (Zacharakis and Meyer, 2000). They continue by arguing that a venture capitalist inconsistently applies his decision criteria, causing the decision process to have low intra-judge reliability. This refers to when a person is inconsistent when making decisions. The

decision may differ from time to time even though the conditions are the same. Another aspect of sub-optimal decision-making is the presence of low inter-judge reliability, due to differing experiences, education and other demographic factors (Barr, Stimpert and Huff, 1992). These differences causes different venture capitalists to value the same prospective venture differently.

The amount of information an investor is exposed to may also impede their ability to make an optimal decision (Zacharakis and Meyer, 2000). They suggest it might be because of cognitive overload, meaning that if there is more information to evaluate it is easier to overlook important decision factors while paying too much attention to less important ones. As a result of this, more information does imply a higher level of confidence (Oskamp, 1982) but not a higher level of decision accuracy, in fact decision accuracy actually decrease when the amount information increases.

3.5 Criteria concerning the decision valuation of venture capital

3.5.1 Evaluation characteristics

When a venture capitalist evaluates a business plan, he or she will look at the specific characteristics of the possible investment. Tyebjee and Bruno (1984) grouped 23 underlying characteristics into five broader categories. These five categories of characteristics are the foundation for the following studies made on characteristics. The category cash-out potential is not to be confused with the stage cashing out in the decision process.

Figure 2. The five evaluation characteristics by Tyebjee and Bruno (1984).

3.5.2 Further studies of characteristics in the evaluation process

None of the studies made prior to MacMillan et al. (1987) had taken into account if the criteria used in the decision process actually managed to distinguish successful ventures from the unsuccessful ones. The main result of their study was that only one aspect seemed to distinguish successful ventures from unsuccessful and it was chance. They also found that there are two key criteria to consider when forecasting venture success. These are the degree of threat from competitors and the degree of market acceptance. The cluster analysis made by MacMillan et al. (1987) pointed out three groups of unsuccessful ventures. These were ventures with lack of experience, market demand and precision that still managed to be funded, ventures facing early competition and having no staying power, and ventures with staying power that fail due to lack of protection of the product.

Hall and Hofer (1993) further discussed the different criteria. According to them, previous research on the decision process of venture capitalists had focused on the evaluation criteria and thereby they found their way of evaluating new ventures (Wells, 1974; Tyebjee and Bruno, 1984; MacMillan et al, 1985). Hall (1989) wrote an article with limitations to the stages of proposal screening and proposal assessment. It showed that all firms based their decisions mainly on earlier experiences. In the screening process, good geographical area, an established market, knowledge from earlier investments and a profitable firm were four criteria that contributed to taking the process to the next stage. The decision taken in the stage proposal assessment was based on the investment being recommended by someone with similar experience.

An important aspect from the study by Hall and Hofer (1993) is that their results contradict past research when discussing the importance of the entrepreneur. According to their study, the characteristics of the entrepreneur do not have any importance for successfulness in the stages of deal screening and deal evaluation. Even though they argue that the entrepreneurial characteristics are not of importance, they admit that the management team must be able to cooperate after the first investment, and therefore the chemistry between all

parts involved is important. In conclusion, according to their study, entrepreneurial characteristics will only be of importance in the later stages.

3.5.3 Table of characteristics

Zacharakis and Meyer (2000) developed a table of characteristics where different theories were included and it showed the main criteria summarized for every research, grouped into four categories.

One criterion concerned the entrepreneur's characteristics. All theories agree that the management skills and experience are important when looking at these characteristics. Tyebjee and Bruno (1984) mention this characteristic as managerial capabilities, and 89 % of their respondents considered it important in their study. MacMillan et al. (1985) also state the importance: *"There is no question that irrespective of the horse (product), horse race (market), or odds (financial criteria), it is the jockey (entrepreneur) who fundamentally determines whether the venture capitalist will place a bet at all".* The venture team is as well of great importance, but only for half of the theories. The same outcome applies to the management stake in the firm. Another criterion concerned is the product or service's characteristics. Only five of the eight theories consider these characteristics. Tyebjee and Bruno (1984) mean that the product must be differentiated and MacMillan et al. (1985) consider several aspects of the product, and one of their two main criteria is that there must be a protection of the product. The studies by Wells (1974), MacMillan et al. (1987) and Timmons et al. (1987) only concern one or two aspects.

All theories take into consideration some characteristics of the market. Timmons et al. (1987) consider several, while MacMillan et al. (1987) only consider one. Tyebjee and Bruno (1984) define the size of the market, market growth and barriers to entry as important characteristics.

Although venture capital in general is about creating high returns, the financial aspects are not in focus for most of the theories. Poindexter´s (1976) model puts most value in financial characteristics. Looking at other theories, some of them consider a few financial characteristics and some do not consider any.

Study	Wells (1974)	Poindexter (1976)	Tyebjee & Bruno (1984)	MacMillan et al. (1984)	MacMillan et al. (1987)	Robinson (1987)	Timmons et al. (1987)	Hall & Hofer (1993)
Method	personal interviews	questionnaire	phone survey & questionnaire	questionnaire	questionnaire	questionnaire	unstructured interviews	verbal protocol
Sample Size	8	97	46 (Study 1) 41 (Study 2)	100	67	53	47	16
Entrepreneur/team characteristics								
Mgmt skills and experience	X	X	X	X	X	X	X	X
Venture team				X	X	X		X
Mgmt stake in firm		X	X					
Personal motivation	X					X		
Entr personality				X				
Product/service characteristics								
Product attributes	X		X	X	X			
Product differentiation			X				X	
Proprietary	X			X	X			
Growth potential			X					
Mkt acceptance				X			X	
Prototype				X				
Market characteristics								
Mkt size	X		X				X	X
Mkt growth	X		X	X		X	X	
Barriers to entry			X				X	
Competitive threat				X	X		X	
Venture creates new mkt				X				
Financial characteristics								
Cash-out method	X		X					X
Expected ROR		X	X	X			X	
Expected risk		X						
Percentage of equity		X						
Investor provisions		X						
Size of investment	X		X					
Liquidity				X	X	X		
Other								
References	X					X		
Venture development stage		X	X					
VC investment criteria								X

Table 1. Characteristics considered in investments, by Zacharakis and Meyer (2000) pp. 327

To summarize table 1 made by Zacharakis and Meyer (2000), many theories put the greatest importance on the entrepreneur and team characteristics. Every model considered in the table meant that management skills and experience are important. Financial characteristics are of the least value, whereas the market and product are more important.

3.5.4 Ranking of characteristics

Past research does not seem to concern what criteria are the key criteria for a successful venture. Franke et al. (2008) composed a new table based on past research, including more research, where the characteristics were ranked according to importance. By ranking the characteristics, it is possible to see what venture capital firms believe are the main factors of a good investment. The table portrays that the management and its qualities by majority is the most important characteristic. According to Franke et al. (2008), the three most important team characteristics are experience of the industry, education and leadership. The

second-ranked criterion is the market. Older research tends to rank financial characteristics, such as expected rate of return, highly while more recent studies do not consider it. Instead they focus on leadership potential, new venture experience and technical education.

3.6 Theoretical conclusion

The first studies regarding the decision-making process in venture capital firms were made in the late 1970's and early 1980's. Since then, many studies have been made and the studies tend to build on each other. The later theories are often developments of prior studies. Therefore, the theory of venture capital firm's decision process is predominantly coherent and consistent. It all consists of certain steps in which different characteristics of the potential investment are evaluated. Focus tends to lie in the period before the actual investment is made.

Regarding the most important criteria in the investment process, studies tend to build on each other in this area as well. The theories mainly single out entrepreneur and team characteristics as the most important one. Financial characteristics have become less important over the past decades while the importance of the entrepreneur and the team has become even more apparent. The discussion will later make a comparison between the presented theories and the answers given by the respondents that will be presented in the empirical part. The areas that will be discussed and thus the key factors that will be taken from the theoretical part are the five-step model, the characteristics considered in evaluations and risk factors affecting the investment decision.

4. Empirical data

4.1 Firm A

Firm A is a company that invests in the seed phase and only invests in projects originating from an entrepreneurial school. They make around 30 investments yearly and in the end these are reduced to around five projects receiving financing.

4.1.1 Finding new companies

The idea of Firm A is to look for great ideas, not great companies. They select around 150 projects yearly for assessment. The number is then reduced to 30. These 30 projects are financed, by small amounts, due to the unpredictability of a project in this early phase, as the interviewee stated: *"In the first phase, it is impossible to tell if the idea will generate a company or not".* The final projects will go through an incubation period where the ideas are developed, tested and evaluated. Around five projects will be further financed, and at last one of these will receive a greater investment. The one receiving a larger capital investment is the proposal with the most potential to become successful.

For Firm A, the criteria for undertaking a project are some kind of barriers to enter the market for competitors and a clear customer benefit. What the customer is willing to pay in relation to the production cost also influences the decision. The project must also be scalable, preferably internationally since Sweden is a small market. Firm A states that the people behind the product are of great importance. The entrepreneur must be able to handle the process as well as he or she must have the drive and knowledge to be able to succeed. The interviewee means that *"the longer you have been in the business, you see that it is the people that makes the difference".*

4.1.2 Decision process

When it comes to the evaluation of whether an investment should be undertaken or not, Firm A has a type of checklist with boxes that have to be ticked, concerning the criteria that are important for Firm A. When shown the table composed by Zacharakis and Meyer, the interviewee says that it is the entrepreneurial and team characteristics, and the product and service

characteristics that are the main factors underlying the decision. Talking about market characteristics, they mainly leave that part to the entrepreneur itself.

When it comes to risk, Firm A is naïve, according to the interviewee. This is due to the very early stage that they invest in. They do however take past investments into account when they consider new investments, mainly through the involvement of alumni students. All projects originate from an entrepreneurial school and previous students are often active and engaged in new ideas as well. This leads to a natural way of taking old outcomes, the alumnus own experiences, into account. Due to the alumnus previous experiences, factors of success and failure can be found relatively easy and early in process.

4.1.3 Investments

Out of the final five cases, one or maybe two per year will generate real success. Around two or three out of the five final cases will fail, which according to the interviewee can be seen as a good result compared to the Swedish venture capital market. Even though many investments fail, evaluations are rarely made. Concerning the common denominator causing unsuccessful investments, Firm A means that it is the entrepreneur and the interviewee states *"you would rather take a good entrepreneur than a good idea".*

4.1.4 Required return

For Firm A, the required return is the obvious measurement for success seen from an economic perspective.

4.2 Firm B

Firm B invests in the seed phase and works with a ten-year period where they only make new investment during the first four years. The remaining six years are focused on development and follow-up investments for the investments made during the previous four-year period.

4.2.1 Finding new companies

The firm finds its possible investments mainly through a wide network of people active in the industry and also through its connections to a university. The interviewee spoke about the importance of their own reputation and building a functioning network. In general the firm itself does not actively seek new investments, as their fund is rather limited. The most important criteria for the

firm when considering new investments is the entrepreneur or the team and the product or service it will provide.

4.2.2 Decision process

The firm uses the criteria mentioned above when evaluating new investments. For this firm, it is not important that the entrepreneur has a business model or a finished product when seeking funds, but it is important that it is possible to see the vision. The evaluation is intuitive and may vary from investment to investment.

When looking at the table of characteristics and theories composed by Zacharakis and Meyer (2000), the interviewee singles out entrepreneur characteristics and product characteristics as the two most important characteristics. The firm itself does not use any type of model such as the ones presented, and the interviewee also comments on the fact that many of the theories are old and that the industry has developed very much since. He says that focus has shifted from market and financial characteristics, as the market is extremely hard to predict and it is therefore unnecessary to speculate excessively about for example future market growth and size.

The firm does not have any specific method of evaluating risk, though the interviewee says that "*failure teaches you to identify certain events or factors of an investment that may have been the reason for a previous investment to fail, and thus gives a chance to fix it before it fails due to the same reasons*". He says that the firm works continuously by asking themselves what they like and why, what decisions should be taken in what stages of the process, and how they manage their investments.

4.2.3 Investment

The firm invests in the seed phase as they have a limited fund and the industry is a bit of "*a number's game*". They tend to invest very little capital the first 12 months, but provide coaching for the companies from the start. Later on, it is less focus on coaching and more on business development. The interviewee says that they hope to contribute "smart money", that is capital combined with coaching, providing a network and finding the next generation's owner.

The investments that meet the required return are about ten out of forty-five. The interviewee says that about 10 % of the investments become really successful, which according to the interviewee is a high number when investing the seed phase.

A common factor for failed investments is according to the interviewee the lack of drive and passion for sales. A lot of entrepreneurs are often skilled technicians and analysts but may not be as forward when it comes to calling potential customers or buyers. Another risk factor is to become too risk-avert. It is common that a firm does not want to invest alone, but is willing to invest if they have a partner. This might cause the firm to miss the opportunity all together, or invest too little capital with the consequence of the investment becoming too small and loose their ability to develop.

4.2.4 Required return

The issue of what represents a successful or unsuccessful investment is double. The interviewee says that if only looking from the investors' side, the required return is the only factor that the investments are measured by. Other factors are important as well, such as who the buyer is after the venture capitalist exit the investment. Having a well-known buyer gives the firm a better reputation and attracts new investors and entrepreneurs.

4.3 Firm C

Firm C is a firm that invests in a later stage and in companies that add value to their corporation. They are thus active in corporate venture capital. Firm C only invest in companies with high growth potential where they can forecast a strong possibility for value adding activities.

4.3.1 Finding new companies

Firm C creates their portfolio by scouting and proactively search for new firms to invest in. They look at criteria such as strategy for development, which the interviewee says stand for 95 % of the criteria. The venture capital firm contributes to the corporation by offering new areas of investment to the management. By using external researchers, they analyze different areas and markets. By this, they try to see what happens in the market and bring this into the corporation, with a perspective from the outside towards the inside. A strategic criterion for firm C is to invest in firms that can contribute to the whole

corporation, as well as the need for the product to be competitive. They measure potential investment by, for example, discounted cash flows, but very much depends on understanding the future plan for the potential investment. Even though the firm invests in the expansion phase it is still hard to do historical assessments.

4.3.2 Decision process

Firm C uses a hypothesis-driven analysis theory when evaluating potential investments. This means that they base their decision on a decision tree where as many criteria as possible should be independent from the others. Looking at the table composed by Zacharakis and Meyer (2000), the interviewee means that management is an outstanding criteria; *"You have to have a good management team. The ability, experience, knowledge and will are very important. A good team can do almost everything, even with a bad product."* The entrepreneur and the team are the most important criteria, followed by the market including market growth and competitors. An understanding of the competitors is considered to be very important.

When it comes to risk, the interviewee for Firm C means that most of the risk comes from the ability to perform – to connect the market to the firm and try to understand what type of market risk exists. Market characteristics can be hard to evaluate, and if the management team is new in the market, forecasts can result in more errors that expected.

Firm C has evaluated every investment made since the start of the firm and made an analysis of what went right and what did not. The results from this review are used today when deciding whether or not to invest in a project. According to the interviewee, hot areas are the ones attractive to invest in but also more risky and therefore investments may be undertaken even though there is an obvious risk.

4.3.3 Investments

Firm C invests mostly capital, but they also invest in form of management in the directory of the company. The role of Firm C is to guide the invested firm and the corporation itself to connect and work towards a win-win situation for both parties. They believe that the will to cooperate must arise from both parties. An

agreement should not be signed until both parties are satisfied – a vision that the interviewee believes few corporate venture firms take into account.

The success rate of investments has changed for Firm C. Earlier, around two or three out of ten investments were really successful, and today that number is around six to seven. This change is due to a change in risk level, which has been reduced by investing in later stages.

Firm C makes evaluations of unsuccessful investments where more or less all characteristics mentioned in the table by Zacharakis and Meyer are considered. When asked for common factors for failure, the interviewee says that failure often occurs if the idea is not clear from the beginning and the product demands much capital. According to the interviewee, management is the second factor that contributes to failure. However, firms that have changed management several times tend to be very successful, but this requires that the change to be made in the exact right time.

4.3.4 Required return

The method that measures success is the return on the investment, and the set level is around 20 % of return on capital employed.

4.4 Firm D

Firm D is not a venture capital firm by definition, since their focus is to find firms with potential, so called *"growth equity"*. This places the firm between venture capital firms and buy-out firms. They thus invest in a later stage and look for mature companies with revenues of 50-300 million Swedish crowns that are in need of a financial partner for further developments.

4.4.1 Finding new companies

The firm has three possible ways of finding companies to invest in. The two most common are that investment banks with mandate to sell companies approach the firm or that the entrepreneur himself approaches the firm. The firm also tries to source possible investments themselves but it is unusual. When they evaluate possible investments, the most important criterion is that there is a significant trend for the company to grow in the next 5-10 years. The market and its size are therefore very important. Other criteria for the firm is that they prefer to be majority owners and in partnership with the entrepreneur.

4.4.2 Decision process

Firm D does not follow an exact template or standardized checklist when evaluating a potential investment, but the decision process is similar. They first present the potential investment for the team, followed by a deeper and more extensive analysis and finally a decision by the team. If the investment passes this stage, the firm hires external counseling for financial, legal and commercial matters. The investment is then presented to the venture capital firm's board where the investor advises them to invest in the start-up company.

When the interviewee looks at the provided checklist of characteristics composed by Zacharakis and Meyer (2000), he says that entrepreneurial characteristics, product characteristics and market characteristics are of importance for their decision. The entrepreneur himself is very important as they intend to have a partnership with him during the investment period. The product needs to be accepted by the market, and the market itself is important in its size and growth potential. A criterion that is difficult to judge is the market size. It is hard to predict the future size and how many that already is active in the market in Sweden. The interviewee also believes that it is more important that the potential investments fulfill more characteristics then traditional venture capital firms may require due to the later phase firm D invest in. Their potential investments should already have viable products, a functioning team and a market share.

Risk is managed by hiring financial, legal and commercial advisors that look at each part of the investment and confirm or deny the assumption that the potential investment is a good investment. Prior made investments are not systematically reviewed when new investments are evaluated, but the interviewee says that it is easy to feel comfortable with a specific industry with thoughts such as "*we know this industry, we should do this again, this is a same kind of thinking as we did in that investment*", which can be a risky thought as it may cause the firm to overlook potential investments in other industries.

4.4.3 Investment

The firm invests capital, their network and board members in the companies. As they strive to be majority shareholders, the firm tends to change the board and involve one person from firm D and one external person from their network with industry experience. They have no involvement in the operational activities, unless they appoint a new CEO or similar. The firm works as a support function for the CEO, to make the firm grow and for the invested firm not to be dependent on the entrepreneur when they exit the firm.

The companies in which firm D invests should already be working well and have a functioning business idea. Firm D invests to make it grow quicker and increase company value. In general terms, they hope that at least nine out of ten investments are successful, but with differing grades of successfulness with some delivering a return of five times the invested amount and some with two times the invested amount. Firm D has not identified any common factors for failures, and says that one factor that is evident across investments cannot be pointed out. Factors of failure differ from case to case.

The firm makes evaluations of unsuccessful investments, but the approach may differ between cases. Sometimes an external consult is hired to make an evaluation and other times it is an internal report to the board. They do however not have a standardized template to follow.

4.4.4 Required return

The firm's main objective is to deliver the accurate amount of return to the investors. The interviewee states that in essence all that measures if an investment is successful or unsuccessful is the return it delivers, but he continues by saying that it is taken into consideration whether they were "lucky" due to market growth or if they did a good job with the investment itself. Also, it might be a bonus if the company establishes itself in new markets or expand in the home market.

4.5 Firm E

Firm E makes around ten new investments per year. The firm may take weekly decisions for investments up to 15 million Swedish crowns. For amounts higher than 15 million, the firm has to ask the firm's board for capital. They invest in different stages depending on industry.

4.5.1 Finding new companies

Firm E finds new investment opportunities both by actively search for them as well as being approached by entrepreneurs. The interviewee adds that over the years he believes that looking actively for potential investments has become more important as well as having good relationships with banks, accounting firms and law firms. Overall, a lot of the new investments are mediated by contacts that suggest entrepreneurs to contact Firm E.

The most important criterion when evaluating potential investment is the entrepreneur. The firm must furthermore be active in an industry that Firm E believes has growth potential, and for the idea to be viable. Still, the interviewee says, *"...The person is more important than the idea. A good person could still be successful with an imperfect idea...*". Firm E invests in different stages and the criteria differ among them. If they invest early, they may be open to take on more risk.

4.5.2 Decision process

The firm uses a type of template when they evaluate and later on present the potential investment. They do not follow the template very strictly, but they base the following presentations on it.

When presented with the compilation by Zacharakis and Meyer (2000), the interviewee says that their template can be found in it, not by exact form but the criteria are included in their internal guide. Entrepreneurial characteristics is singled out as the most important factor, and the interviewee continues by adding that it is also the hardest factor as all humans are different and cannot be "*put into a template*".

On the topic of risk, the interviewee starts by saying that "*we know that when we invest there is always something that will go wrong*". As Firm E tends to invest a bit later than the seed phase, the technical risk should already have been taken and therefore they are most concerned with the market risk. The interviewee says that they often have potential investments "*on our radar*" for a long time, up to ten years, before making an investment and by that they see that the entrepreneur has perseverance and has processed the market for a long time. They also prefer to work with serial entrepreneurs as a way to minimize risk. A serial entrepreneur is a person that has been involved in start-up companies before and is therefore expected to know the potential pitfalls and also what it takes to become successful.

Prior investments are not deliberately taken into account when considering new projects, but it is unavoidable not to. For the investors that see a lot of failures and entrepreneurs that keep asking for more capital, this might become a risk in itself as it causes them to become risk avert.

4.5.3 Investment

The firm is almost always active on the board of the company. After some time, the firm may appoint external people to use their mandate on the board. They only invest for at least 10 % of the shares, to be able to make a difference in the company. The firm can never be majority shareholder.

The percentages of investments that become successful are estimated by the interviewee to be about 10 %, and about 30 % are good or acceptable investments. Around half of all investments can be called failures. The firm does not have a standard template for evaluating unsuccessful, but try to do it internally as much as possible. They write a report of what went wrong, but the interviewee says that they could improve in learning from their colleagues and share experiences. Common factors for failure is according to the interviewee that either the person or the market fails but it is rarely the product.

4.5.4 Required return

In general the only factor that determines whether an investment is successful or not is the return it provides.

4.6 Firm F

Firm F is a new actor in the Swedish Venture capital market, established one year ago. They invest in the very early stages in Nordic firms in the Mobile Tech market. The idea of their investments is to follow them along their journey and invest in different stages.

4.6.1 Finding new companies

Firm F is often found by entrepreneurs at management events, their website, and general meetings. When looking at a new investment, Firm F look at how scalable the idea is, how much competition exists and if the idea is easy to copy. But as the interviewee states, *"even if you would want a tick in every box, it is the team that is of absolute most importance".* They have the ambition to be a part of the team and only invest in firms that they feel that their knowledge will fit and help. The early stages face more risk, which makes the probability of finding the right company fairly low. One way of reducing risk is to be very active in the company and not invest in companies where Firm F does not contribute with any knowledge.

4.6.2 Decision process

Firm F do not use a specific template when evaluating a possible investment, but they do ask themselves several questions such as what is the product, how unique is it, how would the customer react etcetera. Looking at the table by Zacharakis and Meyer (2000), the interviewee means that all characteristics are followed, from top down. The entrepreneur and the team are the absolute most valuable criteria, since you cannot change the team as easily as you can modify the product. The interviewee states that it is hard to define the risk of all characteristics. If Firm F believes the risk to be high, the expected return must be even higher. The greatest problem when it comes to defining risk for Firm F is the entrepreneur. Every entrepreneur has good manners and knows how to act, but as the interviewee says, "*it is when the crisis arise that you really know how they act".* For example, Firm F does not want to invest if the entrepreneur only wants to make a good profit of the boy-out in the end. Firm F tries to minimize risk during the negotiations, for example by using their experience from past investments when meeting with new entrepreneurs.

4.6.3 Investments

Firm F invests in active management, since their policy is to be an active part of the firm. They are very new and therefore it is hard to discuss unsuccessful investments, as the investments have not reached that stage yet. Despite this, they are realists and understand that some investments will fail, but only the future can tell in the case of Firm F. All characteristics in the table can contribute to failure, for example if the market changes drastic, the entrepreneur might have to start from scratch again.

4.6.4 Required return

Return is a requirement for continuing the process, but for Firm F it is important that they can contribute with knowledge and expertise. Firm F has rejected investments with a great forecast on the return, due to lack of knowledge within the area. They also mean that the entrepreneur himself must have the intention to keep the firm going, not only to have hopes of generating an exit of value.

4.7 Empirical conclusion

The firms interviewed are very different in terms of size, years in the industry, what phase they are active in and experience. Some companies have been in the industry for many years while one company has only been active in the industry for a year. Despite this, all firms have the similar views on which criteria that are the most important ones concerning separating potential failure from potential successes. All firms stated that the entrepreneur and team characteristics were the most important criteria for success but a majority of the firms also said that the most common factor for failure was due to the entrepreneur or the team. The second most important criteria were market and product or service characteristics. The financial characteristics of a potential investment were however not significantly important for the firms. The firms agree that the most important cornerstone for a successful investment is the entrepreneur or team, and many of them said that they would rather have a great entrepreneur than a great product. The product is said to be easier to adapt and develop than the person behind it. The investors, not the venture capital firms itself, set a required return and in all firms but one the only factor distinguishing a successful investment from a failed investment. Investments that do not reach the set required return are considered failures.

5. Discussion

5.1 Practice versus theory

In the introductory part of this thesis, statistics concerning unsuccessful investments were presented. The statistics show that around one or two out of ten investments succeed. Around eight investments become failures, as they do not reach the required return. These numbers created an interest to find out how this fit the Swedish venture capital market. The six firms in this thesis represent the Swedish market, and since they differ in definition we believe that the credibility of the sample is high. Four firms agree with statistics, saying that only one or two out of ten investments become really successful. The interviewee for firm E means that this confirms that "*there are very few investments that will make the firm keep going".* The interviewee for firm D said that since they invest in a later stage of venture capital, at least nine out of ten investments become successes. Firm F was not able to answer the question since they are new in the market and has not yet experienced any failures.

5.2 Decision process and evaluation of risk

Studies and theory show that specific stages are followed during the decision process. They present a relatively strict process in which decisions regarding new investments should be taken. The interviewed firms all agree that the different stages do occur, but differ in what phase the decisions are taken and in what order. Despite this, practice and theory seem to cohere. According to the interviewees, the order depends on the unique investment. Firm A and E have guidelines to follow in the evaluation and all firms evaluate potential in the possible investment individually. In what stage of the decision process focus lies differs among the firms. An explanation for this could be that the firms interviewed in this thesis differ in for example size and what investment stage their investments lie in. However, it is interesting that even though theory is adapted and used in practice, only two of the interviewees were familiar with the different theories or studies presented during the interviews.

The interviews included a question regarding whether the firms evaluate unsuccessful investments or not. The answers to this question were rather surprising as evaluations of failed investments were not that frequent and not of as great value as expected. In the study by Zacharakis and Meyer (2000), they

argue that a standardized model of evaluation could prevent firms from repeating the same mistakes. This is not a fact that the firms in the industry seem to be aware of. Firm B and D were the only firms that use external analysts when they evaluate a failed investment. Firm C has a process where they evaluate the investment from an internal and external perspective, and also via the entrepreneur. The reason for making evaluations is to find common factors, or a pattern, in order to be able to identify these in the future. Firm D that invests in a later stage of venture capital writes an internal report in addition to an externally made analysis. Firm C uses a form of risk assessment, and they have found that the most risk lies in the post investment activities step. They mean that even though the investment looks good on paper the outcome might not be as expected when implemented. They assess the risk based mainly on the same characteristics as shown in the table by Zacharakis and Meyer (2000).

The other firms, Firm A, E and F, confess that they could improve at evaluating why investments fail. They state that they are aware of the high level of risk that is associated with this industry. They work to eliminate this risk as early as possible by comprehensive negotiations and discussions with the entrepreneur or the team behind the potential investment. They also use past experiences as a tool to minimize risk.

Even though the industry of venture capital is risky, existing theory rarely mention how a firm should work to avoid it. Furthermore there are no models specifically focused on the Swedish venture capital market and the firms. Because of this, the topic of how Swedish firms work to avoid risk is primarily based on the empirical sources in this thesis. All firms but firm D have a similar perception of the risk in the industry. They are aware of the high probability that investments become unsuccessful. Why Firm D perceives it to be less risky could be because they invest in a later stage where much of both market and technical risk are supposed to be eliminated or previously taken by others.

The reason why firms keep investing in venture capital is that despite the high failure risk, they know that it will come an opportunity to invest in a project that

will generate great return, and the firms do not want to miss that opportunity. The driving force behind this will is explained by the interviewee of Firm C, who says *"because an investment can generate exceptionally high return, you sometimes undertake investments with a proven higher risk"*.

Sometimes, it might seem as firms undertake investments that they beforehand know will fail. This is a wrong impression, as all firms state that undertaking a possible bad investment never is a part of their strategy. Although, they are aware of the high risk linked to venture capital investments and therefore the majority of the firms mean that they know even before a portfolio is created that probably 50 % of the investments in it will fail. Still, it should not be seen as a strategy that firms invest in a possible unsuccessful investment only because they are aware of the possibility of failure.

All the firms interviewed for this thesis work with an intuitive decision process. None of them work in a standardized way, but highlights the need for specific treatment for every unique case. The failure rates are high although similar for the industry, and it is interesting that not one of the interviewed firms seem to consider alternative ways to work except the intuitive one. The result from the study made by Zacharakis and Meyer (2000) show convincing results of how actuarial decision models could improve the rate of successful investments for venture capital firms, but none of the firms seemed to be aware of this study or this way to work with the decision process. The firms work more similar to the deal evaluation step described by Tyebjee and Bruno (1984) as they rarely make a formal evaluation of the potential investment, besides Firm D. It is however not certain that the high rate of successful investments depends on the use of formal evaluation. It could be explained by, as previously mentioned, the fact that the stage Firm D invests in is later the traditional venture capital stages.

The intuitive decision process include some negative aspects, such as bounded rationality, biases and heuristics and low intra- and inter-judge reliability but the firms do not seem to consider these negative aspects. When asked the question if they recall past investments when considering a new one, all of the firms said yes but none of them seemed to be aware that this could actually impede their ability

to make an optimal decision. The answer to this question also deviated to some extent from what studies made on the subject say. According to Dawes et al. (1989) it is easy to recall past successful investments due to availability bias. None of the firms said however that they look to past successful investments when evaluating a new one; instead Firm B and Firm E state that it is easier to recall past unsuccessful experiences and thereby become more risk-avert as they have experienced previous failures and are aware of the risks.

5.3 Criteria in the evaluation process

The table composed by Zacharakis and Meyer (2000) that is presented in the theoretical part of this thesis was shown in all interviews. This was done to create a discussion concerning the most important criteria during the decision process and the investment as a whole. All firms but Firm F confirm that return measures if an investment is considered successful or not. Firm F means that the important factor for them is to know that they contribute with knowledge and expertise into the invested firm. Even though return is the main measurement for Firm B, they agree with what Firm F states. Firm B believes that it is possible to further distinguish between a successful and an unsuccessful investment by looking beyond their exit from the company. For example, they want the investment to be purchased by a large and well-known company with a good reputation.

Despite the fact that return is what decides if an investment is successful or not, none of the firms interviewed put any value in the financial characteristics in the evaluation process. Studies show that it is a factor that firms rarely prioritize, as stated by for example Franke et al. (2008). The ranking model used in their study shows that the term return often appears in theories, but not in as many as expected. All firms interviewed for the thesis talk about return as the most important measure of success, but return is never mentioned as the most important characteristics of an investment decision. This might be because it exists an underlying understanding between the venture capital firm and its investors that the required return is supposed to be met by whatever investment the firm decides to take on.

It is obvious what criterion is considered the most important for the majority of all firms interviewed, and that is the person behind the idea or the product. This was also confirmed in the study by Franke et al. (2008). All firms point out the entrepreneur as the most important factor for success, but some firms mention the entrepreneur in combination with another criterion. Firm A states that they are more likely to invest in a good person than a good idea. No matter how good a product or idea might be, or how much capital is invested in it, the person behind it will affect the outcome. As the interviewee for Firm A said *"the longer you have been in the business, you see that it is the people that makes the difference".* The study made on ranking by Franke et al. (2008) that focus has shifted from financial characteristics to entrepreneurial characteristics and nowadays the most important factor for success is the person behind the idea.

MacMillan et al. (1987) pointed out four unsuccessful groups of venture. One of these consisted of lack of experience, which also many firms discuss as a reason for failure. That is why, for example, Firm E prefers to work with serial entrepreneurs. They have more experience and are aware of the possible risks. Two other reasons for failure according to MacMillan et al. (1987) is lack of market demand, and early competition the same time as the product has no staying power. This too agrees with the Swedish venture capital market. The interviewee for Firm C talks about problems that can occur if the entrepreneur has not made the market validation needed or done it incorrectly. He also means that market characteristics are hard to forecast, since the market can be new and unpredictable.

Similar to what Franke et al. (2008) say, the entrepreneur is the most important characteristic. The firms agree with this statement but continue to develop what criteria within the entrepreneur are important. Firm B means that the entrepreneur must possess a passion for sales and have a will to succeed. Firm F confirms this thought by saying that it is important that the entrepreneur do not begin the investment negotiations by speaking of how they want to make an exit and earn money. A good exit should be a future idea or goal, not a target from the start. Another factor that they are also aware of is that all entrepreneurs are polite and know how to behave, but it is not until the critical situations it is

possible to see how the entrepreneur really works. The negotiations mentioned take place in the step called deal structuring by Tyebjee and Bruno (1984). Firm B and E continue to speak about the risk of becoming risk-avert and how this can influence an unsuccessful investment, saying that *"you might not dare to invest if no one else does it together with you".* This however is not mentioned in any of the theories used in this thesis. According to Firm C failure can depend on how good the idea is from the beginning. Here, the idea is of greater value, since they invest in a later stage and also on the account of a corporate group that has fairly strict requirements set. The interviewee for Firm D means that it is not possible to find a common denominator for unsuccessful investments, but that it depends on every unique case. All other firms but Firm F, because they not yet have experienced this stage, mean that the common factor for failure is the entrepreneur or the team.

Entrepreneur and team characteristics are the most important criteria, but also the most critical. Theory has not covered this subject, but it is evident from the Swedish venture capital firms' point of view that this is the case. It might not be very strange that the entrepreneurial characteristics are said to be the most important criterion, since it is the one with absolute most uncertainty. Furthermore, through discussions with the interviewees the reason for why return rarely is mentioned as an important criterion has become clear. This is because it is possible through a good entrepreneur, a good market and a viable product to achieve the required return.

Characteristics	**Firm A**	**Firm B**	**Firm C**	**Firm D**	**Firm E**	**Firm F**
Entrepreneurial/team	X	X	X	X	X	X
Product and service	X	X	X	X		X
Market	X		X	X	X	X
Financial						
Other						

Table 2. The results of the most important characteristics according to the firms interviewed.

6. Study findings

6.1 Results

The purpose of this thesis was to describe if there are common factors for failure in the Swedish venture capital industry. The interviewed firms differ in terms of size of the fund, investment approach and experience. Even though there are many differences between the firms, the answers concerning the most critical questions are alike. This signals that the selection made in this thesis cover the Swedish venture capital market well. Due to this, the conclusions can be considered credible.

Theory and practice agree upon what influences an investment the most: the team or the entrepreneur. The market is the second factor, followed by the product. The stages in which failures have their origins are the deal evaluation and deal structuring stage because in these stages the potential investments are evaluated. An incorrect evaluation of the most critical characteristics may lead to the venture capital firm investing in a project or company that will become unsuccessful.

The decision process in practice differs from theory in terms of the order of the five steps in the decision process. The model presents the decision process in stages and also describes what decisions are taken in each stage. In practice, on the other hand, the order in which the decisions and evaluation take place depends on the unique investment and also on the experience and demographic factors of the venture capitalist. The respondents said that they rarely or never use a formal checklist as a base for evaluations of new ventures. Therefore, each venture capitalist applies the evaluation characteristics subjectively, which is one drawback of the intuitive decision process. Still, all characteristics mentioned in theory are considered. The ranking of the importance of different characteristics are also consistent between theory and practice in the Swedish venture capital industry. Studies of common factors for failure have not been made before this thesis. Both the studies made on the subject of evaluation characteristics as well as the firms in the industry agree that the most distinguishing factor between successful and unsuccessful ventures is entrepreneurial characteristics. What is believed to be the most common factor

leading to failed investments is the entrepreneur or the team. The explanation for this is that it is impossible to place a person in a template since everyone is unique. It is extremely hard to predict how a specific entrepreneur will act. It has become evident through theory and empirics that it is the uncertainty regarding the competence, experience and personality of the entrepreneur as well as uncertainty about the market size and future growth that causes failures in the Swedish venture capital industry. These are factors that cannot be changed unlike the product, which can be modified.

The Swedish venture capital firms work to avoid unsuccessful investments by trying to minimize risk and uncertainty. They do it by acknowledging the high risk in the industry and using experiences from past investments. Using previous experiences can help the venture capitalist to identify for example certain behaviors of the entrepreneur that have led to failure in other investments. Risk can also be avoided by hiring external consultants that confirm or deny the assumption that an investment has much future potential. The first assumption about potential is made by the venture capital firm. The firms try to minimize and define risk in investments by identifying that specified characteristics are fulfilled. The characteristics that each investment must fulfill are set by the venture capital firm. All firms invest in industries in which they have past experience and good knowledge. Thereby some risk is minimized and thus avoided.

6.2 Suggestions for further studies

This thesis has contributed by describing the common factors for failure within the Swedish venture capital industry. The following areas of the subject are identified as interesting future research.

- An obvious extension of the thesis would be to study what characteristics within the entrepreneur cause unsuccessful investments. It would be interesting to study if there is a way to minimize the risk linked to the entrepreneur.
- A comparison between the results of this thesis found in the Swedish market and another market, for example the market in the United States as their market is more developed and significantly larger than the Swedish market.

- Another interesting area of study would be how the experience of venture capital firms, namely their employees, affects the number of investments that become successful. Does more experience imply a higher rate of successful investments, or is it irrelevant?

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8. Appendix

8.1 Intervjuguide

Företag:
Antal anställda:
Förvaltat kapital:
Antal nyinvesteringar per år:

1. Att hitta företag

- Hur finner ni nya företag? Är det ni som hittar företagen eller tvärtom?
- Vilken strategi använder ni för att hitta företag ”före alla andra”?
- Vilka är, för ert företag, de viktigaste kriterierna för att anta en investering?
- Skiljer sig kriterierna åt beroende på bransch?

2. Beslutsprocessen och riskhantering

- Finns en ram/mall som används för att utvärdera företags affärsplan, nuvarande position och möjligheter?
    - Använder ni er av någon modell som är framtagen inom forskning på venture capital? (se bifogad tabell)
- Hur bedömer ni risk i en investering?
- Finns det några kriterier som är mer svårbedömda, och i så fall vilka?
- Tas tidigare investeringars utfall med i beräkningen vid beslut om nya investeringar?

3. Investering

- Vilken fas investerar ni i och varför just denna fas?
- Vid en investering, vad investerar ni i företaget? Kapital, management, kunskap, etc…
- Hur stort utfall uppnår ej investeringskraven?
- Görs utvärderingar av ”misslyckade” investeringar? Hur ser denna utvärdering ut?
- Hur ser utfallen ut generellt på den svenska Venture Capital marknaden, enligt er? Är det lätt att lyckas? Lika lätt att misslyckas?
- Hur ser den optimala investeringen ut?

4. Avkastning och slutfas

- Om du i procent skulle uttrycka hur många investeringar som uppfyller avkastningskraven, hur många som ger plus minus noll, samt ej är nära att uppfylla kraven, hur skulle den procentuella fördelningen se ut?
- Är det endast avkastning som mäter om en investering är lyckad/misslyckad eller finns det andra sätt att mäta?
- Har ni själva kunnat identifiera några gemensamma faktorer för misslyckade investeringar när (om) ni utvärderat dessa?

8.2 Translation of interview guide

Company:
Number of employees:
Fund:
Number of new investments per year:

1. Finding new companies

- How do you find new companies? Do you find the companies or do they find you?
- What strategy do you use to find investments "before everybody else"?
- What are, for your company, the most important criteria to consider in order to accept an investment?
- Do the criteria differ between industries?

2. Decision process

- Is there a template/checklist used to evaluate the companies business plan, current position and opportunities?
    - Do you use any model formulated by research on venture capital? (see attached table)
- How do you assess risk in an investment?
- Are some criteria more difficult to evaluate and assess than other, and if so which?
- Does the outcome of previous investments influence the evaluation process of new investments?

3. Investments

- What phase do you invest in and why that phase?
- When investing, what do you invest in the company? Capital, management, knowledge etc.
- How large part of the outcomes do not reach the investment requirements?
- Are unsuccessful investments evaluated? How is this evaluation made?
- According to you, how are the outcomes in general on the Swedish venture capital market? Is it easy to succeed? Equally easy to fail?
- What characterizes an optimal investment?

4. Required return

- How would the percentage distribution look like if you would estimate how many investments reach the required return, how many that return the intrinsic amount and how many that does not reach the required return?
- Is it only the return that measures if an investment is successful or not?
- Have you been able to identify any common factors for failed investments when (if) you have evaluated these?