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## *How to manage innovation and maximize value creation*

A study of Swedish venture capitalists and their portfolio firms



Authors:  
Anna Tugetam  
Malin Larsson

Advisor: Per-Hugo Skärvad

## **Abstract**

Title:

*How to manage innovation and maximize value creation- a study of Swedish Venture capitalists and their portfolio companies.*

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Course: Master thesis in Strategic Management

Authors: Malin Larsson and Anna Tugetam

Advisor: Per-Hugo Skärvad

Key words:

Venture capital, entrepreneurship, research and development, value creation, strategy, innovation management

Purpose:

The purpose of this thesis is to look into how management is practiced in a venture capital financed research based company in order to create value and foster innovation.

Methodology:

The research has been carried out as a qualitative study with an abductive approach.

Theoretical approach:

Theories include strategy, leadership, principal agent theory, innovation management

Empirical data:

The empirical data was collected by carrying out semi-structured interviews of which two were Venture capitalists and six were entrepreneurs. All interviews have been recorded for quality assurance. Thereafter, the empirical data and the theory base were used to perform the analysis.

Conclusion:

Our research lead us to the conclusion that the CEO plays an important role in maximizing value creation, he or she needs to possess both science and business knowledge. Extensive communication throughout the organization, between the venture capitalists and the venture is crucial in order to create value, since it helps to overcome the principal-agent problem. A close geographic proximity is further important for a richer communication formal and informal. Activities that further support value creation are extensive goal setting with short-term and long-term goals that create goal alignment. The venture capitalists' industry experience creates value by providing the appropriate competence in the different stages in the firms' development.

# Sammanfattning

Titel:

*Att styra innovation och maximera värdeskapande - En studie av svenska riskkapitalister och deras portföljbolag*

Seminariedatum: 3:e juni 2009

Ämne: Magisteruppsats i Strategic management

Författare: Malin Larsson och Anna Tugetam

Handledare: Per-Hugo Skärvad

Nyckelord:

Venture capital, forskning och utveckling, strategi, värdeskapande, innovation management

Syfte:

Syftet är att undersöka hur ett riskkapital finansierat life science företag utövar styrningen för att fostra innovation och maximera värdeskapande.

Metod:

Ett abduktivt tillvägagångssätt har använts för att genomföra den kvalitativa studien.

Teori:

Teorierna inkluderar strategi, ledarskap, principal-agent teorin, innovationsledarskap

Empiri:

Empirisk data samlas in med hjälp utav intervjuer med totalt åtta personer, varav två var venture capitalisterna och sex var entreprenörer. Alla intervjuer spelas in för att säkerhetsställa kvaliteten. De empiriska data används sedan tillsammans med den teoretiska basen till att utföra vår analys.

Slutsatser:

Vi har dragit slutsatsen att den verkställande direktören spelar en stor och viktig roll i de värdemaximerande aktiviteterna. Denne behöver inneha både vetenskapliga erfarenheter och affärskunskaper. Det är även viktigt att kommunikationen sker regelbundet genom hela organisationen mellan venture kapitalisten och entreprenören för att skapa värde eftersom det bidrar till att minska principal- och agentproblemet. Vidare är en nära geografisk belägenhet viktig, eftersom den bidrar till en rikare formell och informell kommunikation. Andra aktiviteter som skapar värde är extensiv målsättning som består av både lång- och kortsiktiga mål för att skapa målöverensstämmelse. Venture capitalistens erfarenhet inom industrin skapar också värde eftersom de bidrar med den kompetens som krävs i de olika stadierna av firmans utveckling.

## *Preface*

*Our interests in entrepreneurship and management brought us together when we started to plan this thesis. We have experienced a great interest from the participants and we would like to thank them for giving us the time and providing us with interesting information to our thesis. Thanks to them we have been able to gain an insight into an industry in which we both have an interest. It is rewarding to have been able to share the knowledge of venture capitalists and entrepreneurs, something which we initially thought would be hard to access. We are happy to say that everyone we have met has been open, kind and inspiring.*

*We would also like to thank our advisor Per-Hugo Skärvad as well as fellow students for valuable input during the process of writing our thesis.*

*Anna Tugetam*

*Malin Larsson*

*3<sup>rd</sup> of June 2009, Lund, Sweden*

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# 1. Introduction

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*This chapter will give the reader an insight into the field that we intend to discover in this thesis. A background and a problem discussion will be followed by the purpose of the thesis, a research question, target group, delimitations and finally definitions.*

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## 1.1. Background

The European Commission has recognized small medium enterprises (SME) as the biggest engine for driving our economy forward and the work concerning SME's is a top priority in the European Union's economic reform agenda. Currently 99 per cent of all European companies are accounted for by small businesses and they have the potential to increase innovation, growth, competitiveness and employment.<sup>1</sup> Both entrepreneurship and technology based activities have a close connection to economic growth and it is possible to imagine that technology based entrepreneurship holds a key position in the future wealth of our society.<sup>2</sup> Big multinationals such as Microsoft, Apple and Google were all three backed by venture capital in their initial start-up phases. It is without any doubt that there lies a great potential in having a well-supported and functioning entrepreneurial market in each country.

An important player in the endeavor of a nurturing and supportive society that encourages entrepreneurial business is risk capital, also known as venture capital. The need for capital among new start-up companies is strong and urgent and this is where venture capitalists step in. Not only does the venture capitalist provide financial capital but also skills and viable contacts to bring out the product on the market. One industry where venture capitalists have an incredible impact is the life science industry. The biotechnology and medical science industries are two of Sweden's most important industries and they have the potential to become the two prime sectors that drive growth in the future.<sup>3</sup> Sweden has a strong position in this area and in total there are about 800 companies with 40-50 000 employees in the life science industry in Sweden.<sup>4</sup>

Research and development in life science companies are their core competency and need to be accurately managed. The need for capital is also crucial in order to provide fuel to research as well as market knowledge and the ability to commercialize the product. The commercialization of life science products is a complex task and the outcome is hard to predict.<sup>5</sup> The process from the initial idea to a fully developed product is long and arduous, and investments in research and development are to be viewed as long term. Studies have shown that it takes between five to ten years before the capital flow is positive.<sup>6</sup>

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<sup>1</sup> <http://ec.europa.eu/enterprise>, 5<sup>th</sup> of May 2009

<sup>2</sup> Gupta, A. ; Sapienza, J.H., (1994), Impact of agency risk and task uncertainty on Venture capitalists- CEO interaction, The Academy of Management Journal, Vol. 37, No.6, p. 1618-1632

<sup>3</sup> Vetenskapsrådet 15/-09

<sup>4</sup> Invest in Sweden Agency 15/4, 2009

<sup>5</sup> Tidd, J., Bessant, J., Pavitt, K; Managing Innovation, second edition, Wiley, 2001

<sup>6</sup> Samuelsson, L.A, Controllerhandboken, Industrilitteratur, 2001, Stockholm

A venture capitalist cannot expect to immediately gain a return on investment and extensive pre-investment research on the potential of the project needs to be carried out to ensure that the product has enough potential. The possibilities to control a company are also limited by the unique knowledge of the business that usually only a few people in the organization possess.

Managing life science companies is a challenge. The amount of external capital needed is big and investing entails high risks with no guarantees of success. In addition it takes time to develop new products and companies need to wait even longer for the product to generate a profit.

## ***1.2. Problem discussion***

One reason to study the life science sector is the complex situation that faces an investor that chooses to invest in that industry. Life science is a high-tech industry but also a high-cost industry. There are no guarantees that a product, which scientists have worked on for ten years, will be accepted by the market and by customers. Also regulatory issues can cause the product to be stopped, even though the product is just inches from entering the market. A company in the life science industry is characterized by a high dependency on both researchers as well as qualified business managers. This makes the life science industry different from most other industries. The economic hazards involved make it seem almost impossible to overcome the barriers and not be worth the risk. However, human lives are the core of life science industry and the reason for its existence.

Having pointed out the problems with the life science industry it is important to highlight the relationship between a venture capitalist and its portfolio company. A crucial difference between a venture capitalist and a bank or insurance company is that the former does not only supply capital, but also substantial managerial expertise and reputation to its investment object. This complicates the relationship since there does not appear to be a way for the venture capitalist to commit contractually to any particular level of consultation. Furthermore, venture capitalists may differ in their ability to provide help for any given entrepreneurial venture, and it may be difficult for the entrepreneur to assess and evaluate the contributions of the venture capitalist. Often, the venture capitalist does not possess the knowledge of the activities or research carried out in the company, which also obstructs and limits the various ways they can manage a research based firm. Limitations in managing the venture have been researched before by for example James O. Fiet. He concludes that dishonest entrepreneurs, short-term outlook, numerous entrepreneurs to be monitored, great distance between venture capitalist and portfolio company and entrepreneurs knowing more than venture capitalists are barriers to management.<sup>7</sup> This conclusion makes the relationship between the investor and the investee important and the question is how the players think the collaboration should be set up.

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<sup>7</sup> Fiet, J.O., (1995), Risk avoidance strategies in venture capital markets, Journal of Management Studies, vol.32, iss, pp 551-575



When venture capitalists invest in a new company they are expected to add value. The value added process touches upon every area within the business and is crucial in order to sustain competitive advantage. The venture capitalist has a clear view of the expected returns it wants to receive within a specific time limit and engages with knowledge, skills and capital. Researchers on the other hand may prioritize scientific progress but will also have the necessary technical knowledge to evaluate a project's potential.<sup>8</sup> Researchers possess specialized skills that are hard to understand for the uninitiated - in this case the venture capitalist. What is clear is that the return on an investment in a life science company is hard to predict and management needs to elaborate on a strategy that satisfies both the venture capitalists as well as the researchers. Management needs to create an environment that fosters creativity and motivation simultaneously as well as making sure that the company's goals are aligned with the venture capitalists. In any case they must find a way to co-operate since they are interdependent. This relationship has been researched by Vik in 2001, in the pharmaceutical industry where he concludes that the scientist's endeavor of scientific recognition can impede the fulfillment of the company's goals. He also argues that the lack of goal congruence has negative implications on the opportunities to manage successfully.<sup>9</sup> Thus, the relationship between the venture capitalist and the entrepreneur becomes very delicate but also crucial in order to create a well-functioning co-operation.

Since so many people with different backgrounds, varying responsibilities and goals need to be managed and aligned there is a good growing ground for potential conflicts and unsuccessful collaboration. Success in innovation boils down to two critical factors. The first factor is the technical resources in the shape of people, knowledge, equipment and money. The second ingredient is the managing capabilities in the organization.<sup>10</sup> How should then innovation be managed? What makes this so interesting is the fact that the possibility to manage innovation has been debated for quite some time and it is questioned if it is even possible.<sup>11</sup>

### **1.3. Purpose**

The above discussion has pointed out some problems facing the investor and the investee when it comes to their close co-operation. We are under the assumption that their goals might differ and that they also have outlooks on how the company should be managed.

It should be of importance to both entrepreneurs and venture capitalists to be aware of their differences in expectations and managing methods. It would allow them to carefully assess the collaboration they are about to enter and to consider both advantages and disadvantages that the relation would entail. A deeper understanding of the relationship might also prevent them from being too hasty about an investment and possibly in the long run prevent an unsuccessful cooperation.

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<sup>8</sup> sciencecareers.sciencemag.org, retrieved 18/4 2009

<sup>9</sup> Vik, M. (2001), *Engagemang och Styrning – om relationen individ-organisation i preklinisk läkemedelsutveckling*, Department of Business Administration, University of Linköping, Danagårds Grafiska AB, Sweden

<sup>10</sup> Tidd, J., Bessant, J., Pavitt, K; *Managing Innovation*, second edition, Wiley, 2001

<sup>11</sup> Schmid, F. Esther; Smith, A. Dennis, (2002), "Should scientific innovation be managed?", *Drug Discovery Today*, Vol.7, No 18.

*The purpose of this thesis is to look into how management is practiced in a venture capital financed research based company in order to create value and foster innovation.*

#### ***1.4. Research Question***

Thus, the research question for this thesis is:

***How should venture capital financed life-science companies be managed in order to create value?***

#### ***1.5. Target group***

This thesis is intended to be helpful for venture capitalists and entrepreneurs that are financed by venture capital or are considering such a financing.

It also aims at creating an understanding of this particular phenomenon among business students and others in the academic field of entrepreneurship, strategy and venture capital.

#### ***1.6. Delimitations***

We have decided to concentrate on the Swedish venture capital market and specifically the life science industry. In addition to this we have chosen to study objects in the Medicon-Valley of Lund and Malmö. The study will also be limited to companies not listed on the stock exchange. Despite these delimitations we also hope that venture capitalists and entrepreneurs in other industries will find this thesis useful.

#### ***1.7. Definitions***

Venture, investee, entrepreneur and portfolio company are used interchangeably in order to create a variation in the language. They all refer to the venture capitalists investment object.

## 1.8. Outline of the thesis



*The introduction chapter comprises a background, problem discussion, the thesis' purpose and our chosen research question*

*In the methodology chapter we will describe our chosen course of action when carrying out the work with the thesis.*

*In this chapter we will give the reader an insight into the Swedish venture capital industry since the thesis' research objects are located in this setting.*

*The theory chapter comprises all our chosen theories for this thesis. These theories will later on be serving as a tool in our analysis.*

*The empirics chapter presents the empirical data gathered from the interviews.*

*In our analysis and conclusions we will analyze our empirical findings and connect it to the previously introduced theory. We will also give the reader an answer to our research question.*

*In the reflections and further research chapter we will reflect upon our study and give suggestions to further research.*

## 2. Method

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*In the methodology chapter we will introduce the reader to how we have chosen to carry out our research study. It will give the reader an insight into the approaches and processes we have used in order to prepare and accomplish our study.*

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### 2.1. Research approach

As a research approach for our study we have chosen the abductive method as a guideline, since it is a combination of the inductive and the deductive method as mentioned in Alvesson and Sköldbberg<sup>12</sup>. This has been done in view of the fact that our purpose is to perform a study on two selected venture capital companies and six entrepreneurial companies and to look into the different perspectives on how to manage value creation in the business. We opted for two venture capitalists and six entrepreneurial firms since three of the latter group belong to each venture capital firm. The fact that a venture capitalist often has more than one portfolio company allowed us to choose several entrepreneurs from the same investor.

The previous mentioned method will be used since our study requires an understanding of the theories before performing the investigation. The purpose is further to make interpretations from the empirical material we gather from the survey.<sup>13</sup> To conclude, we intend to make conclusions from the empirical material and we also hold a theoretical understanding before the investigation.

### 2.2. Research method

We will perform a qualitative study since our purpose is to interpret the situation from the data we collect in our survey. Bryman and Bell share the same view<sup>14</sup>. For this reason a quantitative study will not be of interest. We also intend to describe the situation in and between the organizations. We do not aim at generalizing the results, which would be the case for a quantitative study<sup>15</sup>.

To be able to gain some control over the interview situation, but still give the interviewee some room to elaborate the answers we will perform semi-structured interviews<sup>16</sup>. This will, according to Bryman et al. give us an opportunity to list certain questions of interests within the subject we intend to uncover and at the same time give the respondents some room to elaborate their answers. This will provide some structure to the interview and at the same time make sure that the different respondents get similar questions, which Bryman and Bell also recommend for this type of study.<sup>17</sup>

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<sup>12</sup> Alvesson, Mats., Kaj Sköldbberg., (2008) *Tolkning och Reflektion- En Vetenskapsfilosofi och Kvalitativ Metod*. Second Edition. Studentlitteratur, Narayana Press, Danmark

<sup>13</sup> Ibid

<sup>14</sup> Bryman, Alan., Bell, Emma, (2007) *Business research methods*. Second Edition, Oxford University Press, New York

<sup>15</sup> Ibid

<sup>16</sup> Ibid

<sup>17</sup> Ibid

We started off by having a clear process of the interviews in mind. This process can be described as the different stages in the relationship that we wish to highlight. These stages are; background, meeting situation, collaboration, and evolution to reflect the process. The questions are composed and structured accordingly. A further advantage with this approach is the fact that it will provide us with a framework that will facilitate our analysis of the empirical data material.

It provides us with an insight into the different stages in the collaboration between the venture capitalist and the venture. This was done in order to obtain a structure of the information gathering process. We further had the intention to let the process be reflected in the interview questions.

### ***2.3. Selection & Delimitations of Research Objects***

Since we want to conduct deep personal interviews with the appropriate individual from the venture capitalist companies as well as the portfolio firms, the selection of our research objects was limited to objects in the close geographic proximity. The research climate of Lund and the Medicon Valley further allowed us to limit our study objects to this region. Our primary step consisted of finding the first venture capitalist firm by visiting Ideon's webpage.<sup>18</sup> The second venture capitalist was found by browsing the Internet. When this step was completed we were able to locate venture capital financed firms that operated within our research scope, the life science industry. These objects were found through the venture capitalists' webpage.

### ***2.4. Selection of Respondents***

In order to fulfill our purpose we have chosen to conduct the interviews with the CEO or the like in the companies in both the venture capital companies and the portfolio companies. After the initial stage of finding the appropriate venture capitalists, we contacted them by initially sending an information email followed by a personal phone call. Our main reason for choosing the CEOs or the investment manager of the venture capital firm is that they are the players that have an overarching knowledge of all their investments. In turn we chose the CEO of the portfolio company since this person usually has the greatest insight in the company and the one with the main contact with the venture capitalist. In one particular case we have chosen to carry out an interview with the public relationship-manager since the CEO were not able to participate. However, his long background, extensive knowledge of the processes and the collaboration with the venture capitalists made him a qualified respondent according to us.

### ***2.5. Empirical Data Collection***

As previously mentioned, the empirical data will consist of personal interviews where all but one was carried out in person. In one specific case we had to conduct a phone interview due to difficulties in bringing about a personal interview. In order to prepare

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<sup>18</sup> [www.ideon.se](http://www.ideon.se)

the respondents we decided to provide them with the interview material beforehand, so they would be more prepared to answer the questions.

First of all we informed the respondent once again that all the answers would be confidential and no specific relationship between the companies would be named. Since our purpose does not require that information should be disclosed we believed that this would make the respondents more open and willing to answer questions.

Before starting the interview we asked for permission to record it since that would allow us to assure the quality in our information. All of the respondents agreed to this. For further quality assurance both of us took notes during the interview. Moreover, both of us were active in conducting the interview and asking follow-up question. To make sure that we had not missed out on any vital information we always asked the interviewee in the end to add any additional information regarding the subject that they might have felt important to share with us.

Immediately afterwards we wrote out fair all the collected data material. This was done since we then had it fresh in our memory and to further assure the quality. This “rough” data was later on divided into subgroups that belonged to different headlines, which in turn reflected questions that treated the same subject. This material was put together and summarized to point out the main results from the interviews and at the same time present where the respondents differ and where they are most aligned in their answers. This was done in order to create a structure and to let the reader follow our thought process. To give the reader an easy overview and to be able to follow the questions and how they fit under the headline we presented a sum-up table for both the venture capitalist companies and the entrepreneurial companies. They all contain the essence of the respondent’s answers to make a follow up easier.

## ***2.6. Theoretical Data Collection***

To collect the theoretical data and to create an understanding for studies previously carried out and established theories in the field, we started out by investigating the database ELIN in order to gather articles and research papers. We also consulted the library database LOVISA for books and searched for recently published material such as articles and papers on the web.

## ***2.7. Analysis of Data Collection***

Our analysis of the empirical data collection was conducted with the theoretical data as a guideline. The theoretical data helped us to form five main categories that helped us to conduct our analysis and at the same time make it easier for the reader to follow our thought process. The categories that were crystallized from our interview questions are: Principal-agent problem, strategy, management, innovation management and value creation.

The respective categories in their turn contain our analysis from the empirical data related to our theoretical base. The purpose of the analysis was to identify and highlight the differences and the alignment in answers between the venture capitalists and the portfolio companies and among the venture capitalists and the entrepreneurs separately. As previously mentioned this information was in turn related to our theoretical data, where the purpose also was to shine a light on where the theories are aligned with our collected data and where it is not.

## ***2.8. Quality of Data Collection***

To assess the quality of the collected data we are using the terms that Bryman and Bell are recommending for the quality assessment of a qualitative study<sup>19</sup>. The terms we are using are trustworthiness and authenticity, this will help to avoid confusion, instead of using the terms validity and reliability, which are strongly connected to the quantitative research method. For this reason we are evaluating the quality of our study with guidance from the criteria's that the previous mentioned authors suggest.<sup>20</sup>

The degree of trustworthiness can with support from Bryman et al. be determined by the credibility, transferability, dependability and conformability. To increase the credibility of the study one could give the respondents the opportunity to comment on the material that were gained from the interview, to make sure that no misunderstandings took place. Nevertheless the fact that all the interviews were recorded we still believe that the credibility is positive despite our choice not to give the respondents a chance to review the material. To strengthen the transferability of the study we will account for a richer or as the authors call it, thick description, of the context to make it easier for the target groups of this study to draw their own conclusions regarding our findings. To increase the dependability we will make it a priority to keep complete records of all the interviews performed at all stages to be able to judge the materials validity. But for efficiency we will by our own means interpret the material and perform the proper collection to give the reader a better overview of the empirical material. Both the written and taped records will serve as control measures to us to limit the submitted quantities of data. The final important criterion to highlight the trustworthiness of the study is the conformability, which we strive to enhance through our objective to limit our personal and theoretical values when the survey is being performed. However we are aware of the impossibility to be completely objective.<sup>21</sup> Since we carry out an abductive research study we are aware of the negative impact on the conformability since our theoretical values will have an influence on the interview questions. Also, our follow-up questions will be influenced by our previously acquired knowledge.

The authenticity of the study will be influenced by the fairness of the survey. We assume that the fairness will be affected in a negative way, since we only intend to interview a very limited number of organizational individuals with certain titles. Another reason is that we do not aim to collect answers from a broader variety of the positions held by the

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<sup>19</sup> Bryman, Alan., Bell, Emma, (2007) *Business research methods*. Second Edition, Oxford University Press, New York

<sup>20</sup> Ibid

<sup>21</sup> Ibid

respondents in the company than the ones we previously mentioned being interesting for our purpose.<sup>22</sup>

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<sup>22</sup> Ibid



### 3. Venture capital & The Swedish venture capital market

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*We believe it is important to provide a background of the venture capital market and venture capitalists in Sweden to create a fundamental understanding of the research objects in this study. This chapter also includes a small introduction to the Swedish life science industry.*

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#### 3.1. Defining Venture capital

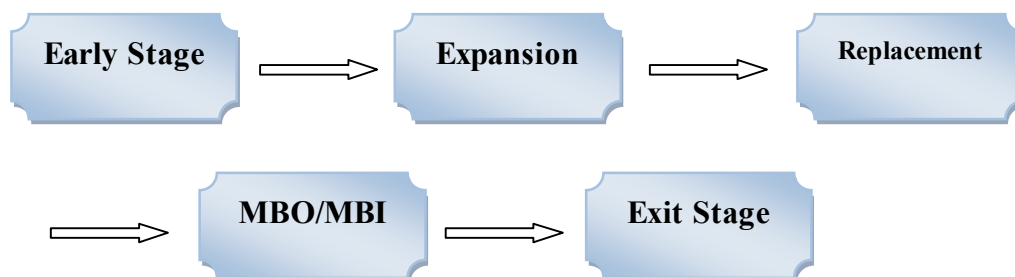
Guillermo de la Dehesa defines venture capital or risk capital as “private equity”, which consists of funds invested in companies that is not listed on the stock market. A specialized venture capital firm invests in unquoted companies and governs over the investment. The venture capital firms take the role of principals in the company. Dehesa further explains a venture capital process, which can be identified and consist of six stages of development of the investee company.<sup>23</sup>

The first stage is the early stage financing, which includes seed and start-up financing companies. Seed investments do not have an initial concept and the venture capital company needs to perform research and evaluations to develop a concept. The start-up company on the other hand will require product development support and initial marketing support. The second stage is the expansion stage, which consists of companies that are interested in expansion and growth, foremost of the manufacturing process, including other factors like: sales capacities and to be able to generate earnings.

Replacement financing is the third stage and this investment involves sales of accessible shares to different venture capital companies and shareholders.<sup>24</sup>

Management buyout is the following stage and consists of the entrepreneur company’s management team and investors that is buying out the venture capital company to gain full control of the ownership. The fifth stage, Management Buy in, consist of outside managers who are acquiring the company through financing. The exit stage financing, is the last stage of the venture capital process, and can be executed either through initial public offering (IPO) or a prearranged transaction to a strategic or financial acquirer of the corporation.<sup>25</sup>

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<sup>23</sup> De la Dehesa, G.,(2002) *Venture capital in The United States and Europe*, Group of Thirty, Washington, DC. Occasional Papers, No 65.

<sup>24</sup> Ibid

<sup>25</sup> Ibid

<sup>26</sup> Own figure

### **3.2. The Swedish venture capital industry development**

The Swedish venture capital firms were established in the 1970s. The industry has been faced with ups and downs. The later stage in the 70s was characterized by an economic downturn and had a tax system that was not beneficial for capital investments. This made the public look for a solution to the problem, which meant studying the US market for positive influences regarding the entrepreneurial climate.<sup>27</sup> The early 80s offered a positive development for the venture capital climate in Sweden. Smaller firms got rooted, and the government supported the venture capitalist firms with development funds.<sup>28</sup> The 80s was initialized by a shakeout, which was mainly caused by undercapitalization<sup>29</sup> to reserved investments during the 1990s recession.<sup>30</sup> Half a decade later the market recovered and did not face a downturn until the beginning of the next millennium, when the investments were untraditionally located heavily in the seed and start-up companies, compared to more risk averse European counterparts.<sup>31</sup> This was followed by a market crash, which was detrimental to the Swedish capital market industry. Consolidations and reorganizations were common and young venture capitalists disappeared while there was an increase in international venture capitalists.<sup>32</sup> The crash foremost affected the telecommunication and information technology sector due to investments without a sufficient market. The results were that a very risk adverse behavior flourished and the earlier mentioned seed and start-up investments basically disappeared. The capital existed but there was a consensus of fear among the Swedish venture capitalist companies.<sup>33</sup>

The venture capital market in Sweden consists of a large sector, relatively to other European countries.<sup>34</sup> After the downturn in the telecommunication and information technology sector the investors became risk averse of the more risky early investments, and tended to invest in safer options in the later stages of development.<sup>35</sup> This trend is widespread throughout Europe to compare with US, which invest mainly in the earlier stages.<sup>36</sup>

### **3.3 The Swedish life science industry**

Swedish life science is counted among the top four in Europe and among the very leading countries in the world. During the last ten years the Swedish life science industry has had the most rapid growth of all sectors in Sweden. About 40 000 to 50 000 people in Sweden are employed in the industry and it has a strong potential to become a new keystone in the Swedish economy.

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<sup>27</sup> Jörgensen, P. and Lenvin, B. (1984) *Venture capital i Kalifornien*, Styrelsen för teknisk utveckling (STU), Stockholm

<sup>28</sup> Fredriksen, Ö., (1997), *Venture capital firms relationship and cooperation with entrepreneurial companies*, Thesis No 625. Department of Management and Economics, Linköping University.

<sup>29</sup> Herzog, H. (1990), *Risikkapitalet och de mindre företagen: Om Venture capital-marknadens SIND 1990:3*. Stockholm: Statens industriverk.

<sup>30</sup> Ibid

<sup>31</sup> SVCA, (1996-2006), Swedish Private Equity & Venture capital Association Directory. Stockholm

<sup>32</sup> SVCA, (1996-2006), Swedish Private Equity & Venture capital Association Directory. Stockholm: SVCA. SVCA and NUTEK, 2003, *Utveckling för riskkapitalbolagens portföljbolag* [The development for the venture capital firms portfolio firms], 2003:11.

<sup>33</sup> Isaksson, Anders (2006) *Studies on the venture capital process*. Umeå School of Business, Print & Media, Umeå

<sup>34</sup> Reynolds, P. D., W. B. Bygrave, E. Autio, L. W. Cox & M. Hay, (2002) *Global Entrepreneurship Monitor*, Babson College, Ewing Marion Kauffman Foundation & London Business School.

<sup>35</sup> Bygrave, W. B. and Timmons J. A. (1992) *Venture capital at the Crossroads*, Harvard Business School Press, Boston

<sup>36</sup> Brouwer, M. & B. Hendrix (1998) Two Worlds of Venture capital: What Happened to U.S. and Dutch Early Stage Investment? *Small Business Economics* 10: 333-348.

Currently Sweden has about 800 life science companies and they are focused on development of pharmaceuticals, medical devices and platform technologies, so-called healthcare biotechnology. Over 90 percent of the life science companies in Sweden have less than 100 employees.

There are three major life science clusters in Sweden, the Stockholm-Uppsala Bioregion which is the largest, followed by Medicon Valley around Malmö-Lund and Medcoast by Gothenburg. Other centres with advanced life science research and high quality companies include Linköping and Umeå.<sup>37</sup>

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<sup>37</sup> [www.newsdesk.se](http://www.newsdesk.se), retrieved 8<sup>th</sup> of May 2009

## 4. Theoretical framework

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*This chapter presents the theories that we have studied and that we believe are relevant for this thesis. This chapter will also help us carry out the analysis.*

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### 4.1. Introduction

This chapter consists of the theories this study is based upon which also have served as a help in the elaboration of interview questions. We will first give the reader a shorter theoretical introduction to research and development since the companies we interview have it as their core business. We believe it is of importance to give the reader a small introduction to research and development to create a fundamental understanding of the core business in our interviewees' companies. However this theory will not be used in the analysis later on.

Thereafter we will present theories and research studies concerning the relationship between investors and investees that bring up the opportunities and problems such a union entails. We have focused on the principal-agent problem (more specifically asymmetrical information) and value adding activities that we have understood as two of the main theories concerning venture capital and entrepreneurs.

We then move on to organizational and strategic management theories and research concerning leadership, innovation management, strategy, goal congruency and business control. These areas are essential to the understanding of how an organization works with strategy, setting up goals and how to motivate people's creativity. Theories within these domains will give both us and the reader the necessary theoretical background of how managers whether it be venture capitalists or entrepreneurs work with certain aspects in their businesses.

### 4.2 Research & Development

Research and Development aims at developing and generating new product ideas that are accepted in market as well as commercially. The innovation needs to have a market in order to be viable.<sup>38</sup>

Research and Development can be divided into three main groups. The first group is called *fundamental research*. This stage aims at searching for new knowledge or new theories, but it does not involve any application. The second stage is called *applied research*. This research aims at developing new knowledge or new technologies for existing and well-known products and applications. The third stage is the *development research*. This stage concerns application of well-known or new technologies in order to develop commercial products.

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<sup>38</sup> Samuelsson, L.A, *Controllerhandboken*, Industrilitteratur, 2001, Stockholm

In which group a specific company belongs to depends on its research activity's characteristics. In general a great deal of the firm's units is involved in the R&D activities and management needs to engage all of them in the process.<sup>39</sup>

Fundamental research is often carried out in universities and hospitals. The companies that are started in this sphere are usually created by a scientist. In the beginning the focus is mainly on researching and developing products and not so much on strategy and the financial aspect of the business. As the company grows it needs to create cohesion and organization. During this stage an external manager is often recruited to be responsible for the operational activities. However, the problem is that the manager seldom has an overall insight and understanding into the different activities of the company.<sup>40</sup>

### ***4.3 The relationship between the venture capitalist and the entrepreneur***

#### **4.3.1. Value-added activities in Venture capital financed companies**

According to Sapienza, Manigart and Vermeir venture capitalist companies add value in a larger extent than monetary value<sup>41</sup>. They do that through close integration with the managers of their portfolio companies. The authors further conclude that venture capital firms rated the strategic involvement as the most imperative role. The main function would be to be able to serve the entrepreneurial company with both financial and business advice and give and direction and support the portfolio company with consistent feedback. The second most important role of the venture capitalist was the impersonal one, which involved mentorship and ally to the CEOs. The third and final most highly rated role was their networking one, where the venture capitalist acts as a contact link to other companies and professionals.

The previous mentioned authors conclude that face-to-face interactions with portfolio companies were less prominent when the perceived risk was high, mostly due to early stage investment. Greater geographic distance between the investor and the investee is associated with less frequency, less openness and more conflict in the relationship. The interaction was highest when the venture capitalists were more experienced in the portfolio companies' industry and when the CEO had more start-up practice. Sapienza et al. also came to the conclusion that more central industry experience contributed to more added values. Higher performing portfolio companies received higher added value than their counterparts. The more experience the CEO possess the more effort will be demanded from the venture capital company. It may also require more effort from the venture capitalist to influence an experienced CEO.<sup>42</sup>

Sapienza et al. further discuss why it is important for the venture capital company to be aware of their value added activities to the entrepreneurial firm. In the global economy

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<sup>39</sup> Samuelsson, L.A., *Controllerhandboken*, Industrilitteratur, 2001, Stockholm

<sup>40</sup> Vik, M. (2001), *Engagemang och Styrning – om relationen individ-organisation i preklinisk läkemedelsutveckling*, Department of Business Administration, University of Linköping, Danagårds Grafiska AB, Sweden

<sup>41</sup> Sapienza, J, Harry., Manigart, Sophie., Vermeir, Wim. (1996) *Venture capitalist Governance and Value Added in four Countries*. Journal of Business Venturing No:11. Pages: 439-469

<sup>42</sup> Ibid

today they need to know in what other ways they bring or can bring value, to be able to differentiate themselves from other investment firms. It is also important to know how they should manage their portfolio company in order to maximize the value creation.<sup>43</sup>

The author also note the implications for the entrepreneurial company that would benefit from knowing what activities that add value since they then can communicate their own preferences and would be in a better position to negotiate the time and the extent of the venture capital firm's interaction. Since the when and where they receive funding will with high certainty have an effect on the scope and the effort provided by the venture capitalist.<sup>44</sup>

### 4.3.2. Principal Agent problem

The principal agent theory is used to analyze the relationship between owners and management and refers to the situation that arises when the agents' interests are not aligned with the principals'. The principal cannot be a hundred percent sure that the agent will carry out the task with the same interest. The principal-agent theory is partly based on the premise that there is a conflict of aims between the principal and the agent.<sup>45</sup> Asymmetrical information is what brings about the principal-agent problem and can be described as a lack of balance in information.<sup>46</sup>

#### 4.3.2.1. Principal Agent problem in connection to the Venture capitalist and the Entrepreneur

In venture capital the investor is the principal and the entrepreneur is the agent with a responsibility to maximize the utility of the principal's invested money.<sup>47</sup> The agent problem submerges when there is incongruity in goals and different risk preferences.<sup>48</sup> The entrepreneur derives utility from personal benefits as well as monetary benefits which leads to the risk that the entrepreneur will pursue his own interests rather than the investor's. The effort and skills of the entrepreneur is hard to assess pre-investment for the venture capitalist. The venture capitalist's aim is to gain a return on investment within a certain time period while hidden information and intentions allow the entrepreneur to hide actions during the financing period. The entrepreneur may, for instance, decide on a strategy that does not maximize the business valuation but adds to his expertise in certain technologies enabling him to start new businesses.<sup>49</sup> The investor is dependent on the full motivation of the management in order to assess its ability and the potential of the investment, however they are limited in their knowing of the activities in the business.<sup>50</sup>

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<sup>43</sup> Sapienza, J, Harry., Manigart, Sophie., Vermeir, Wim. (1996) *Venture capitalist Governance and Value Added in four Countries*. Journal of Business Venturing No:11. Pages: 439-469

<sup>44</sup> Ibid

<sup>45</sup> Bengtsson, L., Nygaard, C. (2002), *Strategizing – en kontextuell organisationsteori*, Studentlitteratur, Lund, Sweden.

<sup>46</sup> Eckermann, M. (2005), *Venture capitalists' Exit Strategies under Information Asymmetry*; Gabler Edition Wissenschaft

<sup>47</sup> Lahti, T. (2008), *Angel investing in Finland – an analysis based on the agency theory and the incomplete contracting theory*, Hanken School of Economics, Helsinki, Finland.

<sup>48</sup> Arthurs, J.D, Busenitz, L.W. (2003), *The boundaries and limitations of Agency Theory and Stewardship theory in the Venture capitalist/Entrepreneur relationship*, Entrepreneurship Theory and Practice, Department of Business, University of Oklahoma

<sup>49</sup> Lahti, T. (2008), *Angel investing in Finland – an analysis based on the agency theory and the incomplete contracting theory*, Hanken School of Economics, Helsinki, Finland.

<sup>50</sup> Sweeting, R.C; Wong, C.F., (1997), A UK hands-off venture capital firm and the handling of post-investment investor ± investee relationship. Journal of Management Studies, Vol:34, Iss:1, p.125-152

In R&D activities, management has a difficult time observing the researchers' efforts put into their work, since the company's progress depends on the willingness of researchers and management have a problem in inciting researchers to make a productive effort. The researcher's interests are not aligned with the firm's and his actions are uncontrollable. Julia A. Smith at Cardiff University found evidence in her research that both investors and investees act in their own interest even though common goals existed. Management needs to elaborate on an incentive strategy in order to control the researcher's goals.<sup>51</sup>

There are several possibilities to management to mitigate the principal-agent problem. Gavin C. Reid investigated the issue further and found that the asymmetrical information problem was remedied by increased by pre-contract information sharing. He found that information sharing before and during the financial investment improved decision-making and aligned the principal's interest with the agent's.<sup>52</sup> The same kind of argumentation is found in a research paper by Mitchell et al. in which the authors research the impact of the principal-agent problem in venture capital backed firms. It is shown that principals demand information from the agent in order to provide safeguards and to use it as a regular monitoring to mitigate the principal-agent problem.<sup>53</sup> Also Sweeting et al. concluded that balance in information is needed in order for the investor and the investees to understand what is going on in the business and a relationship based on trust is crucial to handle the principal-agent problem.<sup>54</sup>

In a study carried out by Gupta et al. the authors conclude that a lack of goal congruence in the relationship between the entrepreneur and venture capitalist may lead to a higher interaction rate between the two. They argue that this could be a result of a perceived higher agency risk that subsequently drives the two players to interact in order to bridge the asymmetrical information gap.<sup>55</sup> More information on goal congruence will be brought up later on in this paper.

#### ***4.4 The importance of a strategy***

Strategy is an essential part of a successful business. It has been characterized as the most important factor in a high-performing company, even more important than industry context.<sup>56</sup> In a very competitive industry it is important to have a clear strategy formulation to be able to adapt to the global, corporate, corporation and operative levels.<sup>57</sup> The reason why strategy is important in this thesis is the terms close connection to achievement of goals, which will be presented later in this paper. A part of working

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<sup>51</sup> Smith, A. Julia, (2004) Empirical studies of a venture capital relationship, Cardiff University

<sup>52</sup> Reid, C. Gavin, (1995) Fast Growing Entrepreneurial Firms and Their Venture capital Backers, University of St Andrews, Scotland

<sup>53</sup> Mitchell, F; Reid, C. G; Terry, G. N; (1995), *Post investment demand for accounting information by venture capitalists*, Accounting and Business Research, Vol.25, Issue: 99, p.186-197

<sup>54</sup> Sweeting, R.C; Wong, C.F. (1997), *A UK hands-off venture capital firm and the handling of post-investment investor ± investee relationship*. Journal of Management Studies, Vol:34, Iss:1, p.125-152

<sup>55</sup> Gupta, A., Sapienza, J.H.(1994), *Impact of agency risk and task uncertainty on Venture capitalists- CEO interaction*, The Academy of Management Journal, Vol. 37, No.6, p. 1618-1632

<sup>56</sup> Bowman, E. H and Helfat, C.E. (1998) *Does Corporate Strategy matter?*, Working Paper, University of Pennsylvania.

McGahan, A.M and Porter, M.E. (1997), *How much does industry matter, really?*, Strategic Management Journal, 18: 15-30

<sup>57</sup> Heracleous, L. (2003) *Strategy and Organization- Realizing Strategic Management*. Oxford University Press, United Kingdom, Cambridge

with strategy is drafting up goals and the goals will be achieved with the help of a well-conceived strategy.<sup>58</sup>

Strategy can be thought of in two perspectives according to Heracleous among others.<sup>59</sup> The somewhat older term “strategic planning” has been complemented with a newer one, “strategic thinking”. Strategic thinking characterizes strategy as something creative and being guided by a unique thought process in contrast to strategic planning that is referred to as being an analytical and programmed thought process.<sup>60</sup> Strategic thinking is an important aspect and should be combined with management activities, which is discussed in further detail in the innovation management chapter.<sup>61</sup> It involves an uninterrupted investigation for new sources of competitive advantage.<sup>62</sup> The authors further argue that it contains an important aspect of creating unique value for the firm since it is incorporating all the available resources and the core capabilities.

Strategic management is crucial for a business to ensure continuous growth and renewal of the company and it also provides the company with a framework for the development and the implementation of the operational activities of the firm.<sup>63</sup> It is imperative that it is developed to meet the constantly changing market and competitors and it needs to match the company’s own evolving capabilities, resources and core competencies.<sup>64</sup>

According to Hitt et al. the main component of effective management is the formulation of plans. The plan needs to involve the internal strength and weaknesses and external opportunities and threats. The plan should be specific and involve the company’s goal, mission, developed strategies and policy guidelines.<sup>65</sup> The strategy formulations and implementations effectiveness is depended on the analyses of the external and the internal environment. The strategic plan is basically used as a primary measure of the futures direction of the enterprise.<sup>66</sup>

The concept of a strategy statement, which is what the company strives to be and how it plans to get there, is important to be able to communicate a clear message to all the members in the organization to provide the employees with a guiding light regarding the company’s wanted position, so they all are striving towards the same goal. It also provides all members in the organization with a sense of unity. The employees need to possess a strong direction and understanding of what is important in the organization. If innovation is an essential aspect in the firms stated objectives, the employees will be guided in their actions and reinforce innovation. In other words, the strategy provides a

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<sup>58</sup> Merchant, A.K., Van der Stede, A.W. (2003) *Management Control systems*, Prentice Hall, Malaysia

<sup>59</sup> Heracleous, L. (2003), *Strategy and Organization- Realizing Strategic Management*. Oxford University Press, United Kingdom, Cambridge

<sup>60</sup> Ibid

<sup>61</sup> Ibid

<sup>62</sup> Hitt, M.A., Ireland, R.D., & Hoskisson, R.E. (2009). *Strategic management: Competitiveness and globalization* (8th ed.). Mason, OH: Cengage Learning

<sup>63</sup> Schendel, D. & Hofer, C. (1978). *Strategic management: A new view of business policy and planning*. Boston: Little Brown and Company.

<sup>64</sup> Kuratko, F.D. & Audretsch, B. D. (2009), *Strategic Entrepreneurship: Exploring Different Perspectives of an Emerging Concept*, Baylor University

<sup>65</sup> Hitt, M.A., Ireland, R.D., & Hoskisson, R.E. (2009). *Strategic management: Competitiveness and globalization* (8th ed.). Mason, OH: Cengage Learning

<sup>66</sup> Ibid.



direction for the day-to-day decisions and choices.<sup>67</sup> Leadership plays a crucial role in achieving a successful implementation of a company's strategy and will be discussed in the following chapter.

#### **4.4.1. Management, Leadership and strategy**

Effective Leadership is crucial in the development of a strategic vision that can motivate and inspire employees to work in the same direction. Effective leadership struggles with the difficult task of balancing the organization's maximization of economic value as well as developing its capabilities. Not achieving a balance between these two aspects can be disastrous in the long term since too much emphasis put on economic development can destroy the social fabric of the organization while too much emphasis on capability development can lead to an inefficient organization.<sup>68</sup>

Managers are the people in the organization responsible for implementing the strategies, they are therefore dependent by the strategy.<sup>69</sup> Clawson is pointing out that effective leaders have a clear strategic view and direction of the assignment at hand, which is essentially strategic thinking. Successful leaders have the hard task to be able to make some sense of the world today and how they would like it to crystallize itself in the future. Clawson point out that the importance of the strategic vision and dreams is critical for successful management, that without a powerful dream the leader will be hugely undermined.

Clawson connects, as previously mentioned, managers with strategy. He points out that strategy deals with the imperative aspect of developing and maintaining a competitive advantage. He also argues that the role of the leader as the strategic thinker is just that, building and sustaining competitive advantage.<sup>70</sup> Bruce Henderson summarized five traits that are important for a leader to possess for a successful strategy implementation.<sup>71</sup> The first one is to possess the skill to understand the competitors ground, regarding the interaction dynamics. The second one contains the ability to foresee how the company's actions will be able to affect the present dynamics. The capability to assign assets to upcoming outcomes will also be an essential step as well as predicting the risk and return for those. Finally the company itself needs to possess the courage to take action.

It is imperative for the manager to develop plans for different scenarios and to be flexible in their action points, since the environment is constantly changing. The leader should develop and identify all plausible events that might occur to the company, which gives the leader the important foresight and flexibility needed. Timing is also a crucial factor, that can differ the successful leaders from the unsuccessful, experienced strategic thinkers will develop a sense of timing.<sup>72</sup>

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<sup>67</sup> Kuratko, F.D. & Audretsch, B. D. (2009), *Strategic Entrepreneurship: Exploring Different Perspectives of an Emerging Concept*, Baylor University

<sup>68</sup> Heracleous, L. (2003), *Strategy and Organization, Realizing Strategic Management*, University Press, Cambridge, United Kingdom.

<sup>69</sup> Clawson. G. James (2003) *Level Three Leadership- Getting Below the Surface*, Second edition, Prentice Hall, New Jersey.

<sup>70</sup> Ibid

<sup>71</sup> Henderson, Bruce. "The Origin of Strategy", Harvard Business Review, Vol. 67, Iss. 6, p. 139-144

<sup>72</sup> Ibid.

When looking into investing in a company venture capitalists state that the quality of the entrepreneur is what determines the investment decision. Leadership experience, quality of management, management commitment, management marketing skills and familiarity with the market are ranked as five important skills for an entrepreneur to possess that are related to his or her experience and personality.<sup>73</sup>

#### 4.4.2. Goal Alignment

Having reached consensus on strategic goals and methods is considered imperative in achieving high performance. A central problem is concerned with how management can make the organization work towards the same goal. The basic problems of controlling a business are based in the insecurity and complexity when trying to co-ordinate different players' activities and actions when trying to reach the organization's goals, a so called goal congruity.<sup>74</sup> A research-based company is made up of individuals with different interests, involvement and goals and the challenge for management is to accomplish the will and desire to co-operate towards common goals. In order to obtain desired goals and results management also has to co-ordinate knowledge and actions. This work can be impeded due to the complexity of the environment, the high risk and the long processes that characterizes a research company.<sup>75</sup> Actually, potential obstacles to growth can be organization and management issues as well as strategy and planning factors. If these factors are addressed and handled accurately the company will stand a chance to grow.<sup>76</sup>

Organizational goals are elaborated on by top management and when communicated throughout the organization they can easily be distorted. Even if that is not the case, top management can never be sure that the message is accepted and interpreted as intended. It is quite common that the goals of an organization and a researcher differ. Scientists have a university education and long training background and they often focus on gaining scientific recognition. This also defines their goals. Top management therefore needs to look in two different directions and understand both sides of the business. On one hand they need to consider the company's commercial side and on the other they need to think about and respect the individual's professional goals.<sup>77</sup>

##### 4.4.2.1 Business Control

Business Control is a part of goal setting in the traditional organization. It involves addressing three questions; do our employees understand what we expect from them? Will they work consistently hard and try to do what is expected of from, that is, will they implement the organization's strategy as was intended, and are they capable of doing a

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<sup>73</sup> MacMillan Ian C.; Kulow David M.; Khoylan Roubina, (1989), *Venture Capitalists' involvement in their investments: Extent and Performance*, Journal of business venturing, vol: 4, Iss:1, pp: 27-48

<sup>74</sup> Vik, M; (2001), *Engagemang och Styrning – om relationen individ-organisation i preklinisk läkemedelsutveckling*, Department of Business Administration, University of Linköping, Danagårds Grafiska AB, Sweden

<sup>75</sup> Ibid

<sup>76</sup> Barth, H, (2004), *Barriers to Growth and Development in Small Firms*, Luleå University of Technology, Department of Business Administration and Social Sciences

<sup>77</sup> Vik, M. (2001), *Engagemang och Styrning – om relationen individ-organisation i preklinisk läkemedelsutveckling*, Department of Business Administration, University of Linköping, Danagårds Grafiska AB, Sweden

good job? The process of measuring results and implementing results controls involves four steps.<sup>78</sup>

1. ***Defining the dimensions on which results are desired such as profitability, customer satisfaction or product defects.*** This step includes setting the goals of the organization that will give the employees a sense of what is important. It also comprises definition of the measurements that are to be used. It is critical that the measurements are defined and communicated correctly, that is aligned with the overall strategy.
2. ***Measuring performance on these dimensions.*** Common results measures are financial measures such as net income, earnings per share and return on assets. Non-financial measures are market share, growth, customer satisfaction and a timely accomplishment of certain tasks.
3. ***Setting performance targets for employees to strive for.*** This step of management control aims at stimulating action and improving motivation. It will further enable management to compare the actual performance result with what was expected and to distinguish a good performance from a bad one.
4. ***Providing rewards (or punishments) to encourage (or discourage) the behaviors that will lead to the desired results.*** This step aims at having a motivational impact on the employees. Rewards can be salary increases, bonuses, promotions, job security, job assignments, freedom, recognition and power. Since each individual has different preferences to what motivates them firms can work out individual rewards for each employee, however this is a complex and hard task.

#### ***4.5 Innovation Management***

Management and control of research and development is a great challenge despite the size of the company.<sup>79</sup> Schmid and Smith, authors of the article “Should scientific innovation be managed?” question if it is even possible to manage innovation.<sup>80</sup> The article brings up the increased use of benchmarking activities, best practice and formulation of business goals in the research and development industry. The result of this has been a huge resistance among scientists who consider that science cannot be prescribed and they view business strategy in science as ridiculous. The authors further argue that managers of business on the other hand find it hard to believe that scientific progress cannot be scheduled and are convinced that success can be guaranteed. The authors are of the view that innovation management is possible just not with traditional and standardized management tools since these have little positive impact on scientists. It

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<sup>78</sup> Merchant, A.K., Van der Stede, A.W.(2003) *Management Control systems*, Prentice Hall, Malaysia

<sup>79</sup> Samuelsson, L.A. (2001), *Controllorhandboken*, Industrilitteratur, Stockholm

<sup>80</sup> Schmid, F. E; Smith, A. D, (2002), “*Should scientific innovation be managed*”, *Drug Discovery Today*, Vol.7, No 18.

is management who has the responsibility for the strategic planning which should be based on the staff's qualifications and capabilities. Leaders need to understand both the science and the business.

Creativity needs to be combined with systematic work in the development process. Management of research and development entails several complex problems to management. First of all uncertainty and high risk are common traits of research and development activities, which in turn limit the possibilities to manage and to have full control. The risk is usually much higher in projects that have not been tested before and thus the investors require a much higher return.<sup>81</sup> In addition to this external investors usually do not have any previous knowledge of the specific research activities carried out in the organization, which further limits the scope of management. To manage innovation successfully, the above-mentioned uncertainties need to be turned into knowledge.<sup>82</sup> There is no clear-cut recipe to successful management of innovation. Successful innovation management cannot be copied, as it needs to be learned as time goes. It may entail a great deal of mistakes and failures but the specific outcome of that process is firm specific and subsequently cannot be copied.<sup>83</sup>

#### **4.5.1. Venture capital investment and Innovation Creation**

Whether or not venture capitalist firms spur innovation is a widely discussed topic. Vivek Wadwa, senior research associate at Harvard Law School and professor at Duke University discusses the topic.<sup>84</sup> His conclusion is that investments follow the innovations and not the opposite. Wadwa further note that the venture capitalist possesses the necessary knowledge and skills to commercialize technologies that have been tested and proven, and this in turn provides a high monetary return for the venture capitalist. He says that the venture capitalists capabilities of fostering innovation is limited and can actually be affected in a negative direction. Wadwa argues that the involvement of the investor shifted the focus from technology development to sales and marketing activities.

Supporters of his point are among others Masako Ueda and Masayuki Hirukawa who investigated the connection between venture capitalists' investments and productivity development.<sup>85</sup> They came to the conclusion that the total factor productivity, that is one measurement of innovation, was negatively correlated with venture capital investments. What to take from this is that venture capitalists actually slow down the innovation processes. The authors' conclusions are in line with Wadwas statement, which is basically that the VC invests where innovation takes place and not those venture capitalists' investments create innovation.

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<sup>81</sup> Samuelsson, L.A. (2001), *Controllerhandboken*, Industrilitteratur, Stockholm

<sup>82</sup> Tidd, J., Bessant, J., Pavitt, K. (2001), *Managing Innovation*, 2<sup>nd</sup> edition, Wiley

<sup>83</sup> Ibid.

<sup>84</sup> Wadhwa, Vivek (2008-09-30) "Does Venture capital Spur Innovation? -Some research shows that money follows innovation, not the other way around" Business week, <http://www.signallake.com/innovation/VenCapSpurInnovation093008.pdf>  
[http://www.businessweek.com/smallbiz/content/sep2008/sb20080930\\_920684.htm](http://www.businessweek.com/smallbiz/content/sep2008/sb20080930_920684.htm), date: 2009-04-07

<sup>85</sup> Ueda, M. Hirukawa, M. (2008), *Venture capital and Innovation: Which is First?*, 14<sup>th</sup> of September, Working Paper Series.

Venture capital investors provide a more aggressive approach when it comes to litigating patents, according to Josh Lerner, professor at Harvard Business School.<sup>86</sup> He argues that there is no simple way to state that VCs do not foster innovation. Lerner's research did show that VC backed firms were significantly better at stimulating patents.

Hirukawa and Ueda are confirming that venture capitalists have a positive effect on the amount of patent filings. However an important aspect is that the total factor productivity did not increase. The authors did conclude that patents increased but it did not reflect positively on productivity or innovation.<sup>87</sup>

#### **4.5.2. Motivation and creativity in research based firms**

Creativity is one of the core competencies research based entrepreneurial firms possess and it needs to be looked after. A flourishing creativity is more likely to be generated when a trusting management does not over control and make sure that the internal and external communication channels are open.<sup>88</sup> Management further needs to allow creativity to take time. It needs to be aware of the fact that different people in the company have different ways of thinking that need to be respected. Conflicts and divergence of goals will happen and needs to be resolved by managers in order to keep the organization together.<sup>89</sup>

The researcher Arthur R. Klein concludes in his research paper that barriers to creativity can be tight financial control, too much bureaucracy and poor communication.<sup>90</sup> Simon Majaro writes in his article that too much criticism and over-tight planning are hindrances to creativity in organizations. When managing an organization's creativity management needs to encourage people to challenge the conventional way things are done.

In a research study carried out by Jindal-Snape et al. the authors reach the conclusion that what de-motivates scientists is for example a lack of feed-back from management and a lack of leadership. They also found that financial incentives did not have a significant effect on the scientists' motivation and neither did promotion. Financial incentives could lead to a behavior that aims at fulfilling short-term goals. Instead curiosity, the desire to make a difference and recognition of their work were pinpointed as motivations.<sup>91</sup> These conclusions further support the reasoning that common managerial control methods will not have the desired outcome on research based companies

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<sup>86</sup> Wadhwa, Vivek (2008-09-30) "Does Venture capital Spur Innovation? -Some research shows that money follows innovation, not the other way around" Business week, <http://www.signallake.com/innovation/VenCapSpurInnovation093008.pdf>, Date: 2009-04-07

<sup>87</sup> Masayuki Hirukawa and Masako Ueda, (2009) *Venture capital and innovation: which is first?* Financial Economics, January 30th. <http://www.voxeu.org/index.php?q=node/2919>, Date: 2009-04-07

<sup>88</sup> Majaro, S.,(1992), Strategy Search and Creativity, The key to corporate renewal, European Management Journal, vol 10, no.20, p.230-238

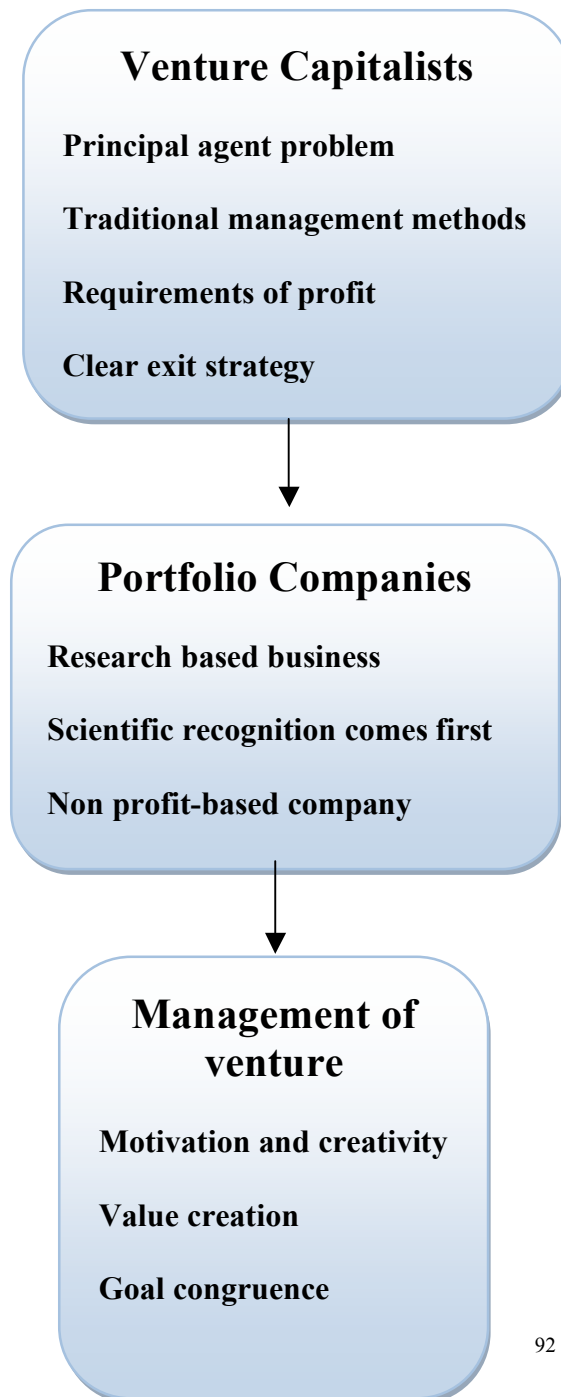
<sup>89</sup> Burns, P.,(2005), Corporate Entrepreneurship – building an entrepreneurial organisation, Palgrave Macmillan, China.

<sup>90</sup> Klein, R. A. (1990) *Organizational Barriers to Creativity...and how to knock them down*, The journal of consumer marketing, Vol.7, Iss.1, p.65

<sup>91</sup> Jindal-Snape, D.,Snape, B. J. (2006), *Motivation of scientists in a government research institute*, Management Decision, Vol. 44, No.10, p.1325-1343.

## *Summarizing image of chapter*

*The figure below shows how the different areas in our theory base that we have presented are related to each other and the connection between them.*



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<sup>92</sup> Own figure

## 5. Empirics

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*This chapter presents our empirical findings. First we will show the data from the venture capitalists followed by the portfolio companies. In the end we have chosen to present the data in sum-up tables aiming at giving the reader an easy overview.*

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### **5.1. Introduction**

We have gathered our empirical data by conducting interviews with venture capitalists and life science companies that are financed by venture capital. It is important for the reader to know that all the portfolio companies are financed by one of our chosen venture capitalists. The respondents in the venture capitalist firms were a CEO and an investment manager, both have deep and extensive knowledge regarding their investments. The interviewees in the portfolio companies were all CEOs except from one. It is also of value to the reader to know that the portfolio companies are not in the same stage of development.

This chapter will first present the venture capitalists' answers according to specific themes under which several questions can be assorted. Subsequently, the results from the interviews with the portfolio companies will be presented to the reader.

The themes are created by organizing similar questions from the interviews under a number of headlines that tie them all together. This is done in order to create structure to our data collection and to give the reader an easier view of the results. These results are summarized and put into tables along with the original questions, divided into the different categories. Thereby we hope to give the reader an easy overview of the essence of the respondents' answers. There are two sum-up tables; the venture capitalists' table is initially presented followed by a table for the entrepreneurs. These will be presented under attachment.

### **5.2. The venture capitalists**

Our two venture capitalists both had extensive experience from the life-science industry. One respondent had over 20 years of experience and the other had been in the business for 12 years. Both firms made their investments in the early seed stage and the early expansion stage. Although one firm focused its investments primarily in the seed stage while the other firm concentrated more on the expansion stage.

#### **5.2.1. Investments**

The venture capitalists were very well aware of the risks that an investment decision entails. The investment decision process takes between two to six months in both venture capitalist firms. In very unusual cases the process has taken up to a year, said one of the venture capitalists.

When they continue the evaluation of the objects they take a closer look at the project itself. They carry out extensive research regarding the market, technology, the demand for capital and screening of possible patents. One venture capital firm sometimes brings in an independent patent firm to take a closer look at the innovation and its potential. When dealing with smaller investments, from one million up to three million Swedish crowns, they engage an independent party to evaluate the investment object in order to spare resources.

The venture capitalists make sure that the potential investment object has a patent, or at least has applied for one before investing. One of our venture capital companies wants to see either proof of technology, initial clinical studies or an early prototype. It is also important, according to the other venture capitalist, that the entrepreneur has a proof of concept and that there is a verification of customers in the market.

Both firms emphasize the importance of personal chemistry in the evaluation process and one venture capitalist said that the first thing that they look at is whether the company is represented by good people with a connection to and experience in the industry. It is also crucial that the entrepreneurs are realistic about the project said another venture capitalist. One venture capitalist argued that the people in the company will be more important in the future and that the venture capitalist will investigate if they are reliable. One example of this could be a check-up on the person's financial background in order to find out previous failures. The close geographic proximity of all portfolio companies and the surrounding network helped one of the venture capitalists to gather information regarding people's backgrounds.

Both venture capitalists said that the screening process of life-science companies is different from other industries. The industry differs radically from other industries since it requires more capital, more risk, more extensive documentation, regulatory problems and entails a much longer process to get into the market. They both agreed that this situation forces them to be much harder in the screening process.

The venture capitalists both thought that they are being provided with enough information from the investee. They both stressed the fact that if the information is not enough they would opt not to invest since they would know that something is not right. One investor accentuated that the venture capitalist firm itself needs to search for information and create an understanding on their own. They need to have an active presence on the market in order to size up the potential and opportunities. Networking was also mentioned as important in pre-investment phase. The venture capitalist is solely responsible for his judgment of the investment's potential and cannot entrust the entrepreneur to provide all the information.

One venture capitalist said that the most common information that the entrepreneur is unwilling to share is information connected to the patent. This is particularly sensitive since the venture capitalist does not offer any contracts for secrecy, thus the entrepreneur needs to be willing to trust the personal duty of secrecy in the investor company. It is not



always possible for the entrepreneur to provide enough information due to rules and regulations, which according to the venture capitalists had a considerable impact on the project's credibility.

### **5.2.2. Involvement and Influence**

The most common way for the venture capitalists to be involved in the portfolio company is by holding a seat in the board of management. It was also common to replace the member of the board along the way as the company evolves and enters a new stage. This was done to have the right competence at the right time, which can help the organization to overcome the problems and challenges that every new phase entails.

One investor said that their degree of management is higher if the company has more flaws and needs additional help. In that case they will attend more to that company in order to minimize the insecurity. This was also expressed by the second venture capitalist who said that they have a much more active participation in the beginning so they can get to know the organization better.

The venture capitalists were satisfied with the degree of influence they have in the organization. One investor said that they usually demand more influence than ownership in the venture. For example if they own 20 to 30 percent they would require 50 percent of the influence. One venture capitalist experience a much greater influence in the beginning compared to later stages when usually other investors have entered the company. When the number of actors increases they need to share the influence and involvement and this is where the venture capitalist needs to make a decision whether they want to stay in the board or perhaps step back and only be given information through the interim reports. One of the investors said that they try to limit the entrepreneur's freedom of action in certain ways. One way of doing this is to agree with the entrepreneur that he is not allowed to exchange the CEO. This is done in the view of the fact that the founders of the company have more control and the venture capitalist wants to make sure that they stay on track. These rights (for example not to exchange the CEO) serve as a way to influence the company.

Both venture capitalists used a shareholder agreement which serves as a regulator for the partnership. However in both cases it was seldom used since it serves as a last resort when the players cannot reach consensus in any other way. Successful cooperation's have never had to resort to the shareholder agreement.

The two venture capitalists believed that their strongest contributions to the cooperation are experience and network. They both viewed themselves as a complement to the researcher's often limited knowledge in business management. This could for example be to have an overview of the organization and to see what needs to be done in certain areas as well as creating a trustworthy company and to sell it later on. The venture capitalist had previously gained experience and knowledge of the business through other investments. This in turn has created a wide network of expertise that can be useful to the portfolio company for example consultants, board members and an external CEO.

### **5.2.3. Management activities**

Different views on how to manage the company seemed rather common now and then. One of the investors explained that if a conflict develops it is solved through a dialogue that leads to consensus. If a conflict happens they have to work and solve it since they have a common goal that is clearly communicated at the start.

One venture capitalist experiences conflicts more often at the time of signing contracts. Another root to conflict is joint-owners in the company that have differing views on how the company should proceed. One way of dealing with this issue is to nominate an external president of the board with the responsibility for putting together a well-functioning board of management and to allocate seats according to ownership.

Competence is one of the most important traits of the CEO according to the venture capitalists. However one investor also added that being a hundred percent competent in the area is an impossible task. Having experience with successful venture capital financed projects in the industry is optimal but not always possible said an investor. Instead they emphasized the ability to communicate and to convey a message to potential investors as imperative. He or she further needs to be responsive, humble and self-critical. The ability to produce a cost-efficient product is also important.

The venture capitalists were convinced that the way to manage the company changes radically when they enter the picture. They provide more competence through their presence and knowledge and make sure that the portfolio company focuses on the right things. Requirements are higher and the level of freedom decreases. One investor argued that the organization needs to be more methodical and systematic in order to achieve goals and to secure value in the company. The Venture Capitalists are inferior in terms of information and therefore they have higher requirements. The venture capitalists change the focus from being technical oriented towards a market orientation. The market orientation was explained as focusing more on the customer and the actual use of the product as well as the product development process.

### **5.2.4. Goal alignment**

When setting up goals for the organization the venture capitalists only have one thing in mind; growth. They endeavor to attract more capital, develop more products, gain market shares and bringing in additional competence in the company. They are breaking down larger overall goals to smaller short-term activity goals. It is very important that these goals cannot be misinterpreted therefore they need to be clear. The ultimate goal is to create an interesting company that makes an attractive investment to future investors. One venture capitalist stressed their active participation as a means to reach the goals by continuously influencing the organization. Cash flow was also stated as an important control measure.

The other investor mentioned the venture's budget as an important tool to steer the company in the right direction. The budget is worked out more in detail for the coming year and with more overarching goals in the longer term.

There are no specific required rates of return on the investment objects. The only required rate of return the venture capitalists have in mind is the exit where they expect to make a big profit. There is a huge variation in profit, one venture capitalist has a goal of making a 20 to 25 percent profit and the other at least seven to ten times worth the invested money.

They were both very aware of the insecurity in cash flows and they both monitor the progress carefully. One venture capitalist said that it is important to forecast possible downturns in the cash flows to be able to handle them. This is done by having capital that covers possible downfalls in the predicted cash flow. To enhance the awareness of the insecurity surrounding cash flows one venture capitalist always calculates higher costs in order to make a plausible forecast. It is important to the investors to be persevere and to be content with the risk of not having additional capital to put in.

### **5.2.5. Communication**

The contact between the venture capitalist and the portfolio companies is carried out through board meetings and in more informal ways through telephone, email and via staff in the portfolio companies. If the portfolio company is located close to the venture capitalist a more informal contact is used. One venture capitalist has daily contact with its portfolio companies, the other makes sure that the contact is maintained at least once a week. They also give more attention to the entrepreneurs in the beginning of the cooperation. If they do not have enough contact it would be the venture capitalist's fault since it lies in their interest to monitor the portfolio companies and to gain continuous information.

They can never guarantee that their demands and requirements are communicated throughout the whole organization. However, the close communication and the active participation in the board give them a clear view of what is going on in the company. The venture capitalists rely on the personal relationship and said that the personal connection gives them a clear insight of what is happening. The fact that the founder of the company usually holds a seat in the board gives them more insight in the operations, said one of the investors.

### **5.2.6. Innovation activities**

Both venture capitalists said that it is important to stimulate innovation in the portfolio companies and to find the required resources in the endeavor of supporting innovation. This kind of input can be found in networks with universities and big companies, capital and guidance. The development process itself was less important, according to one venture capitalist. Stimulation of innovation and capital were the principal promoters of innovation.

Both firms uses financial motivators in order to stimulate the motivation and creativity in the entrepreneurial ventures. A good salary, options and bonuses were viewed as important stimuli to innovation. One venture capitalist stressed the importance of non-

financial motivators such as recognition aiming at bringing out successful people in the organization.

### **5.2.7. Value Creation**

The venture capitalists' definition of value creation is to make money. According to our investors it is about increasing the value strictly in economic terms. However, one of them also added that in order to accomplish this, factors like competence, a fit organization and maturity of the company need to be stimulated so they can contribute to the value creation.

The value creation process is a mix of different activities and the venture capitalists have strategies aiming at creating value in a pure economic sense. One venture capitalist uses a strategy based on milestones which tells them how much the company will be worth at specific points in time. When elaborating on this strategy they always keep in mind the possible exit opportunities that will be created along the way and also the end-buyer of the technology at the time of their planned exit. This technology needs to be proven good and reliable by the consumer and not just the market.

The venture capitalists viewed themselves as contributors in the areas of capital, experience and network. The experience is about the know-how of how to find additional capital to the company and how to make the organization work in the specific industry. As an additional value, they also provide the will to make things happen and to create a successful company.

### **5.2.8 Exit**

The exit plan serves as a plan as to when the venture capitalist will sell the company to another investor. This is also what permeates the development of such a plan. They need to make the company interesting to other investors that often are industrial players since the idea of listing the company hardly exists. The exit plan existed ever since the start of the collaboration, however according to one venture capitalist it is not set in stone since they always expect it to take much longer time than planned.

The venture capitalists try to avoid pulling out too early, that is before the planned exit. If that would happen, it is most likely a result of diverging opinions regarding which direction the company should take or difficulties in changing or correcting mistakes made in the past. The plans that were made have not been met satisfactorily and a possible way out is to sell the shares back to the founder. Another possible reason for leaving the company earlier than the set exit plan is the lack of potential investors ready to take over the company.

### ***5.3. The entrepreneurs***

#### **5.3.1. Company Background**

For how long the entrepreneurial companies have been financed by venture capital differs, but most of them did receive venture financing in the early 2000. However one company had it as early as 1998.

The stage in which the companies received venture financing was consistent among all six entrepreneurs, they were all financed in a very early seed phase, except of company E, which did not receive financing until the seed-early expansion stage and company F that received financing in the seed stage. In the early seed stage the companies had developed a patent, company B were ready to build a prototype while writing up the patent, company C and D had a patent and an early prototype.

#### **5.3.2. Why Venture capital financing?**

The main reason behind the choice of being venture capital financed was the large amount of capital that was required for further development of the product and the company. Most had used research funding before they applied for venture funding. Banks were not an option since they do not finance this type of business which is stated by company C, E and F. Each and every one of the entrepreneurs agreed that no other option was possible.

The criterion that the entrepreneurs thought was important when choosing venture capital financing was foremost the personal chemistry and contact which company A, B and D listed high. However company C, D and F stated that you cannot choose the venture firm, since they are in desperate need of the capital and the competition on the market is very high. Both company B and D listed the geographical proximity as an important factor. Business know-how, competence and network were important for all of the entrepreneurs when looking for an investor.

The expectations before meeting with the venture capital firm were very similar to the above mentioned criterions, what the entrepreneurs find to be important for venture capitalist to possess. However all of the entrepreneurs highlighted the capital as the most important expectation before the meeting.

#### **5.3.3. Information asymmetry**

The information that the entrepreneur provided to the investor was according to the majority of the respondents (A, B and E) everything. The biggest reason was the need to minimize the risk for the venture capitalist. Another reason was that the entrepreneurs saw the investor as honest and they felt that the venture capitalist needed all of the information they could provide so that they would invest. Company C and E highlighted the importance of communicating the potential market as well as having a functioning technology and product when in the meeting with the venture capitalist. This was also the case for company D. However they also mentioned the importance of emphasizing the

entrepreneur's competence. Company F thought that a clearly formulated business plan, cost expectancy, time and technology development was the most important aspects to share with the investment company.

The negotiating power of the entrepreneurs were overall not so strong, this is mentioned by company C, D, E and F, since they are in crucial need of capital. However company B and C stated that they created a stronger position with a uniqueness of the product and the strong market potential. Company A was very comfortable and said that they were more equal to the venture capitalist and that they could have a discussion, since they already had capital from a very early stage. Company B said that the power increased as more investors came in. The respondent further explained that it is a "political game" since some investors are almost expected to succeed after one another at a certain development stage. This in turn puts the entrepreneur in a more favorable position when negotiating for more capital.

#### **5.3.4. Involvement and influence**

The most important competence that the investor offered was foremost experience in the business field (A, C, D). Company B and D mentioned the market competence. Competence in the business, market and sales was mentioned by B, E and F. Company F stated that a good reputation was important.

Regarding how much influence the entrepreneur has in the cooperation with the venture capitalist, all of the companies' respondents said that there was a balance between the two. Company B was the only company that mentioned that the balance is to the company's advantage. Company A, D, E and company F mentioned that they have a discussion and an open dialogue with the VC.

#### **5.3.5. Communication**

The communication between the entrepreneurs and the investors was according to each and every respondent taking place on the board meetings. Company A, C, D and E also mentioned the informal contact, which takes place in person or over the phone. It was the CEO of the company that was present in the board meetings and therefore the person that had the most contact with the venture capitalist.

The communication of the results to the venture capitalist took place in the board meetings, they occur once a week in company B, once a month in company A, D and E, and once a quarter in company C and E. Company C and E also mentioned a personal and a more regular contact over the phone, when they also communicated the results.

When the venture capitalist had a request for the entrepreneur they communicated it through the board meetings, something which all of the respondents answered. Company C mentioned that they also communicate informally over the phone, but the board meetings are vital since they have several owners and each and every one of them needs to be heard.

### **5.3.6. Goal setting**

Business control was according to the respondents quantitative, to make it possible to follow up and evaluate the set goals. Company A mentioned that they are working towards their vision, which is not possible to reach, but gives them a direction to work towards. Company A, B, C and D explicitly said that they set overall goals for the business, which later are communicated down in the organization all the way to the units and individuals. Company E mentioned that business control has to be flexible, since the market does not allow a too strict of a goal setting. They also used bonus systems for motivation.

According to the majority of the respondents (all except from company C) goals and the business control had changed since they received financing by a venture capital firm. Company C however has been financed by venture capital since such an early stage, so the respondent could not see a change. Company A stated that the goals continuously change due to the environmental changes, while company B said that the purpose to bring in an external investor into the picture includes changing the goals. They further wanted to develop the organization, from being a development company to a selling one. This is also the case for company D and E which also expressed a change in their focus. Company F said that the sales volumes are the factor that influences their business control the most.

The majority of the entrepreneurs agreed that the venture capitalist's demands are reasonable (Company A, D, E and F). The others meant that they are never reasonable, since it always takes longer time and it costs more than they initially planned. At the same time the venture capitalist is overoptimistic when it comes to goal setting. Company B stated that even if the investor is happy with halfway results, they get less and less tolerable to miss prognosis further along in their cooperation. Company A and D meant that they are reasonable since they are based on competence and experience. Company E said that even if the respondent finds the goals reasonable, the venture capitalist is pushing them higher and higher, since they believe it will lead to higher performance, even if that is not the case. Company F highlighted that they have a two-way communication and they have to have a balance between being realistic and unrealistic, to keep the venture capitalist's interest alive while at the same time not being punished for not reaching to high goals.

Company B, E and F communicated the demands to R&D and the rest of the organization through regular meetings. Company A communicated the requirements in person to the different units, while company C had all the R&D personal in the board, which made the communication very simple.

None of the respondents mentioned that they have a required rate of return, since they are still under development, except from company F who had a required rate of return through the budget. However, company A, B, C, D and E were aware of the exit and the

value of the company that need to be achieved before that. But during the current cooperation they have no required rate of return.

### **5.3.7. Innovation and management activities**

How the entrepreneurial companies manage the company to keep and foster the creativity of the research and development staffs differs between the companies. In company A the R&D was included in the board, which means they are a part of the government and the organization's strategy. Company B developed different projects in cooperation with a university to stimulate the researcher and to develop new ideas without using the company's time and resources. Today all the staff members are co-owners of the company, which the respondent saw as a motivating factor. Company C meant that it is important to keep a balance between demands and freedom to motivate the researchers. The respondent further believed that goal setting and management are important motivators. Company D said that they are using salaries to motivate the researcher. However the majority of the respondents did not believe in bonuses as an incentive, which was the case for company A, B, C, E and F. Company E educates the research team to know what is important for the company so they think it is rewarding and fun, while Company F motivates them by personal development and professional advancement in the company.

Whether or not the innovation in the company has been affected by the venture capitalists differs between the entrepreneurs. Company A, C and F thought that the capital has made it possible for innovation to exist at all. Company C thinks that the milestones set by the VC have made them more innovative. The respondent further says that R&D is a structural process and not a creative one. Company B, D and E all agreed that the VCs have not affected their ability to be innovative. Company B and D further mentioned that the processes within the corporations and the direction of the companies have changed to become more market-, production- and sales oriented. Company E however says that they instead are too innovative and have too many ideas, but cannot develop them all, however this cannot be related to any inputs provided by the VC.

The entrepreneurs' opinions regarding what activities the venture capitalist is focusing on in their influence in the organization are somewhat similar. Company A and B thought that the venture capitalist is focusing on the strategic goals. Company B, D, E and F all thought that the VC focuses on value creation in the company that needs to be sustained before their exit.

The entrepreneurs' views on whether or not the companies have different opinion on how the company should be managed are divided into two equal groups. Company A, B and D believed that they have different opinions. However they all believe that this is positive, since it creates a debate which in turn leads to discussion and consensus. Company C, E and F in their turn had the opposite opinion and experienced no difference in opinion regarding how the company ought to be managed. However, the reasons differed. Company C, said that since the venture capitalist required an independent CEO they are also able to fire the CEO if that would occur so no differences in opinion take place.



Company E's reason was that the CEO is both the founder and is qualified in his background, which makes his opinion convincing to the board. Company F on the other hand did not see any current disagreements, but thought that they had it in the beginning of the cooperation due to different focuses.

Most of the entrepreneurs had experienced differences in how the company is managed since the venture capitalist entered the picture. This opinion is held by company A, B, D and E. Company A saw a stronger focus and a clear exit, company B saw a difference in direction, while company D thought that the venture capitalist had made processes more formal and the company had become more result oriented. Company E felt that they were more commercially driven, and under a greater time-pressure. Company C and F did not see a difference. Company F said that the reason was the involvement of the investor since the start.

If the respondent from the entrepreneur company could change their current situation regarding government and influence of the investor all of them would. They stated that the optimal situation would be doing everything on their own. However most of them were very happy with the cooperation, and company B said that the pressure from the venture capitalist had been good. Company C believed that the investor has a short-term outlook because of their exit plan, which the respondent believed is negative for the organization. The respondent further said that they are not able to focus on activities that the respondent believe is important for the company, instead have to their efforts into finding other investors. Company D is happy with the contribution provided by their VC, nevertheless they would have preferred more capital for further investments. Company E believed it would have been optimal to do everything themselves, but said that the cooperation worked well and they were very happy. This was also the case for company F, who would rather own everything themselves, but had no complaints on the cooperation.

### **5.3.8. Value added activities**

The entrepreneurs defined value creation in the company differently. However all of them are focused on creating trust in the product and create a sustainable market.

The biggest value creation contributions from the venture capitalists to the entrepreneurs were similar, but they were mentioned in different orders. Company A thinks that the capital, their experience, competence and network has been most value creating, Company B, capital, network and confidence in the company for further VC investments. Company C thought it was the VCs contribution to perform a clinical study, certification and got the product approved, in other words, helping the entrepreneur in the steps to take the product to the market. Company D mentioned capital, knowledge, product to market and network. Company E said that the capital, mentorship and the network had been of vital essence. Company F said that the network is the core contribution from the venture capitalist and it included finding suppliers, partners, other ventures capitalists and knowledge and insight into the venture capital market.

All the respondents believed that the initial expectations they had on the investors had been fulfilled. However company C and F said that it has taken longer time than expected, and company D said that they would have liked more capital to different projects, but says that they have to trust the expertise and knowledge of the venture capitalist.

## 6. Analysis and Conclusions

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*In the analysis we are analyzing our collection of empirical data. We have also chosen to include our conclusions along the way.*

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### **6.1 Introduction**

We have found a lot of interesting information in our empirical data collection and now a step further in the process we are aiming at performing an analysis that will highlight the purpose of this thesis. We have chosen to carry out the analysis according to different categories than presented in the empirics and we have five main areas from which we have our starting position. These areas are; Principal-agent problem, strategy, management, innovation management and value creation. Below each area we will analyze a set of questions that we believe pertain to the same category.

### **6.2 Principal-agent problem**

From the theory we have learned that conflicts and diverging goals can be a result of asymmetrical information, which gives rise to the principal agent problem. The venture capitalists have a successful exit as their main focus and making money is the main value creating activity. The entrepreneurs on the other hand define value creation in terms of product development and customer satisfaction as some examples. The difficulty in making sure that all players strive towards the same goal is what gives rise to the principal-agent problem and we have found several interesting reasons why this seems not to have been a problem in the companies that we investigated.

Our two investors have a deep and extensive pre-investment process where they require a lot of information from the entrepreneur. First of all, being provided with all the required information was a prerequisite for the venture capitalist to make an investment at all. They make sure all the relevant information regarding; the market, the product and technology is presented. This screening process usually takes from two to six months according to the venture capitalists it is also necessary to be able to mitigate the asymmetrical information problem. The insecurity during the pre-investment stage was also mitigated through the investors' competence in the life science sector and we believe that this knowledge of the industry helps them to increase the control. The entrepreneurs also had a positive attitude towards sharing information since they believed it was crucial in order to get the investment. There is an implicit understanding that extensive information sharing in the pre-investment phase is a good growing ground for the investment.

During the actual financial involvement extensive and close contact is carried out in all the studied companies. Email, telephone contact, board meetings and personal contacts were mentioned as different ways of communicating. No respondent thought that it was too much or too little. This confirms the research by Gavin C. Reid that pre-contract information sharing is very important in mitigating the principal-agent problem. Our findings are further aligned with the research of Mitchell et al. and Sweeting, which states that regular information is a way of monitoring the portfolio company to address the

principal agent problem. Looking at our empirical findings we believe that informal contact is one key component to control information sharing.

Moreover what is interesting is the close interaction that takes place in the beginning of the investment, which was confirmed by both venture capitalists. We believe that an initial lack of goal congruence between the two players has resulted in a close interaction with an aim to create common goals. This confirms previous research results of Gupta et al. They need to be in close contact and to get to know each other in order to create a mutual understanding of where the company is heading to create goal congruence. Both players seem to be aware of the problem but also recognize their mutual dependency in the quest of creating a successful company. They need to participate in extensive cooperation and communication, which they stated that they currently do. The venture capitalists are active co-owners since they provide the entrepreneurs with competence in the board, capital and network. In connection to networks, the venture capitalists mentioned the close geographic network that allows them to obtain information about entrepreneurs and it provides them with valuable information about who would be a good investment. We believe that information asymmetry can be mitigated by the existence of research clusters such as Medicon Valley in the Öresund region where close geographical proximity is an advantage. This is also where our companies are located.

We believe that the problem has further been avoided by setting up goals that are clear to every person in the company. Most companies have set up clear interim goals that should be met within certain time limits. Some also stated individual goals as a part of their goal setting strategy. This creates a shared view of what should be achieved up until a certain point in time. The venture capitalists both use options as a way to align the personal goals with the objectives of the company. This is also a way to control the employees.

The life science industry requires continuous capital injections, which was confirmed through our interviews. It is understood that the process takes longer time and requires a lot more capital than expected. We find it therefore plausible to argue that since the entrepreneur needs new capital at regular intervals it forces them to give the information that the investors require, in order to keep the capital flow into the company's activities. We are not saying that information sharing in itself is forced, but this is a close cooperation where mutual understanding is a crucial component so it becomes natural to share information on a very regular basis. We also believe that it creates an incentive for them to reach the interim goals and in that way create trust so that additional capital can be injected. This reasoning goes hand in hand with the research of Sweeting et al. in which trust is essential to overcome the principal-agent problem. Both players are aware of the mutual dependency and close collaboration that is required to create a blooming company.

To conclude, the lack of evidence of the principal-agent problem can be explained by extensive pre-investment contact, formal and informal contact during the actual collaboration, a recognition from the entrepreneur that they are interdependent and therefore needs to share vital information for continuous capital infusion and clear goal setting in the beginning that creates common goals.

### **6.3 Strategy**

Strategy is the most important tool that the venture capitalist uses to influence the venture. The board of management formulates the strategy where the venture capitalists in both of our cases usually are active members. The board meetings are held regularly and allow the investor to communicate their demands to the CEO, which in his turn communicates them down in the organization.

The venture capitalists set their strategy based on a successful exit, which is when they can find another buyer for the portfolio company for the anticipated compensation. The strategy is aiming at creating a certain monetary value that is required by the investor, which consists of a clear plan for the future success of the company. This is in alignment with Hitt et al. when they state that the strategic plan's purpose is to give insight into the future direction of the enterprise. The exit strategy influences the portfolio companies' governance, since the majority of the respondents said that their goals have changed since the venture capitalist entered the picture. The majority can also distinguish a stronger focus and a new direction for the company, however this was expected according to them. The venture capitalists and the portfolio companies observe a change in the organization from being a product driven to a market driven organization, which also is concluded in the research by Wadwa. Both the venture capitalists and the entrepreneurs said that the goals are qualitative and more time specific since the cooperation started. We argue that the change in governance turns the organization into a more growth-oriented company. They are reforming and changing focus. A challenge for the entrepreneur is therefore to change the organization after the involvement of external financing. One way to make it easier for the entrepreneur is a good dialogue between them and the investor, to make sure both parts have the same strategic vision when entering the cooperation. This will be the foundation for the relationship and they would early on be able to detect any misalignments.

Both the venture capitalists and the ventures expect the investment to take longer time and cost more than they initially plan on. However one entrepreneur mentioned that the longer they work together the less the venture capitalist overlooks inaccurate and overoptimistic prognosis.

One entrepreneur did explicitly mention that the life science industry requires a flexible strategy, since it is uncertain and conditions change constantly. This can be related to Kurato et al. who states that it is imperative that the strategy is developed to meet a constantly changing market and competitor's climate, to evolve as a company. It is therefore plausible for us to make the conclusion that the life science industry will demand a more flexible strategy so the companies are able to meet the complexity and the changes in the industry. This will influence the strategy formulation and the goal setting in the organization, since they cannot be rigid, and the communication with the board needs to be more frequent. The frequency of the board meetings should be dependent on how early in the cooperation the venture capitalist and the venture are. The earlier in the collaboration they are the more frequent should the meetings be held. One can also conclude that personal contact and regular updates are of great essence so the investor and the investee are prepared to meet changing conditions which can help them adapt their strategy accordingly. This will also decrease the risk and the uncertainty with

the investment and future cash flow. However as our empirical data also suggest, the personal contact is only a complement to the board meetings, since the venture usually has multiple investors and all need to take part of the information. To conclude: frequent meetings with the board of management are needed to update the strategy due to changing conditions in the market. This will lead to a flexible strategy, which in turn will make the company more resilient and be able to meet the competition and changes in cash flow.

The communication within the organization is an important factor for a successful strategy, which is highlighted by Hitt et al. since the strategy needs to reach all the individuals in the organization so that they are working towards the same goals. This can be related to how they motivate the researcher and break down the overall goals in the organization to specific activity goals for the individual units. This is something that all respondents found to be important, however they have different ways of communicating them down. Most of them have meetings to make sure everyone takes a part of the activity goals aimed at the different parts of the organization. Kuratko also argues that the strategy is the tool that helps to set the goals, which everyone needs to take part in. The communication and motivation are essential in order to make the different parts of the organization and the individual strive toward the same goals. For example, the research and development staff needs to be motivated to generate more focused end-products. They need to feel like they are being a part of the organization as a whole and understand why the company changes focus and why the freedom of the researcher becomes more limited. One respondent said that to be able to do this they educated the staff so they would feel like they are a part of the organization. The goal setting and the challenge to motivate the coworkers will be significantly easier in smaller and more flat organizations since a dialogue would be possible with all the members. However in the larger ones it is imperative that the individual gets the attention they need to be motivated, the closest managers should make sure to communicate the strategy and goals down.

As a conclusion we can see that active board members of the venture will influence the strategy by steering the organization towards exit. This influences the goal setting of the organization and creates a focus and a new direction. This change in strategy is already anticipated by the entrepreneur before the actual investment and the two players engage in the collaboration with the same outlook on strategy. Moreover, formal and informal meetings should take place frequently due to changes in the market conditions which allows them to have a more flexible and resilient strategy. Communication of the strategy through interim goals and activity goals is an important aspect as it makes sure that the employees share the same view.

#### ***6.4. Management***

The role of the entrepreneur and the CEO in the company seems to play a crucial part in the process of creating a successful company. This concerns both the pre-investment phase and during the collaboration. What is further interesting are the answers from both venture capitalists concerning their investment criteria. Both stressed the importance of personal chemistry when deciding to invest. Technology and a product were also important, but more of a pre-requisite to even have a meeting with the venture capitalists.

It seems that personal chemistry and a reliable entrepreneur were both of great importance when deciding whether to invest or not. Without a trust in the company's representatives, the investors said they were reluctant to invest and would refrain from engaging in a close relationship. Trust in the CEO is an important factor even later in the cooperation, this was explicitly stated by one entrepreneur who said that due to his experience the venture capitalists were more willing to listen and follow his advice. This further confirms the fact that it is important for managers to have both business and science experience as argued by Schmid and Smith.

Both players seem to be aware of the intimate relationship that such an investment entails and the venture capitalist make it a top priority to find both an interesting product as well as dedicated and cooperative entrepreneurs. Without personal chemistry, the investor rather refrains from making a deal than leaping into a great project when they are having doubts concerning the entrepreneur's persona. MacMillan et al. found that five out of ten most important criteria of investment were related to the entrepreneur's personality and experience, which is confirmed in our study.

When looking into the role of the CEO we can see a similar pattern that also supports previous theory. When searching for a suitable CEO the investor's have different views. One investor clearly mentioned that they always make sure that an independent CEO enters the company while the other investor sees no problem by having the entrepreneur/founder in charge of the operations. Our assumptions in the beginning were that venture capitalists would like to see an independent CEO that has experience in business as well as science. However this can only be confirmed by one venture capitalist. Nevertheless, we argue that this is an interesting finding. The venture capitalist that requires an independent CEO is also the one who invests in the early stages, the so-called seed stage. The other investor who is willing to keep the founder as a CEO invests in a later stage. It is clear that the level of insecurity is higher in the early stages since there is no clear market, no complete product and perhaps not even a proven technology. The investors in this stage experience more risk compared to the investors that concentrate on a later stage where the market has been further defined, a product has been developed and perhaps where the technology has been proven. Our investor who chooses to invest in the later stages is faced with a lot less risk, which probably allows him to keep the founder as a CEO. In turn, it is plausible to assume that the seed investor would like to mitigate the risk of having an unproved scientist as a CEO and therefore requires an independent CEO.

During the actual financing period the venture capitalists have certain requirements on the CEO. Traits and abilities such as communication skills, responsiveness and humility were brought forward as pivotal in the continued progress of the company. All the CEOs that we interviewed have experience of the industry or similar projects even though they have been recruited externally. In the article "Should scientific innovation be managed" the authors Schmid and Smith point to the importance of a leader that knows both sides, that is the science and the business is crucial in a successful venture. This seems to be the opinion of our venture capitalists as well.

In our cases the CEO is a part of the board, shaping the overall strategy and long-term goals for the organization. Kuratko says in his article that it is important to be able to communicate a clear message to all employees in order to create mutual understanding about common goals. The CEOs we interviewed were either independent or the founder of the company. The independent CEOs all had a deep understanding of the science acquired through previous experience in common, which we believe has been important in the success of the company. At the same time they also had experience from business in different roles. It gives them a greater insight into the different parts of the company as well as an ability to communicate to both sides of the firm. The CEO should be able to communicate to investors concerning business activities and to researchers regarding their research activities. We believe that the CEO holds a key role in making the organization work towards the same goals and in the value creation process. We have further found no evidence that there is a lack of qualified leaders in the organizations. Since one of the venture capitalists had an independent CEO as one of their requirements to invest, it seems to us that the venture capitalists make sure that appropriate competence is brought in at every stage of development. Since we have chosen not to carry out interviews with the responsible persons for research and development we do not know their opinion regarding an independent CEO.

As stated above, one of the venture capitalists mentioned communication skills as an important trait of a CEO and the other mentioned responsiveness. Since all entrepreneurial companies that we interviewed have been rather small we argue that the opportunities for the CEO to communicate a clear message are bigger than if they were larger companies with a greater number of staff. We believe their small size works to their advantage and that this is a key factor to successful control within the organization.

To conclude our analysis of this chapter; to make an investment decision personal chemistry was expressed as a very important aspect. During the actual relationship it is important that the CEO is entrusted and that he or she has experience in business and science so he or she can communicate the goals and strategy to all the employees. Furthermore, if the project entails a higher risk the venture capitalist is more prone to recruit an external CEO in order to mitigate the risk. The size of the company can also be a factor that facilitates communication and the role of the CEO.

### ***6.5. Innovation management***

Innovation management is crucial in the life science industry, since the companies need to be driven as a market organization and at the same time foster innovation. The company changes its focus from being a product driven organization to a market driven one, which is supported by Wadwa. The majority of the venture capitalists and the entrepreneurs shared the same insight, that innovation and creativity is imperative to become a successful organization. However it needs to be systemized which Schmid et al also mention is important. This is also stated by one of the investors and one of the entrepreneurs. It is important since the portfolio company needs to focus on the product development, which can generate a profit. The investors have a big say about this, since they usually are the sounding board for what investments the venture should and should not develop further. However this does not mean that the venture capitalists have a



negative impact on innovation, rather the opposite, most of the entrepreneurs said that innovation has flourished since the collaboration. The venture capitalists are aware of the fact that their presence in the company makes the entrepreneur more focused and that they decide which innovations that will be developed further in the company. This is done to create a focus, which both the investors and investees agreed was essential to the commercialization of the products. As one entrepreneur stated, the company cannot just keep on inventing more and more products, they need to put their capital to use and focus on developing the key innovations. The entrepreneurial firm is looking for a venture capital investment company to help them take the business into the next phase of development. To do this they need the venture capitalist to help them change the direction of the business from being a product driven company to a market driven one. They need the capital and the business experience from the venture capitalist to do this. They also need to understand that the innovation activities need to change, since a new direction demands a more focused creativity process. As one entrepreneur mentioned, if the researcher cannot work in a more structured and focused innovation environment they should not work in the company at all and that they might belong at the universities were they can be given freer reins.

It is imperative for the leader to manage innovation and this can only be done if the leader has insight and knowledge in both the business and the science side in the organization, which Schmid et al. also note. One of the investors mentioned that they prefer to take an independent CEO on board, which has experience from the business side. What we noted though is that the CEO usually has extensive experience within the same industry as well, which also make them competent on the science side. The other investor did not see a hindrance for the entrepreneur to manage the company; this is interesting, since the entrepreneur might have limited skills on the business side. This was however understood by the venture capitalist, which pointed out that it is the venture capitalists task to complement the CEO with qualified competence. There seems to be a great understanding from the investor's side regarding management's skills and experience in business and in science. This may be due to the fact that they both have extensive experience in the industry and know what is required of management in a research company. To foster innovation within the company it is imperative for the venture capitalists to be aware of the fact that the CEOs skills can be complemented. This can be done if they provide the appropriate competence in the different stages of the firm's development. This can be done by replacing the board members. Nevertheless we believe we are able to conclude that it is essential that the independent CEO has experience in the industry as well as business experience, while the entrepreneurs' experience of business can be easily complemented by the venture capitalist.

The methods used by the venture capitalists to foster innovation consist of monetary rewards, like options and bonuses. This is however not supported by Jindal-Snape, since they argue that financial incentives are a way of making the researcher short-term oriented. Recognition and the need for the researcher to feel like they have accomplished something and that they make a difference in the company are bigger motivators. This is interesting since the venture capitalist mainly focuses on bonuses and none of the entrepreneurs are using bonuses as motivators. This can be related to the fact that venture

capitalists strive towards more short-term goals, to make their investment successful in order to make their planned exit. The entrepreneurs on the other hand intend to foster the innovation and creativity in the long-term. They stated that recognition, promotions and involvement in the organization were crucial as motivators, and financial incentives were not used. This might be due to the fact that the venture capitalists have a more traditional way of managing companies (Merchant), while the portfolio company's management aims more directly towards innovation management principles. Jindal-Snape also share this view that traditional governance should not be used in research companies, since it does not foster innovation.

Innovation takes time, which is limited as the venture capitalist enters the picture, since they want to see results within the time frame they have in mind. Although they understand that the activities usually are more time consuming than initially planned, they still have time oriented goals. The majority of the entrepreneurs also agreed that the collaboration puts the company under more time pressure, while Burns in his research argue that it is important to let creativity take time and the managers should understand this. However after gaining the insight from the interviews with the entrepreneurs, we argue that it is plausible to make the conclusion that time pressure is important to the entrepreneurs, which actually was stated by a number of them. If the venture capitalist did not pressure the ventures they would not gain focus, which is needed in the commercialization process. They would still be in the phase when they invent products without a clear focus. What is crucial for success is that managers guide the research and development staff so that they share the same view on what is best for the company and its investors.

Majaro mentions that overly tight planning hinders creativity and managers need to challenge the conventional managing methods. We believe that this might be true sometimes, but from our empirical data we have the impression that our entrepreneurs have limited resources and therefore need to have a more structured process and a tighter time schedule. The entrepreneurs need to have time-pressure, because the ownership is not only in the hands of the entrepreneur anymore. Creativity can, according to many of the respondents, be fostered in a more controlled manner. The type of creativity with no requirements of when results need to be shown would most likely still belong in the development phase and perhaps in the universities and not in a business working toward commercialization.

It is important that the leader is involved in the strategic planning process so they are able to communicate between the board and the researchers. It is a way to make their voices heard and for the board to understand what motivates the researchers. It is important that the strategy planning process is influenced by the management, which is also mentioned by Schmid et al. Our findings bring us to the conclusion that researchers as active board members or co-owners is rather common, which makes them involved in the strategic planning. This would provide the researcher with an optimal motivator. Other means of motivation can be as one entrepreneur and one venture capitalist mentioned, inspiring projects in cooperation with universities. In smaller organizations it will be easier for the research staff to have influence over management, however this might not be so easy in

larger companies. It is essential that the managers have a two-way communication with the researchers so that their views are presented to the board, and that the board in turn has its opinions communicated back. In other words, the process will be similar to the cases where the researcher actually holds a seat in the board.

The majority of the respondents, both venture capitalists and the ventures, experienced differences in opinions when it comes to governance. It can be due to the fact that different focuses might initially exist in the collaboration between the research organization and the investment company. The researchers have to understand the new direction of the company. They also need to participate in the strategy development, or at least it should be a dialogue so that everyone is on board. It is more important that a dialogue is created even if it might lead to difference of opinion. Since the majority of the respondents agreed that a dialogue is needed in a dynamic relationship and the differences of opinion usually lead to consensus. This communication is important so the researchers feel that they are being listened to, and even if they still are more limited in their way of working, they will know that they have been heard. They also need to be given the reasons why the company is better off, for example by not developing a certain product any further. Communication and dialogue is important to both sides.

As a wrap up of this chapter we can say that the venture capitalists bring about a more focused process of innovation by creating time pressure. With the presence of the investors the commercialization of the product is realized, so called product to market. The venture capitalists also serve as a complement to what the ventures sometimes lack in the different stages of development, for example in the board of management. The CEO must be involved in the strategy and function as a moderator between the board of management and researchers. Diverging opinions create a dynamic environment and solved through communication.

## **6.6. Value creation**

Value creation was defined very differently in the entrepreneurial companies compared to the venture capitalists. The entrepreneurs valued trust in the product highest and to satisfy the market, which in turn leads to higher sales. The venture capitalists on the other hand focused on making money and their exit strategies. They also focused on what value they bring to the portfolio companies, like competence and experience in the industry. It is therefore reasonable to conclude that the venture capitalists focus more on the final exit and the financial value, while the entrepreneurs focus more on product satisfaction. Both of them believe that the customer is very important in order to prove the product on the market. This is in alignment with Sapienza et al., which says that the most important role of the venture capitalists is the strategic one, which can be related to the investor's heavy focus on exit. We have also seen proof of the financial and business focus, from both sides. Both the venture capitalist and the investee are aware of the financial responsibilities that need to be fulfilled before the exit. They also stated the investor's business and industry experience to be vital for the company, which further confirms Sapienza's findings.

The entrepreneurs mentioned profit and making money as an important value creator for the company. However it was clear in the answers that this opinion was colored by the venture capitalist and what the entrepreneur needed to do to fulfill the investor's expectations. We can conclude that the entrepreneur is very influenced by the exit strategy and their focus on financial earnings since they mentioned this as a value creator. However they clearly stated that this was from venture capitalist's side. With some thought of the value creation for the business itself, the product and customer satisfaction was the most important value creators according to the entrepreneurs. We can see a clear difference, which might come from the venture capitalists short-term and ending participation while the ventures are looking at the continuous value for the company in the long-term.

It is also interesting to note that the venture capitalists and the entrepreneurs has similar thoughts about the venture capitalists' value creating contributions. They mentioned the same aspects with minor differences. We can see that all respondents stated capital first, which is a given, but other factors were experience in the industry, business know-how and network. However the entrepreneurs acknowledged them in a slightly different order. This does not affect our conclusion that the portfolio companies and the venture capitalists have similar experience and opinions regarding the value creating activities that the investors contribute with. All respondents mentioned similar value creating contributions from the investor and each and every one was also mentioned by Sapienza as being value creating factors. We believe the reason for the importance of a network is the entrepreneurs' lack of business experience. These networks give them advice, opinion and consultation on different activities and we argue that this will increase the opportunities to long-term value creation. The ranking of the venture capitalist's value creating activities might give us an insight into what specific contribution the different companies valued most, which might indicate different management activities from the investor. One reason for a different ranking could be that the venture capitalist provides more of one value creating factor than another simply because the portfolio companies have different needs depending on what phase they are in. It can also be due to the fact that some of the entrepreneurs value certain contributions more because the activities have been more recent and therefore are the first to come to mind. It is plausible to conclude that the venture capitalist's industry know-how is essential because of the complexity of the industry. They need to be able to understand the time, cost and the regulation elements that greatly affect the way the organization needs to be managed to create value. This industry also requires a more long-term thinking and a more continuous cooperation and capital flow from the investors. The network as an essential value creator can also be related to the need of continuous capital flow to the organization, since they can provide connections with other investment companies for participation. The capital is the main value creator, which can be due to the fact that it is needed to be able to develop the product and the organization. Business experience is what is needed for the organization to go from being a product development company to a market-and sales oriented company. It is the biggest change to the organization, since all elements will be affected by this change. To increase value creation the venture capitalist will provide the company with the right competence in order to achieve this goal. They will be a complement to the CEO and assist him in the areas where he is

weaker. The venture capitalists are now gradually updating and changing their competence in the board of management to have the most needed competence in the different stages of development and challenges they face. This is important to all their ventures since the different stages require different talent to be able to determine the strategy formulation and the focus needed to create the right value at the right time for the company.

The investor who has the longest experience in the life science industry, even though both have extensive experience, mentioned that they have a personal contact with their portfolio companies. This finding also confirmed Sapienza's conclusions that more experienced investors have more face-to-face contact. Both highlighted that they have a lot of informal contact with all their portfolio companies. However the frequency differs and one of the companies stated that they have contact once weekly while the other stated daily contact. The reason can be due to in which investment phase they are focusing their investments in since the company that invested in earlier stages did also have more frequent contact. This can be due to the fact that they are more risky, and more frequent contact is of the essence to lower the risk of the investment, which is also stated by Sapienza. It is reasonable to conclude that this is a conscious choice by the venture capitalist, since more communication leads to more information, which in turn lowers the risk of the investment. It is also easier for the venture capitalist to be aware of the current conditions in the company and to keep a closer eye on the management so they are focusing on the right value creating activities.

Most of the entrepreneurs are in alignment regarding the importance of more frequent and richer contact, since they mentioned the informal one to be frequent and significant. This could be due to the fact that all the portfolio companies are in the same close geographical proximity as their investors, which also Sapienza concludes to be an important factor that would determine the level of interaction and thus create more value. The importance of close geographic proximity that leads to more frequent interaction is most likely the reason behind these so called "clusters" of life science companies and investors. The cooperation will be easier between them. Another important aspect is the proximity to research facilities like the university can be the reason for life science companies in the area to flourish.

Sapienza also expressed why it is important for the VC to know how they can bring value to the entrepreneur to be able to differentiate themselves against other investors. One might argue that in the Swedish market today might be less mature than for example the US market since the majority of the entrepreneurs felt that they had a weak negotiating power and did not really have a choice of which venture they would like to cooperate with. In short, the more venture capitalist on the market the more requirements of differentiation. We can further conclude that the stronger position the venture has in for example; growth, market success or that they already have a lot of capital, the more important it will be for the venture capitalist to differentiate themselves against others. This needs to be done in order for the venture capitalist to be chosen by the entrepreneur who would have a strong position. However it is important to note that venture capitalists a lot of times invest in the same companies, and then one can argue that the importance of

differentiation is less crucial. It is reasonable to believe that some investments are more desirable than others and the venture capitalists might want to take on all or more responsibility to be able to receive a bigger payout when they eventually exit. It is reasonable to conclude that the state of the economy affects the power of the entrepreneur. Today there are few venture capital firms and a lot of demand for capital by entrepreneurs, but when investments are on the map again the power balance might be affected. This in turn brings us back to the investors' need to differentiate themselves by providing a stronger focus on other value creating activities than capital. It is also important to point out that regardless of the state of the economy and power balance the venture capitalists should be aware of what activities create value for the entrepreneur, since the non-financial value creating activities will in turn lead to financial gains, which should be in the best interests of the investor.

To conclude; even though the venture capitalists and the entrepreneurs define value creation differently, we can deduce that these definitions will lead to the same end goal – growth. Important value creating activities are industry know-how, network and competence without ranking since it seems that different entrepreneurs will have different needs depending on their stage of development. Geographic proximity leads to higher interaction which in turn creates value by facilitating informal and formal contact. The venture capitalists and entrepreneurs must be aware of the value creating activities that create long term growth for the company since the investor needs to know what he can offer and the entrepreneur needs to know the specific needs of his company.

## 7. Summary conclusions

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*In this section we will briefly summarize our main conclusions of the analysis and conclusion chapter. It aims at creating a simple overview of the most important elements derived from our research study in order to give the reader a clear answer to our initial research question.*

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Summarizing our findings and conclusions we have been able to identify the main areas and what management activities that are important for value creation in life science companies that receive venture capital financing. It is interesting to note that our theory base in most cases were confirmed which shows that previous research is applicable in the life science industry. Nevertheless, some previous research results were not confirmed which might be due to the specific nature of the life science industry or the scope our study.

Communication plays an important role in the different value creating activities. First of all communication is crucial in overcoming the principal-agent problem. That is communication of goals and strategy to and from all involved parties in the organization. Moreover a two-way communication between researchers and the board of management is imperative for motivation and maximization of value creation in the company. These findings confirm research previously carried out.

A close geographic proximity between the venture capitalists and portfolio companies enriches the communication as it makes more personal contact more frequent as well as providing informal networks. Communication is important in the ever-changing industry, since the venture capitalists needs to be continuously updated concerning their portfolio companies so that they can adapt and adjust their strategy to the changing environment. Once again we can say that our study confirms that previous research results are still valid and also in the life science business and the surrounding circumstances.

The CEO of the portfolio companies also holds a key position in value creation. The CEO needs to have the necessary insight and experience in the fields of science and business in order to act as a key moderator between the venture capitalist and the organizational units. This understanding also allows the CEO to act as a trustworthy organizational player with a possibility to influence the direction of the company. These findings did not contradict previous theory and research studies.

We have also identified the venture capitalist's industry experience from previous investments and an extensive network that provides knowledge in processes, market and business management as a value contributor which also have been concluded in previous studies. Venture capitalists are also flexible in that they are providing different competence to the portfolio companies depending on which stage of development they are in. This is something that we have not presented through previous research in the theory chapter and therefore cannot say if it is supporting of the theory or not. However in our study it is an imperative factor in the quest of value creation. The venture capitalists are a perfect complement to the CEO's often-limited knowledge.

The company shifts focus from being technology-focused organization to market oriented organization. That means that the developed products need to aim at a market profitable enough to create sustainable value. Systematic and methodological working methods are important to create a sharper focus within the organization, which speeds up the process to commercialization. All this is aligned with previous research, nevertheless what this study concludes is that time pressure is important to innovation activities and a sharpened focus. This is contradictory to previous research.



## 8. Reflections & Further research suggestions

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*During our study we have come across several interesting approaches that have not been relevant for our research question. As a concluding chapter we would like to present our reflections on our research.*

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We hope that we have provided venture capitalists and entrepreneurs with an insight into which activities that maximize value creation in their organizations. Perhaps these findings can serve as an instrument for evaluation of a current investor investee relationship or a future one. We are surprised over the general positive opinion among the respondents in regards to the collaboration, since everyone said that they were very pleased with their relationship.

When starting our investigation of the thesis and after consulting theories and previous research we had the expectation that the relationship between the venture capital company and the entrepreneurs were delicate. Conversely it is the presence of the delicate nature of the relationship that makes the companies work to over bridge potential problems, and work more closely to reach the same goals in all the different stages of collaboration. The mutually interdependent relationship makes the different parties aware of the strengths and weaknesses and that is important for a thriving relationship.

It would be interesting to carry out a study with more venture capitalists, which could provide more information about the phenomenon and more possibilities to draw firmer conclusions. Further this would allow for example studying a young investor and their operations, as well as investors in different stages and seeing if strategies and methods differ. We also believe that it would be interesting to investigate a specific stage of development more in detail, like the pre-investment stage or the exit stage. The scope of this thesis was unfortunately not big enough to cover all these stages in depth. Furthermore it would have been interesting to study different industries to be able to compare them, however we leave this open for further research.

Also, during our research we have noticed that a majority of research on venture capitalists and their portfolio firms are carried out on the American market. It would be interesting to make a comparison between the Swedish and the American market in order to discern whether the existing theories and research are more applicable on the American market rather than the less developed Swedish one. We believe we can see signs of a less developed venture capital market in Sweden compared to the US market. The Swedish market further seems to have a smaller number of Venture capital financing options and the options for other type of financing in this industry is practically non existent. We can determine this from the fact that they seem very risk averse and do not invest until a later stage than the American counterparts.

The current economic downturn is also an interesting factor to study. The way investors go about making new investments, how their outlook on the corporation changes and changes to the portfolio companies' access to capital are areas that we believe can be of interest in further research.

Since we chose to carry out a qualitative study it would be interesting to follow up or complement this with a quantitative study. Comparing performance rates and profits are areas we believe are worth looking into in future research.

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## Attachments

### ***Sum-up tables***

*The sum-up tables for the venture capitalists and the entrepreneurs are created to give a simple overview of the respondents' answers in the different companies. This set up is used to make the comparisons easier between the companies and to be able to see where they differ and where they are congruent. They will also provide insight into what questions were related to the different categories under the empirical chapter.*

### **Venture capitalists**

#### **Investments**

The table below presents the answers on what type of investments they make and the evaluation criteria they base their decision on.

Company	A	B
In what stage of development in the company do you concentrate your investments?	Seed stage, sometimes early expansion	Late seed stage/ Early expansion
How do you evaluate the potential of an investment?	People, market, technology and patent	People, project and a plan.
Do you have specific evaluation criteria for the life-science industry?	Need to keep in mind that life-science requires more capital, more risk, harder regulation and a longer overall process	Requires more respect for time and demands more capital

#### **Information asymmetry**

This table shows the questions and answers related to information sharing and information asymmetry.

Company	A	B
What kind of information do you require from the entrepreneur?	Business plan and a plan of action	Priorities of the project, economy, market, technology and business plan

Do you think that the entrepreneur gives you enough information?	Yes. If no they would not invest	Yes. If no they would not invest
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### **Involvement and influence**

This table demonstrates what the respondents think about their levels of involvement and influence in their portfolio companies.

Company	A	B
What is your main contribution to the portfolio companies in terms of competence?	Network, ability to see what needs to be done in the company, to sell the company at Exit.	Network, experience, the ability to see the flaws and the strengths of the company
How are you involved in your companies and to what extent?	In the board of management	In the board of management. If the company has more flaws then more involvement
What kind of influence do you have and is it balanced?	Always requires more influence than ownership. Has more influence in the beginning then it declines due to more investors.	Good balance but sometimes they want more
Depending on the phase of investment in a company, do you experience any difference in your degree of influence and possibilities to have an impact?	More influence in the beginning due to less co-owners. More active participation at this stage.	More influence in earlier stages. Also more active participation in this stage.

### **Management activities**

This table sums up the venture capitalists' answers connected to managerial activities in the portfolio companies. It shows in what ways the investors can manage the company, if they have different opinions regarding the management and changes to managerial activities.

Company	A	B
In what way do you take part in the management activities of the company?	Formally in the board. Informally through telephone contact.	Board of management. Also by providing the right competence and network.



Do you have different views on how the company should be managed? If so, how do you handle it	Yes, concerning how to develop the company. Solved by shareholder agreement	Yes, concerning the market, what is important and line of action. Solved through dialogue.
How do you make sure that your requests and demands are communicated throughout the entire portfolio company?	Not possible to 100 per cent. Tries to have personal connection in the company. Founder is usually in the board.	Not possible to 100 per cent. Tries to have personal connection in the company. Have meetings.
What kind of demands do you have on the CEO?	Experience of similar projects. Communication skills to attract more capital.	Responsiveness, humility and self-criticism.
Do you believe that the way of managing the company has changed since you stepped in? If yes, in what way?	Yes. Degree of freedom limited. More systematic and methodological working methods.	Yes. More focus. Pushes management in the right direction.
What are the three biggest changes you have made concerning the management of the portfolio companies?	From a technical focus to a market focus. New knowledge and new CEO. Product development.	

### Goal setting

This table sums up the questions related to goal setting in the portfolio companies. Questions include how are goals defined, issues concerning cash flow insecurity, how control measures are used and possible required rates of return.

Company	A	B
How do you set up goals for your portfolio companies and how are they defined?	Goals aiming at acquiring additional capital, product development, new patent or new competence in the company.	Bigger goals to smaller goal. Creating an interesting company that can be sold later on. Defined as market share, profit and growth.
Do you have any required rates of return on the portfolio companies?	No	No
How do you handle the insecurity concerning cash flows?	Count in higher costs. Be comfortable with the risks.	Prognosis. Making sure to have capital to cover the loss.

What control measurements do you use?	Budget	Cash flow
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### Communication

This table gives us the answers how communication is carried out between the investor and the investee.

Company	A	B
How often do you communicate with the portfolio company? Do you think this is enough?	Daily. Yes, enough	Once a week. More contact at the start. Yes. enough
In what way/ways do you communicate?	Telephone and board meetings.	Telephone, email, personal contacts in the portfolio companies. Board meetings.

### Innovation activities

The table shows the questions asked related to innovation. It gives us information whether and how they support innovation in the portfolio companies and how they increase the motivation and creativity.

Company	A	B
Do you have any specific activities that endorse and promote innovation?	By finding capital, network and consultation.	Network with universities and companies.
What do you do in order to increase the portfolio company's motivation and creativity?	Options. Salary.	Options. Bonuses. Recognition of success.

### Value adding activities

This table shows the answers related to value creation.

Company	A	B
What does value creation mean to you?	Making money	Making money. Stimulating competence, strengthen organization and maturity.

Do you have a strategy aiming at increasing value creation?	Milestones. Reaching objectives. Creating a technology.	How to reach the market, interesting and important customers
Please mention your three biggest value creation activities.	Finding more capital Resources The will.	Experience Network Capital

## Exit

This table shows the venture capitalists' answers to our questions regarding their exit strategy. It gives us an overview of their main reason of an exit and why they would pull out before completion.

Company	A	B
What does your plan of exit look like?	Find a buyer. Have a proven technology.	No specific timeline. Very seldom IPO.
a) What things should be fulfilled before exit? b) What would it take for you to pull out from an investment earlier than planned?	a. Added value for a buyer b. Not having met the expectations, no interested buyers, different opinions on the company's future.	a. A clear market position b. Not having met expectations, different opinions on the company's future. Market and technology are not working.

## Entrepreneurs

### Company Background

Company background gives the reader an understanding of how long the company has been financed by venture capital and at what stage they received the funding.

Company	A	B	C	D	E	F
What Stage VC financing?	Pre-seed	Early-seed	Start-up (Seed)	Early-seed	Seed-early expansion	Seed

### Why Venture capital financing?

This table shows why the company chose to be financed by venture capital, what criterion that was important when deciding on a VC company and what the primary expectations the entrepreneur had before the meeting.

Company	A	B	C	D	E	F
Why VC financing?	Large amount of quality needed, no other possible option existed	Large amount of quality needed, no other possible option existed	Large amount of quality needed, no other possible option existed	Large amount of quality needed, no other possible option existed	Large amount of quality needed, no other possible option existed	Large amount of quality needed, no other possible option existed
Important criterion for choosing VC?	Personal Chemistry, Competence, Industry know-how, network, long-term perspective	Personal contact, close geographic proximity,	Competence, capital, industry know-how, network	Common interests, close geographic proximity, personal contact	Business reputation, long-term perspective, past success	Experience, network, competence
What expectations?	Capital	Capital	Capital	Capital	Capital	Capital

### Information asymmetry

The information asymmetry table gives an overview of what information was given to the VC and how strong negotiation power the entrepreneur felt they had towards the VC.

Company	A	B	C	D	E	F
What information?	Everything	Everything	Market potential, technology and product	Own competence, technology	Everything	Business plan, cost and time plan
How strong negotiation power?	Equal	Weak, later stronger	Weak	Weak	Weak	Weak

### Involvement and influence

The involvement and influence table shows what competence that the entrepreneur felt was offered and whether or not there is a balance of influence between the VC and the entrepreneur.

Company	A	B	C	D	E	F
What competence did VC offer?	Experience, business- and industry know-how	Competence, capital, network	Business- and industry experience	Experience, competence	Network, business- and industry experience	Reputation, Market- and sales competence.
Cooperation, is there a balance of the influence?	Yes, they have discussions and both are committed	Yes, toward the companies advantage	Yes, the operations is under the CEOs responsibility	Yes, the board is listening and they are open	Yes, they have discussions, VC listens to the CEO	Yes, ??

### Communication

The table below shows how the communication is taking place between the VC and the venture, how often the results is communicated and how the VC communicates the activities they wish to take place in the organization.

Company	A	B	C	D	E	F
How do you communicate with VC?	Via the board, and informal contact (phone and personal)	Via the board	Via the board, and informal contact (phone and personal)	Via the board, and informal contact (phone and personal)	Via the board, and informal contact (phone and personal)	Via the board
How often are results communicated?	1/ month	1/ week	1/ quarter	1/ month	1/ month	1/ quarter
How does the VC communicate activities to be done?	Via the board	Via the board	Via the board	Via the board	Via the board	Via the board

### Goal setting and Strategy

The table below shows how the company is managed regarding the strategy and goals for the organization. It shows how the business control is used, whether or not the goal governance has changed since VC entered the company, if VCs demands are reasonable, how they are communicated down in the organization foremost to the R&D and finally whether or not they have a required rate of return.

Company	A	B	C	D	E	F
How is business control used?	Have vision, divided into interim goals	Budget, time and activity plans	Quantitative goals, interim projects (down to individual level)	Milestones (goals and interim goals), Quantitative goals	Key performance indicators, flexible	Budget and activity goals
Have the goals and the goal governance changed since VC?	Yes	Yes	No	Yes	Yes	Yes
Are VCs demands reasonable?	Yes	No	No	No	Yes	Yes
How are demands communicated? to R&D?	In person to the different independent units	Through meetings	Through project plans that everyone is a part of	Simple, since R&D is a part of the board	Meeting, they have a management group	Meetings
Do you have required rate of return?	No	No	No	No	No	Yes, trough budget

### Innovation and management activities

The innovation and management activities table shows how the company is managed to foster or maintain the creativity/motivation of the researcher. Whether or not VC affected the innovation in the company and the main focus VC have when they are practicing their influence. The table also shows if the entrepreneur believes that they have difference in opinions with the investor company regarding governance, if the governance has changed since VC got involved and finally if the entrepreneur would like to change the situation today concerning governance and influence.

Company	A	B	C	D	E	F
How is the company managed to foster the researchers' creativity?	R&D is a part of the board, they don't have bonuses	Everyone is a co-owner and engaging projects	A balance of demands and freedom, they are driven by goals	Their salaries	Communication, they don't have bonuses	Through personal- and professional advancement, they don't have bonuses
Did VC affect innovation?	Yes, in a positive way (access to capital)	No, they have a more clear focus	Yes, in a positive way, through milestones	No, they have a more clear focus	No	Yes, in a positive way (access to capital)
What does VC focus on most regarding their influence?	The strategic goals	The investment, they are short-term oriented	The strategic goals	The investment, looking for value creation before exit	Value creation before exit	Value creation for the owners
Are they difference of opinions regarding the governance?	Yes, solved through discussion	Yes, solved through discussion	No	Yes, solved through discussion	No	No, not currently, but at an initial stage
Has the way the company is governed changed since VC?	Yes, through a stronger focus	Yes, through a new direction	No	Yes, it is more formalized and result oriented	Yes, they are more commercial and have more time pressure	No, since they been a part of the company since the start
Would you like to change the current situation regarding the governance and influence?	Yes, optimal would be if they can decide everything themselves, but they are satisfied	Yes, optimal would be if they can decide everything themselves, but they are satisfied	Yes, since the VC is short-term oriented and focus so much on their exit	Yes, they would like to have more VCs, otherwise they are satisfied	Yes, optimal would be if they can decide everything themselves, but they are satisfied	Yes, optimal would be if they can own everything themselves, but they are satisfied

### Value added activities

The value added activities for the different entrepreneurs are portrayed in the columns below. They are defining what creates value in the company, what was the most value contributing efforts from the venture capital company and whether or not the entrepreneur felt that VC had fulfilled the initial expectations until now.

Company	A	B	C	D	E	F
Define value creation?	Satisfy the market since that would confirm the value of the product, and make a profit	Create trust for the product, the company and the people. Most important is it to gain the customers trust	Product development and being strong on the market	Customer satisfaction	Develop new products, increase the value of the company though profit and sales	Products, sales and licensing
VCs most value creating contributions	Capital, experience, competence and network	Capital, network, creating confidence for other investors	Developing the product process	Capital, knowledge, bringing the product to the market and network	Capital, sounding board and network	Network
Did VC fulfill the expectations?	Yes	Yes	Yes	Yes	Yes	Yes



## *Interviews*

### **Thomas Grönberg, CMC Contrast.**

Thomas Grönberg is a physicist and a mathematician and received his Phd in 1981. He has been the CEO of a number of companies. He is the co-founder of Öresund Healthcap in 2000. Öresund HealthCap bought Aditus where Thomas Grönberg currently is the Director of Business Development where he has the responsibilities of the overall operations. CMC Contrast develops contrast agents for diagnostic processes in the medical field.

### **Lennart Gisselsson, Phase Holographic Imaging**

Lennart Gisselsson is the head of marketing and sales in PHlab since two years. Gisselsson holds a Phd in molecular biology, has attended the biomedical research school in Lund and has conducted at the medical faculty also in Lund. Phiab develops cell analyzers for digital holographical imaging of living cells.

### **Kerstin Jakobsson, Spectracure**

Kerstin Jakobsson is the CEO Spectracure since 2004. She is responsible for Spectracure's daily operations and strategy. Her background is as an industrial chemical engineer She has extensive project experience in taking an initial product concept to its commercialization. Her main area of expertise is small and larger companies within life science and IT. Spectracure produces medical device programmes.

### **Anders Johnsson, Iclin**

Anders Johnson is the managing director of Iclin since 2002. Johnson's background is as a manager in high technology companies. He has experience in starting and running a business from scratch and has experience in taking a business from conception to growth towards an exit. Iclin main staff mainly consists of a few independent consultant. Iclin develops solutions for cancer treatments.

### **Fredrik Lindberg, Bonesupport**

Fredrik Lindberg has 11 years of experience within the Life Science industry. He currently holds the position as the CEO in Bonesupport since 2001. He has experience in the medical industry where he was the head of the medical division for American Nordic. He has been a Phyciscian in the pharmaceutical development sector. Bonesupport is a research based company that develops injectable bone-like materials for the treatment of various defects.

### **Yvonne Mårtensson, Cellavision**

Yvonne Mårtensson is the CEO of Cellavision since 1998. She has 10 years experience from building up a medtech company from product development to commercial phase financed by venture capital. Further experience comprises 25+ years of international sales and marketing experience from fast growing companies in different phases. Yvonne holds a Master of Science degree in Industrial Engineering and Management. Cellavision develops analyzers software applications for the medical field.

**Håkan Nelson, CEO, Malmöhus Invest AB**

Håkan Nelson has a Business-Economics degree from Lund University. He has 30 years of experience in the venture capital industry, of which 17 years spent at Malmöhus Invest. Previous experiences involve entrepreneurship, financial sector, and consultative work, all within small- and mid-sized companies. Currently he is the CEO of Malmöhus Invest, Sweden's oldest venture capital firm. He has the overall responsibility for the firm's operational activities.

**Per Heander, Investment manager, Teknoseed**

Per Heander is the investment manager in the Lund-based company Teknoseed since eight years. Previous experiences include working in a Swedish bank in various positions. Teknoseed invests in innovative companies in various fields of technology. His experience in the venture capital industry comes from his involvement in Teknoseed, but also as an active and passive board member in a couple of companies.

## *Questionnaires*

### **Interview guide: venture capital companies**

#### **Background interviewee**

1. What is your professional background?
2. What is your position in the company as well as your main area of responsibility?
3. Tell us about your experience in the venture capital business.

#### **Background company**

1. For how long have you (the company) been investing in life-science ventures?
2. How do you evaluate the potential of an investment?
3. Do you have specific evaluation criteria for the life-science industry?
4. In what stage of development in the company do you concentrate your investments?
5. What does value creation mean to you?

#### **The meeting**

1. What kind of information do you require from the entrepreneur? What is most important?
2. Do you think that the entrepreneur gives you enough information?
3. What is your main contribution to the portfolio companies in terms of competence?

#### **The collaboration**

1. How are you involved in your companies and to what extent?
2. What kind of influence do you have? Do you think the influence is balanced between you and the other players? Should someone have more influence according to you?
3. In what way do you take part in the management activities of the company?
4. Do you have different views on how the company should be managed? If so, how do you handle it?
5. How do you set up goals for your portfolio companies and how are they defined?
6. Do you have any required rates of return on the portfolio companies?
7. How do you handle the insecurity concerning cash flows?
8. What sort of control measure do you use?
9. How do you make sure that your requests and demands are communicated throughout the entire portfolio company?
10. What kind of demands do you have on the CEO?
11. How often do you communicate with the portfolio company? Do you think this is enough?

12. In what way/ways do you communicate?
13. Do you have any specific activities that endorse and promote innovation?
14. What do you do in order to increase the portfolio company's motivation and creativity?
15. Do you have a strategy aiming at increasing value creation?
16. Depending on the phase of investment in a company, do you experience any difference in your degree of influence and possibilities to have an impact?

## **Results**

1. Do you believe that the way of managing the company has changed since you stepped in? If yes, in what way?
2. Please mention your three biggest value creation activities.
3. What are the three biggest changes you have made concerning the management of the portfolio companies?
4. What does your plan of exit look like?
5. What things should be fulfilled before exit? What would it take for you to pull out from an investment earlier than planned?

## **Interview guide: portfolio company**

### **Background person**

1. What is your professional background?
2. For how long have you been in the company?
3. What is your position/title and your main area of responsibility?

### **Background company**

1. For how long have you been financed by venture capital?
2. In what stage of development did you search for/obtain venture capital?
3. Mention three reasons for choosing venture capital instead of other financing options? Did you consider other alternatives?
4. What factors were essential for choosing your present venture capitalist/capitalists?
5. What expectations did you have before the meeting?
6. What does value creation mean to you?

### **Meeting**

1. What information did you provide the venture capitalist?
2. Did you experience your bargaining position to be strong or weak?
3. What sort of skills and competence did the venture capitalist offer you?

### **Collaboration**

1. How much influence do you have? Is there a balance between you and the venture capitalist? Should someone have more or less influence?
2. Do you have different views on how the company should be managed? If so, how do you handle it?
3. How do you communicate with the venture capitalist?
4. How often do you communicate results to the venture capitalist?
5. How does the venture capitalist communicate his demands and requests?
6. In what do you use goal setting?
7. Do you believe that your goals and goal setting have changed since the entry of the venture capitalist?
8. Do you think the venture capitalists' expectations and demands are reasonable? And do they have an impact on your daily job?
9. How do you communicate the venture capitalists' demands to the research and development department and the rest of the organization?
10. Do you have any requirements on rate of return? If yes, how do experience these? If no, would you like to have?
11. How do manage the company in order to retain the researchers' creativity and motivation?

12. Do you experience any impact on your innovation ability since the venture capitalist stepped in?
13. What do you think the venture capitalist focuses on most when they try to influence the organization?

**Results**

1. Mention the venture capitalist's three biggest contributions to value creation within the company?
2. Do you think that the initial expectations have been met up until now?
3. Have you experienced any difference in how the company is managed? If so, in what way?
4. Would you like to change the present situation regarding the influence of the venture capitalist?