



Does venture capitalist industry specialization increase the value of venture capitalist post - investment activity in portfolio firms?

A study of business ventures perception of Norwegian venture capitalists

Student:

Ola B Tjade

Stud. Merc. MIB

Councilor:

Associate professor Sof Thrane

Department of Operations Management

**Master of Science in Economics and Business Administration
Management of Innovation & Business development**

October 2010

Number of Pages: 80

Number of Characters: 157 766

Table of contents

Index of figures and tables	5
Executive summary	6
1 Introduction.....	7
1.1 Background.....	7
1.2 Purpose and Value of research	8
1.3 Research question	11
2 Theoretical and environmental position of thesis	11
2.1 Types of venture capitalists.....	11
2.1.1 Corporate venture capital	11
2.1.2 Informal venture capital	12
2.1.3 Formal venture capitalists	13
2.2 The Dynamic venture capital process	15
2.3 The empirical perspective and measuring value added.....	17
2.3.1 Studies which measure value added using performance proxies.....	18
2.3.2 Studies which measure the VC's perceptions of the relationship.....	19
2.3.3 Studies which measure the joint perceptions of the VC-entrepreneur dyad	20
2.3.4 Studies measuring entrepreneurs perceptions of the relationship	21
2.4 Specialization or diversification from the Venture firm's perspective.....	22
2.5 The Norwegian venture capital market.....	24
2.6 Arriving at the theoretical position of the thesis	27
3 Conceptualizing framework and developing hypothesis	28
3.1 The importance of knowledge	28
3.2 The importance of a relevant network	30
3.3 Developing the framework.....	31
3.3.1 Propositions.....	31
Proposition 1: Fundraising:	31
The know how dimension	32
The know who dimension	33
Proposition 2: Market expertise:.....	33
The know how dimension	34
The know who dimension	34
Proposition 3: Business development:.....	34
The know how dimension	35

	The know who dimension	35
	Proposition 4: Competitive position management:	36
	The know how dimension	36
	The know who dimension	37
	Proposition 5: Product expertise:.....	37
	The know how dimension	38
	The know who dimension	38
	Proposition 6: Recruitment:	39
	The know how dimension	39
	The know who dimension	39
3.4	The final model.....	40
5	Methodology	41
5.1	Research design.....	41
5.2	Data collection method and measurement	42
5.3	Delimitations	42
	Geographical	42
	Industry	43
	Stage	43
5.4	Selection	44
5.5	Validity.....	45
	Construct validity.....	45
5.6	Factors which may influence the value added measure	46
	5.6.1 The perception of value added	46
	5.6.2 Syndication	48
6	Presentation of data.....	49
6.1	Respondent demographic	49
6.2	Responses to general section.....	51
6.3	Survey main section	52
	6.3.1 Knowledge effects section.....	53
	6.3.2 Network effects section	55
	6.3.3 Qualitative section.....	57
6.4	Other data	58
7	Data discussion and analysis	59
7.1	The propositions.....	59

	Proposition 1: Fundraising.....	59
	Proposition 2: Market expertise.....	60
	Proposition 3: Business development.....	62
	Proposition 4: Competitive position management.....	64
	Proposition 5: Product expertise.....	65
	Proposition 6: Recruitment.....	66
7.2	Checking for syndication effects.....	67
8	Answering the research question and conclusion.....	68
8.1	Hypothesis 1.....	69
8.2	Hypothesis 2.....	70
8.3	Research question.....	72
8.4	Conclusion.....	73
8.5	Contributions and Implications.....	74
8.5.1	Implications for research.....	74
8.5.2	Implications for entrepreneurs.....	75
8.5.3	Implications for Venture capitalists.....	75
9	Limitations and critique.....	76
10	References:.....	77
10.1	Books:.....	77
10.2	Articles:.....	77
10.3	Websites:.....	80

Index of figures and tables

Chart 1: Total completion rate	49
Chart 2: Generalist completion rate.....	50
Chart 3: Specialist completion rate	50
Figure 1: PE Fundstructure.....	14
Figure 2: PE Investment process.....	16
Figure 3: Overview of theoretical position of thesis.....	28
Figure 4: Conceptual model.....	40
Figure 5: Mean values for ventures with multiple VC owners.....	67
Figure 6: Mean values for ventures with single VC owners.....	68
Figure 7: Mean values of all variables.....	72
Table 1: Stages in venture lifecycle.....	23
Table 2: Investment activity in Norway by stage.....	25
Table 3: Industry distribution of Norwegian portfolio companies.....	27
Table 4: Overview of network dimensions in previous studies.....	31
Table 5: Number of venture capital owner per respondent.....	51
Table 6: Duration of relationship between venture and venture capitalist.....	52
Table 7: Statistics Q4.....	53
Table 8: Statistics Q5.....	53
Table 9: Statistics Q6.....	54
Table 10: Statistics Q7.....	54
Table 11: Statistics Q8.....	54
Table 12: Statistics Q9.....	55
Table 13: Statistics Q10.....	55
Table 14: Statistics Q11.....	55
Table 15: Statistics Q12.....	56
Table 16: Statistics Q13.....	56
Table 17: Statistics Q14.....	57
Table 18: Statistics Q15.....	57
Table 19: Response rate to qualitative section.....	58
Table 20: Ranking of activities: Knowledge effects.....	69
Table 21: Ranking of activities: Network effects.....	70
Table 22: Ranking of activities: Total.....	73

Executive summary

The literature on venture capital and the finance of innovation is vast and much of it focuses on the existence and extent of non-financial value added to new ventures through active ownership.

This thesis develops a framework to measure non-financial value-added based on various venture capitalist activities used in similar research on value added. Similar frameworks have often been used to investigate which activities add most value to ventures and also in determining differences between different venture capitalists like private and public sector venture capitalists. The framework developed in this thesis is founded in knowledge and network theory, which provides the insights necessary to investigate entrepreneurs perceptions of the value added from their venture capitalist and their network. The purpose of the investigation is to uncover if industry-specialized venture capitalists add more of value to their portfolio companies than generalist venture capitalists and provide implications for entrepreneurs and venture capitalists.

The empirical data is mainly collected through a survey sent out to 123 venture firms, owned by Norwegian venture capital firms, which were categorized into groups of generalist and industry specialized venture capitalist owned ventures.

The findings show that industry specialized owned ventures experience more value added mostly to core venture capitalist activities, such as help in replacing management and inputs on new business developments. The value adding effects of specialization are found less important in what may be considered more time demanding activities, where venture capitalists traditionally are not as involved. The findings also show that the additional value added from specialist venture capitalists is more rooted in their knowledge than the relevance of the network they bring with them to the venture.

1 Introduction

1.1 Background

The role of venture capital in value creation and economic growth is increasing and has been for the past 20 years. After watching many innovative and internationally competitive companies' surface from the hands of venture capital owners in the United States, the rest of the world has tried to assimilate these market conditions with an ambition to create equal success stories. Venture capitalists in other countries have however not yet been as successful with their investment returns as their U.S colleagues (Popov and Roosenboom 2009). Despite this, venture capital is still held in high regard and considered a crucial engine for growth and innovation in a wide range of economies in the world.

Venture capital can be viewed as a response to the lack of capital supply for companies facing high risks, where bank loans and other forms of capital are difficult to obtain. The high risk is largely due to uncertainties in the direction and speed which development of the company may take in the future, and the risk of significant information asymmetries between company managers and potential investors.

In public companies, there are strict rules and regulations on informational reporting for companies, reducing the cost of monitoring and risks associated with principal-agent misalignment of interests. For private companies, these reporting regulations are not present, creating a significant lack of trustworthy impartial information about the firms. Furthermore young firms which most often are private, also lack the reputation and other informal types of confirmation of competence for investors to properly assess the attractiveness of a potential investment.

The venture capital discipline is constructed to create an investment form which can reduce these risks to a more acceptable level for investors. Venture capital fund managers are challenged with the task of managing and monitoring investments in such companies through active ownership, in an effort to minimize information asymmetries between investors and investees, and to maximize the return on the investments.

1.2 Purpose and Value of research

The decision to obtain venture capital for an entrepreneur can be a difficult one. He must consider the implications of diluted ownership, decision rights and control. The Entrepreneur will in essence be handing considerable control over his company to someone he does not know. In return many entrepreneurs expect not only the crucial financial backing required to grow the company into a success, but also an experienced venture-building partner to assist with the many issues faced by a new venture.

In an interview with Argentum, the CEO of Ziebel; David S. Ottesen stated that;

‘With private equity you get access to a formidable asset, and when I approach my owners with questions, they never reject me. It is important to utilize the competence private equity investors possess.’¹

This notion is supported by Gorman and Sahlman (1989) who found that; ‘venture capitalists and entrepreneurs alike think of accepting venture capital as equivalent to entering into a partnership’.

However not all entrepreneurs view their experience with their venture capitalist with an equal amount of praise. In a study focusing on the Finnish biotech industry Maunula (2006), found that many of these firms consider the venture capitalists’ lack of know-how on their business capital industry a frequent problem and states this as the capital reason why the venture capitalist failed to fulfill the CEO’s expectations for the partnership.

Thus after deciding to approach a venture capitalist, it can prove extremely important for entrepreneurs to consider what characteristics their ideal investor should possess before deciding on whom to approach.

Quite a few researchers have attempted to evaluate the effect venture capitalist experience has on its portfolio company’s performance.

Gompers, Kovner and Lerner (2009) studied the performance of 11.297 venture backed companies from 1975 to 1998 and found a significant correlation between the performance of portfolio companies and the industry specialization of the venture capitalist owner. Indicating that specialized venture capitalists may be better qualified for the roles they take upon themselves in portfolio companies than venture capitalists with more cross-industry

¹ <http://www.argentum.no/Main-categories/Entrepreneurs/Success-stories2/Ziebel/>

experience. On the other hand they may simply be better at selecting more promising ventures before investing, due to their more in-depth knowledge of the industry and its products.

Sapienza, Manigart and Vermeir (1996) hypothesized that the greater the venture capitalists' experience both in the venture capital industry and in the industry of their portfolio companies, the greater the value-added to the portfolio firm from the venture capitalists involvement would be. The results were mixed, finding a negative relation between venture capital industry experience and value added. However the relation between the venture capitalists experience in the new ventures industry in both the United States and European sample were positive.

Another hypothesis in the same article also uncovered that increased venture capital industry experience is negatively related to face-to-face time between venture capitalist and Portfolio Company. It is hypothesized that this is due to more effective communication and value adding; however given the negative relationship between venture capital industry experience and value added, it may indicate that the experienced venture capitalist divides his time between larger numbers of firms and does not exert as much effort to the individual firms.

Macmillan (1988) found 3 distinct levels of involvement by venture capitalists in a sample of 62 ventures and their venture capitalist owners. Macmillan (1988) found no significant relation between venture firm, products or services, or management team characteristics and the chosen level of involvement which he defined as; Laissez faire involvement (limited), moderate involvement and close tracker involvement. Macmillan (1988) thereby concluded that venture capital firms exhibits different levels of involvement simply because they choose to do so.

However Sapienza, Manigart and Vermeir (1996) found that Face to face time is positively related to the venture capitalists experience in the portfolio company's industry, implicating that specialized venture capitalists more often chose a "close tracker" level of involvement. Sapienza (1992) found that more frequent interaction between venture capitalist and entrepreneur leads to more value added, combining these findings we get an implication that specialist venture capitalists should add more value to their portfolio firms than generalist venture capitalists.

Yet very few scholars have looked explicitly into this aspect in venture capital research, the few studies that do exist on the “specialist v. generalist” type of enquiry focus on differences in portfolio returns and risk.

More experienced venture capitalists are considered to possess more resources in terms of financing, general network and reputation. Rosenstein (1993) found that companies backed by the ‘top20’ venture capital firms in the U.S valued their venture capitalist board representative’s advice more than that of other board members, which was not the case for companies backed by other venture capital firms. These findings indicate that companies perceive the advice given by more renowned venture capitalists as more valuable than lesser known firms. Being that generalist firms are usually larger and more reputable than most specialist firms it is interesting to investigate how this compares to the value added by specialist venture capitalists in order to help entrepreneurs seeking venture finance to make the right decision.

Gompers, Kovner and Lerner (2009) found that venture capital firms tend to move towards a more generalist investment strategy as they get older, thus we have an interesting phenomena where increased venture capital experience can lead to a decrease in industry specialization. Deeper industry knowledge and deeper venture capitalist industry knowledge are both suggested to be drivers of increased value added; these findings indicate that there may be a tradeoff between the two.

The gap in theory which this study is intended to fill has its root in lack of specific in-depth research on differences between industry specialized and generalist venture capitalist. The research conducted on the topic tend not to agree with wither or not specialization leads to better returns on investments or more value added, as such more research looking at a more detailed level to map the differences is required. Prior research has also mainly viewed specialization as an alternative portfolio optimization strategy and not as the potential value creating mechanism this thesis hypothesizes that it is.

1.3 Research question

The empirical research in this thesis will focus on discovering the possible effects on the value added to portfolio firms from having a venture capitalist owner with contra without specialized industry experience. This is done by examining possible differences in the perceived usefulness of activities engaged in by venture capitalists, hypothesizing that this difference will be present due to differences in the venture capitalists experience base.

With this theoretical backdrop I arrive at the research question for this thesis:

Do Portfolio firms backed by Norwegian industry-specialized venture capitalists perceive the post-investment value added by their venture capitalist as greater than portfolio firms backed by Norwegian generalist venture capitalists?

2 Theoretical and environmental position of thesis

2.1 Types of venture capitalists

The term venture capitalist, is in the literature applied to several types of investment entities. Ländström (2007) categorizes research on venture capital by the 3 types of venture capitalists present in the venture capital literature today. Namely corporate venture capitalists, informal venture capitalists and formal venture capitalists. The term institutional venture capitalist is also sometimes used when referring to formal venture capital, while business angel is the most common term for most informal venture capitalists. Some scholars also separate between public and private venture capital which is a subset of formal venture capital.

2.1.1 Corporate venture capital

Corporate venture capital is defined by Ländström (2007) as; equity or equity linked investments in young, privately held companies, where the investor is a financial intermediary of a non-financial corporation. Corporate venture capital is not to be confused with corporate internal venturing. Corporate internal venturing refers to when corporations separate internal projects into separate ventures for strategic or risk considerations. Corporate venture capital on the other hand is an investment entity of a corporation making financial investments in firms of external origin. The purpose of this external corporate venturing has been the most

researched area in corporate venture capital, yet no conclusive goal has been found as different researchers (Siegel et.al, 1988; Sykes, 1990; McNally, 1997) has found different reasons why companies choose to engage in corporate venture capital. Some of the most important reasons found in these papers are presented in Ländström (2007) as; return on investment, identifying new opportunities and developing business relationships, finding acquisition targets, getting exposure to new markets, adding new products to existing distribution channels and utilizing excess company resources.

According to Ländström (2007) 'entrepreneurs and their ventures stand to gain a great deal from corporate venture capital relationships'. Some aspects mentioned are opportunities for collaboration, knowledge sharing, learning and legitimization of the venture. However the danger of opportunistic behavior from the corporation can be a significant threat. For instance the possibility for exploitation of intellectual property resident in the venture for the corporations benefit instead of building the venture.

In Norway, a very few large companies such as Hydro, Hafslund and Statoil have been the only actors on the corporate venture capital market and due to the small size of the Norwegian economy very few such entities exists in this market.

2.1.2 Informal venture capital

Informal venture capital or business angels are private individuals with a high net worth, who invest in new ventures. These business angels often have previous successful entrepreneurial ventures behind them and a significant network of contacts within their areas of business. These private investors invest their own money and not the money of a large fund. For this reason they are characterized by investing in seed and early stage ventures with smaller amounts than formal venture capital. According to Sohl (2003) quoted in Ländström (2007), the typical business angel deal occurs at the seed or early stage of development in the range of \$100 000 to \$2 million from a syndicate of six to eight angel investors.

Reitan and Sørheim (2000) did the first study of business angels in Norway and found the angel investors in this market to; on average invest \$292 000 per investor in the last 3 years predating the study. The average investment per project was \$76 300, which is within the range presented by Sohl (2003). Reitan and Sørheim (2000) also found that 46% of Norwegian business angels had previous management experience. 33% had experience within the area of industry/technology, 26% had experience from personal or business services and 16% had experience from financial

operations. While these percentages obviously do not capture all business angels, it shows that at least a significant share of these business angels should be able to contribute to the venture beyond financing. Ehrlich (1994) did a comparative analysis on informal and formal venture capitalists value added and through his result stressed the importance of choosing the right type of venture capital for the venture. He found that firms initially backed by informal venture capital had greater difficulty in securing additional financing and also that ventures backed by informal venture capital, were less satisfied with the investor's involvement than ventures backed by formal venture capitalists.

2.1.3 Formal venture capitalists

Formal venture capitalists are the most commonly discussed entity when using the venture capitalists term. These are also the venture capitalists that are the focus of this thesis.

Metrick (2006) defines a venture capitalist by 5 characteristics:

- *A venture capitalist is a financial intermediary, meaning that it takes the investors' capital and invests it directly in portfolio companies.*
- *A venture capitalist invests only in private companies. This means that once the investments are made, the companies cannot be immediately traded on a public exchange.*
- *A venture capitalist takes an active role in monitoring and helping the companies in its portfolio.*
- *A venture capitalists' primary goal is to maximize its financial return by exiting investments through a trade sale or an initial public offering (IPO).*
- *A venture capitalist invests to fund the internal growth of companies*

These characteristics separates what is usually referred to as a venture capitalist from the more general private equity term. While the investment focus of a venture capitalist usually differ quite a bit from other private equity managers, venture capital and private equity funds are usually structured virtually the same. There are several ways in which Private equity funds are organized, however the most typical fund structure is called a limited partnership, which is shown in Figure 1.

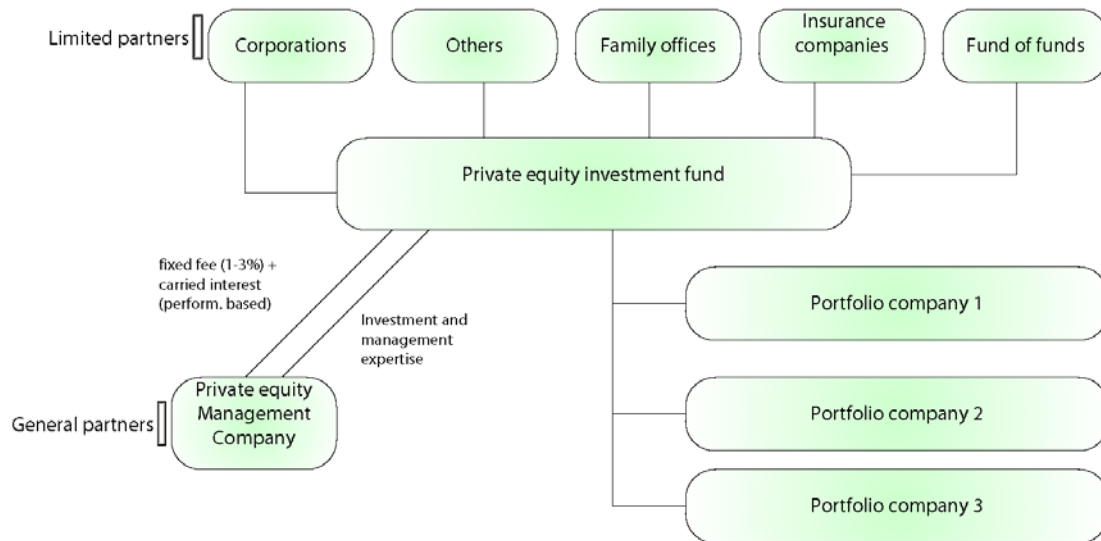


Figure 1: PE Fundstructure

A private equity fund usually consists of limited and general partners. Limited partners are the source of capital, the investors in the fund who typically consist of pension funds, insurance companies, banks, private individuals, fund of funds, corporations and others. Gompers and Lerner (2001) and Lerner et.al(2005) found that investors (limited partners) can increase their overall portfolio return through a justifiable increase in associated risk of investment as long as they select venture capitalists that perform, over their life time, above the observable median fund return. This makes investments in venture capital an attractive asset class for diversification of large investment portfolios like pension funds and insurance company funds as well as for risk-taking wealthy individuals looking to maximize their returns.

The limited partners commit to contribute with a certain amount of capital for the duration of the partnership, which is typically around 10 years. After this period the limited partners get their money back along with any profits from the sell off when the fund shuts down. The general partner in the fund is the management company. The private equity managers are compensated through a combination of a fixed fee to allow salaries to be paid, prior to the realization of values when the fund closes and to maintain the day-to-day expenditures of the management company. Venture capital managers are usually paid a lot based on performance; according to Landström (2007) managers are paid a carried interest of 20-30% of profits over return on capital. Venture capital managers are thus incentivized to maximize the value of the investment and implicitly the value of the portfolio firm.

Due to their, from a financial intermediary perspective, uniquely intimate position with their portfolio firms, venture capitalists are able to exert considerable influence on how the company is managed and the likelihood for successful growth. The most common way in which venture capitalists secure their interests is through taking a seat on the board. Gupta (2004) says that; ‘Venture capitalist owners often want to dictate the board structure in companies they invest in, including size, number of representatives from each constituency, the inclusion of independent board members and veto rights in certain decisions’.

Furthermore Huse (2007) states that a company’s board of directors can work as a group of professional advisors to a company and that; ‘the compositions of the board will in these cases reflect and represent the needs of the company.’

The board should possess competencies which are difficult or expensive to obtain through other means. As such, entrepreneurs will have to consider what type of expertise they can acquire through approaching one venture capitalist firm compared to another.

In summary it can be noted that choosing venture capital as a form of financing and choosing which type of venture capitalist to approach is not simply a matter of obtaining equity for the entrepreneurial firm, but can also be viewed as a decision to obtain potentially crucial competencies from an experienced business professional.

2.2 The Dynamic venture capital process

Research on venture capital can also be categorized by the different phases in the process of attaining venture capital funding.

The venture capitalist investment process is modeled by Tyebjee and Bruno (1984) as a sequential 5-step process (fig.2). The screening process is where venture capitalists filter out companies that are unfamiliar and not matching to the investment criteria of the venture capital firm (Tyebjee and Bruno 1984). Most venture capital firms have criteria in terms of technological nature, size of investment, product and market scope of the venture and so on.

The companies passing the initial screening process get a more in depth evaluation into the attractiveness of the company and its products and management team, before a possible deal structure is discussed. It is widely recognized that venture capitalists provide a benefit to the overall economy through their investment screening and evaluation process, by eliminating unfeasible ventures; fewer have considered the implications on the candidate companies

themselves. Maunula (2006) argues that the screening function of venture capitalists are valuable to companies, since it will provide the management team with a thorough evaluation of the company and give a signal to companies what they are expected to improve in order to be considered investable

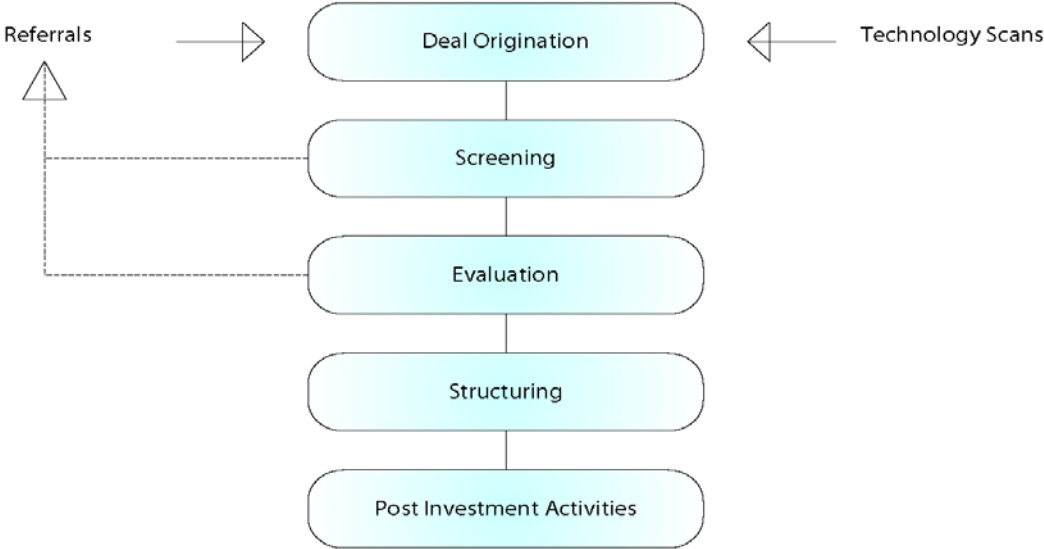


Figure 2: PE Investment process

Adapted from Tyebjee and Bruno (1984)

However most value added research is more concerned with the characteristics of the post-investment involvement of the venture capitalist. This thesis also does not consider the possible value added in the pre-investment phase. The reason for this is that the author does not consider the methods used in this thesis to be able to enlighten the subject beyond current research and due to accesses, time and funding restrictions additional methods are not employed. The screening process is a setting of shorter duration which should be illuminated from both the entrepreneurial and venture capitalist side in order to understand its implications properly. Further the selection would ideally have to include companies who pitched their idea to the venture capitalist and did not receive funding, these companies are extremely difficult to identify. Maunula (2006) managed to incorporate this aspect in a suboptimal way, by having a very limited selection focusing exclusively on the Finnish biotech industry, and investigating the phenomena only from the entrepreneur’s perspective, this approach was only able to illuminate some of the preparations that entrepreneurs made for the meeting with the venture capitalist.

Value is, post-investment, believed to be added through the monitoring process, presented as post investment activities in the model by Tyebjee and Bruno (1984). This is underlined by Tyebjee and Bruno (1984) who state that; ‘When the deal has been consummated, the role of the venture capitalist expands from investor to collaborator’. Venture capitalists monitor the performance and activities of their portfolio companies and take necessary actions to maximize the growth of the firm.

2.3 The empirical perspective and measuring value added

The literature review for this thesis was conducted in 2 stages. The first stage involved browsing through articles based in entrepreneurship, knowledge theory, networking theory, learning theory, agency theory and the finance of innovation.

In stage 2, once the structure of the thesis and research question became clearer the focus in theory was sharpened towards earlier research on venture capitalists ability to add value beyond financing, which is the focus of this section. The reason for this is that this theory which is already largely based in the stage 1 fields of research provides a more specific view and framework to investigate the research question of this thesis.

This approach is in line with Ghauri and Grønhaug. (2002) who state that; ‘What is already known in the field and/or observations help us understand our problems better. They also help us to ask the right questions’.

This section investigates the measures, former practices and key findings in value added research. Following that, the literature is used to develop the framework for the analysis, focusing on contentions and findings relevant to this thesis.

In order to investigate differences in value added from venture capitalists, it is necessary to establish exactly how they add value and how this is best measured. Different researchers have had different ideas on what exactly adds value to the firm and how to measure and observe the amount of value added.

Since value added cannot directly be quantified, performance proxies are often used in quantitative studies. While most quantitative and qualitative studies utilizing primary data tend to use values derived from perceived importance of value added activities by the two actors in the dyad. Some quantitative studies also use portfolio success rates or growth measured by revenue.

Ehrlich et.al (1994), Gorman and Sahlman (1986), Rosenstein et.al (1993), MacMillan et.al (1988), Sapienza and Timmons (1989) and several other recent studies on value added, has used a framework based on roles the venture capitalist takes on, when working with their portfolio companies. This framework is used both to evaluate in which roles the venture capitalist seem to add most value and also in some studies, to look at variations in portfolio firm and investor firm characteristics and is as such a fairly established framework for this use. Current research has varied from which perspective they investigate the relationship.

The following is a brief overview of what previous studies has utilized to measure non-financial value added, which perspectives they looked at the phenomena from and which aspects they looked into.

2.3.1 Studies which measure value added using performance proxies

Quantitative performance measures has largely been used to investigate the extent of the value added phenomena, utilizing economic growth variables from financial statements, growth in number of employees or revenue growth. Benchmarking venture backed companies against comparable companies that are not venture backed is a method utilized in quantitative research investigating the value added question. A study which used this measure to shed light on the existence of value added in Norway was Berg (2009). Others like Gompers, Kovner and Lerner (2009) has utilized success rates, measured by IPO's and survival rates in investigating the existence of non-financial value added.

One of the very few papers which have investigated the effects of venture capitalist specialization is Bartkus and Hassan (2009). This paper measures the success rate of portfolio companies, defining success as an acquisition or IPO. The study used data from the United States for the time period 1978-1997 to investigate wither a strategy of portfolio diversification amongst venture capital investors is less optimal due to the assumed positive effects of industry specialization. Bartkus and Hassan (2009) found that specialization in venture stage correlates positively with venture success. Surprisingly this study did not find any correlation between industry specialization and venture success rates, yielding opposing results to that of Gompers, Kovner and Lerner (2009). Bartkus and Hassan (2009) points mainly towards the difficulty of identifying the true specialization of venture capital firm in such studies when explaining the unexpected result in their study. This critique may be particularly valid for their study, seeing as they used data from a 20 year time period, which

makes it extremely difficult to assess venture capitalist firms, as they may change significantly across time. Gompers, Kovner and Lerner (2009) on the other hand only used data from 2002-2008 making this task a lot more manageable.

De Clerq and Dimov (2008) investigated two knowledge-driven strategies in the context of venture capital. What they named internal knowledge strategy was the venture capitalists learning from prior investments and from that, accumulating knowledge. The external knowledge strategy investigated in the study was syndication, knowledge acquired through teaming up with other venture capitalists when making new investments. Perhaps the most interesting finding of this study was that the relative importance of internal knowledge depth in an industry was negated when familiar external knowledge was acquired through syndication. This study utilized longitudinal data, measuring knowledge effects as a function of the probability for IPO in the portfolio companies.

In sum these studies measure value added based on secondary data. Benchmarking the accounting or IPO performance of venture backed firms, against other firms or venture backed firms with different owner characteristics. The findings from these studies have been somewhat contradictory to each other concerning specialization effects.

2.3.2 Studies which measure the VC's perceptions of the relationship

Macmillan (1988) surveyed 62 venture capitalists in the USA investigating the level and type of involvement different venture capitalists had in their portfolio firms and identified 3 distinct levels of involvement, but found no relation between the level of involvement and venture capitalist characteristics. Gorman & Sahlman (1989) built on the framework developed by Macmillan (1988) and surveyed 49 venture capitalists using 6 main roles to investigate which types of venture capitalist involvement were most important to their portfolio firms, they also investigated how much time was spent on portfolio firms at different investment stages, finding that the venture capitalists spent considerably more time with early-stage investments than later stage investments.

Sapineza et.al (1996) did a geographical comparison between 4 countries using survey and interview data from 221 venture capitalists to examine the circumstances under which value added was perceived highest by the venture capitalist and differences between the countries. Findings from this study indicate that venture capitalists experience in the portfolio firms industry is positively related to value added.

These studies ask venture capitalists to rate how important they believe the activities they conduct in their portfolio firms are to the ventures, and pioneered studies in this realm. The findings in these studies are fairly broad, as can be expected from pioneering studies.

2.3.3 Studies which measure the joint perceptions of the VC-entrepreneur dyad

Following the work by Macmillan (1988) and Gorman and Sahlman (1989) researchers began to try to expand their knowledge by looking at both venture capitalist and entrepreneurial perspectives.

Sapienza (1992) used questionnaires to examine 51 venture capitalist backed companies and their venture capitalist owners. The purpose was to understand under which circumstances venture capitalists could add the most value to their portfolio firm and suggest implications for both venture capitalists and entrepreneurs. One of the implications he found for entrepreneurs was the importance of choosing the right venture capitalist from the outset since, as described by Macmillan (1988) venture capitalists may exhibit significant differences in their involvement in portfolio companies. Fried and Hisrich (1995) used a case study on 14 venture management teams and venture capitalist pairs in the USA, examining the importance of the venture capitalists involvement in the ventures. The study investigates the importance of 12 venture capitalist activities in their portfolio firms with a focus on differences between large and small firms. Fried and Hisrich (1995) found that venture capital managers are often concerned if their involvement may actually hurt mature firms. The findings further indicate that the importance of venture capitalist activity declines rapidly in larger firms, however some more general inputs like discipline and moral support are found to be important no matter how big the firm is.

Gomez-Mejia (1990) chose a purely qualitative approach of interviews and observations to investigate the influence of venture capitalists on high tech firms. The most interesting aspect of this micro-level study is how it sheds light on the complexity of the venture capitalist-entrepreneur relationship. Findings indicate that venture capitalists and entrepreneurs often have both different perceptions and opinions on the venture capitalists activities in the venture. This refers to both what the venture capitalist is doing and what they should be doing.

These studies have expanded the perspectives used in value added research, through their ability to map both venture capitalist involvement and desired involvement. While these studies have revealed differences in perception and opinions between the two actors in the relationship, largely the findings indicate that the interests of venture capitalist and entrepreneurs tend to align, given a good match between the venture capitalist firm and the venture. However communication and perception differences seem to be a problem and a potential source for distorting measurements.

2.3.4 Studies measuring entrepreneurs perceptions of the relationship

Erlich et.al (1994) utilized surveys from 47 entrepreneurs located in Southern California which received their primary funding from a venture capitalist or private investor. The purpose was to examine the level of investor involvement and what type of expertise the entrepreneurs sought from their investors, separating between venture capitalists and private investors.² They found that entrepreneurs seek expertise through their investors generally in the areas of staffing and financial management.

Maunula (2006) investigated the value-added to 38 Finnish biotech ventures by their respective venture capitalists. Maunula utilized both interviews and surveys. The surveys measured the degree of perceived usefulness of 12 venture capitalist post-investment activities. Through this approach Maunula (2006) managed to measure the importance of value added and differences between informal, private and public venture capitalists.

Rosenstein (1993) investigated the question of whether venture capitalists add value through their seat on the board to a larger extent than other members on the board. 98 CEO's answered the questionnaire and rated the importance of the input from the venture capitalist board members compared to other board members. Rosenstein (1993) found that larger more reputable venture capitalists are often considered more important; however venture capitalists tend to be considered important in different areas of activity on the board than other board members.

Barney et.al (1996) surveyed 205 firms which had received first round financing from venture capital. The study found that the longer the industry experience of the management team in the new venture the lower business management and operational advice was valued by the

² Informal venture capitalists

venture management team. The study also shows that venture management's assessment of the venture capitalists value added, is not necessarily correlated with the ventures performance, Barney et.al (1996) however suggest that this may be due to a poorly designed performance proxy in their study.

Studies focusing on the entrepreneur's perspective are useful, as in the end it is up to the entrepreneur to make the venture a success. While the entrepreneur may not always be right, understanding the perception that entrepreneurs have of venture capitalist activity stands out as the most important in understanding which activities and to what extent they add value to the venture. No venture capitalist can add significant value to their venture, unless the entrepreneur is open for its usefulness.

In sum the perspective to study value added from, depends on the purpose of the study, in this thesis the entrepreneurs perspective is chosen, as it can best illuminate the hypothesized knowledge differences they are exposed to. Asking venture capitalists to evaluate their own knowledge would likely not be a very reliable measure.

2.4 Specialization or diversification from the Venture firm's perspective

While the focus of this thesis is on uncovering if there are specific benefits in choosing a specialized venture capitalist owner over a generalist owner, it is necessary to establish an understanding of the venture capitalist firm's perspective on specialization.

There are 2 main areas in which venture capitalists' choose to specialize. One is specializing in the stage of the investment, which commonly is divided into seed, venture, expansion and buyout stages³ as illustrated in table 1. When discussing venture capital the 3 first stages are the most common to refer to. The buyout stage can be argued to belong to a different part of the private equity field than venture capital, since it does not focus on young growth firms. Private equity firms target mature companies they believe can be acquired, restructured and resold at a profit. These restructuring activities typically involve increasing effectiveness in operations, change in management and capital structure in mature mismanaged companies.

The lifecycle of a company is very dynamic and thereby requires different competencies at different stages in the lifecycle. As such experience accumulated through selecting and building early start-up companies may shape a venture capitalists' theory-in-use. According to

³ Norwegian Venture Capital Association aktivitetesanalyse 2008

Argyris and Schön (1978), Instrumental theory in-use includes norms for performance, strategies for achieving values and assumptions that bind strategies and values together.

This may cause the venture capitalist to evaluate and act instinctively according to these norms in all similar situations, not fully considering differences which may be crucial when working with companies in different stages of their lifecycle.

	Seed	Venture	Expansion	Buyout
Revenues	None	None/ very low	Low to high	Medium to high
Investment risk	Very High	High	Medium to high	Medium
Product	Under development	Almost ready/ready	Commercialized	Commercialized
Investment size	Small	Medium/large	Medium/large	Very large

Table 1: Stages in venture lifecycle

Norton and Tenenbaum (1993) examined the risk management strategy of venture capitalists, using 98 survey responses and found that they are more likely to specialize in specific stages of development rather than diversify across several stages.

The other area where some venture capitalists choose to specialize is as previously mentioned, in a specific industry. A more industry specific focus by a venture capitalist is likely to lead to a more relevant contact network when raising funds and better understanding of what they are investing in. Similarly to what was stated about stage specialization above; Fried and Hisrich (1995) states that the dominant logic of venture capitalists' is a significant venture capitalist input and that institutional investors and managers are concerned that venture capitalists are not as effective when they move into industries that are radically different from their experience base, that their dominant logic does not hold in the new industry. This is also supported by Grant (1988) who states that 'the effectiveness with which corporate management performs its functions is, in part decided by the ability of top management to apply similar knowledge and systems to the different businesses within the firm'. This depends upon certain similarities between these businesses.

Generalist firms on the other hand will have access to a larger group of investors, large groups of prospective investments and thereby may be able to utilize scale advantages; recent development in private equity indicates that scale advantages are becoming increasingly popular among professionals in the field. The reason for this is that the larger the cash amount of the investment, the larger the cash returns, however it does in general not require a

significant increase in employed resources from the venture capital firm, compared to investing a much smaller cash amount.

The biggest argument for being a generalist may however be a given for anyone familiar with modern portfolio theory, where diversification is considered the optimal investment strategy, due to its ability to reduce un-systematic and firm specific risk. Macroeconomic changes are likely to influence growth and profitability in some industries, but in normal markets, not all at once. A horror example for many venture capitalists is the aftermath of the IT-bubble burst in March 2000, causing many venture capitalists, particularly in the United States to lose enormous amounts, since at the time ‘everyone’ was investing in IT. By mid – 2003 the venture capital industry was halved in size compared to its 2001 investment capacity, due to these massive losses. (Cendrowski et.al 2008)

2.5 The Norwegian venture capital market

This thesis investigates companies owned by Norwegian venture capital firms; as such it is necessary to give the reader an understanding of the venture capital market in this region.

The Norwegian market for private equity has experienced significant growth in the years 2004 – 2008, although a drop in new investments occurred in 2008 due to the financial turmoil, the total capital under management has continued to grow significantly.(see Appendix 1.1) This growth is not surprising considering the infancy of the industry in Norway. According to the Nordic Innovation Centre, the professional independent venture capital industry in Norway only began to emerge 10-15 years ago. The Norwegian private equity sector was during the early 2000’s most active in expansion/internationalization investments. The Norwegian venture climate was criticized for both a lack of access to feasible new ventures and capital to fund such ventures, in the venture capital policy review conducted by OECD in 2003. Much of this critique was directed at the workings of the dominant government private equity fund SND-invest, a subsidiary of Statens nærings- og distriktsutbyggingsfond.

‘The large government role in the economy, as seen in the sizeable portion of state ownership of enterprises, tends to limit competition and hinder the emergence of new technology-based companies’ (Baygan 2003)

The Norwegian government decided to sell and privatize the remnants of SND invest in 2003, which prior to this was the largest source of equity capital in the Norwegian economy. The private equity market subsequently shifted its focus towards venture stage investments,

especially in terms of number of investments. The expansion stage still appears larger when measured in capital employed, since this stage normally entails significantly larger amounts of capital committed per portfolio company.

The past few years the largest growth area in the Norwegian private equity market has been in the mid-sized buyout segment. The buyout sector is the largest investment segment in most countries, widely considered to be the most profitable; Norway has joined this developing trend at such a late stage due to the infancy of the industry and small scale of the Norwegian economy, limiting the flow of potential buyout candidates.

The buyout sector requires by far, the largest amount of committed capital per investment; it is therefore not surprising that this has quickly become the biggest segment measured in capital amount since investors gained an interest in the segment. The venture stage investment segment in Norway still composes an unusually large part of the total private equity market in a country; Norway is therefore an interesting setting for an empirical analysis into this segment.

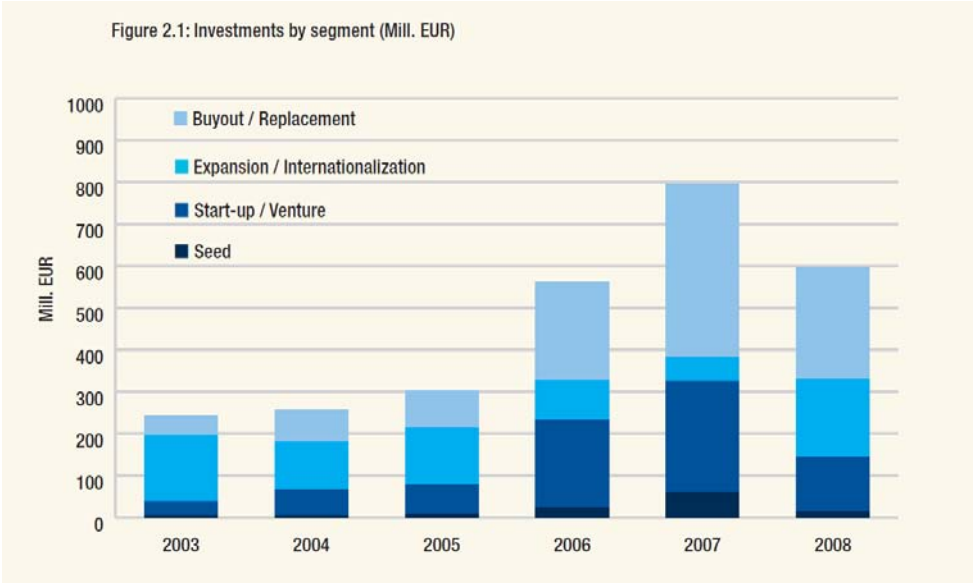


Table 2: Investment activity in Norway by stage

Source: NVCA Aktivitetsanalyse 2008

In an interview⁴ from 2007 Partner in the Norwegian Venture capital firm Teknoinvest; Tore Mengshoel, said that they receive between 200-300 business plans every year which fit their narrow investment focus on high tech innovations. This includes business plans from all the Nordic countries, indicating that there is no shortage of projects requiring funding from

⁴ McKinsey & Company; Fra idé til ny virksomhet: En håndbok for nye vekstselskaper 2.utgave 2007 P137-138.

Norwegian venture capital, as was reported in the OECD report from 2003. Yet according to figures from the Norwegian Venture capital association the surplus of available capital compared to invested capital has increased from 2005 to 2008, indicating that there should be more than enough capital available for new ventures looking for funding. These figures are however somewhat misleading since most of this free capital is placed in buyout funds and are thus not available to businesses currently active in the start-up/venture stages.

In sum it is hard to be absolutely certain about the supply and demand relationship of venture capital in the Norwegian economy, although these inputs provide an indication that it is fairly well balanced. This has caused many people involved in the venture capital community to question the government's decision to create a new publicly owned venture capital investment firm (Investinor), given the somewhat questionable results from previous public endeavors in this business. Critics argue that the new firm can only lead to either a twist in the competition disfavoring private venture capitalists or the funding of non-feasible ventures.

This thesis uses data based on investments from the period 2004-2008 and as such, is not directly influenced by either the old government fund which ceased to exist in 2003 or the new which was established fall 2008. The publicly owned firm Argentum has been active in this period, this is however a more passive investor, which does not directly invest in portfolio companies, but invests in funds managed by private venture capitalists. Many venture capital researchers (Maunula 2006; Norton and Tenenbaum 1993; Leleux and Surlemont 2003) has devoted at least part of their studies for the purpose of separating public and private venture capital investors when studying the implications of venture capital investing, due to the periodic and geographical limitation of this thesis, this aspect can be excluded from the study.

According to NVCA, there were 51 private equity management companies in Norway per 2008, of which 25 were active in the venture segment, 4 in expansion, and 8 in the buyout segment while 14 focused on seed financing. As such the venture segment is by far the most attractive to research when doing a study that compares differences between venture capitalists.

Table 3 shows the industry distribution for all portfolio companies invested in by members of the Norwegian Venture Capital Association per December 2008. This membership base is believed to cover 95% of all professional venture capital in the Norwegian economy according to their own figures.

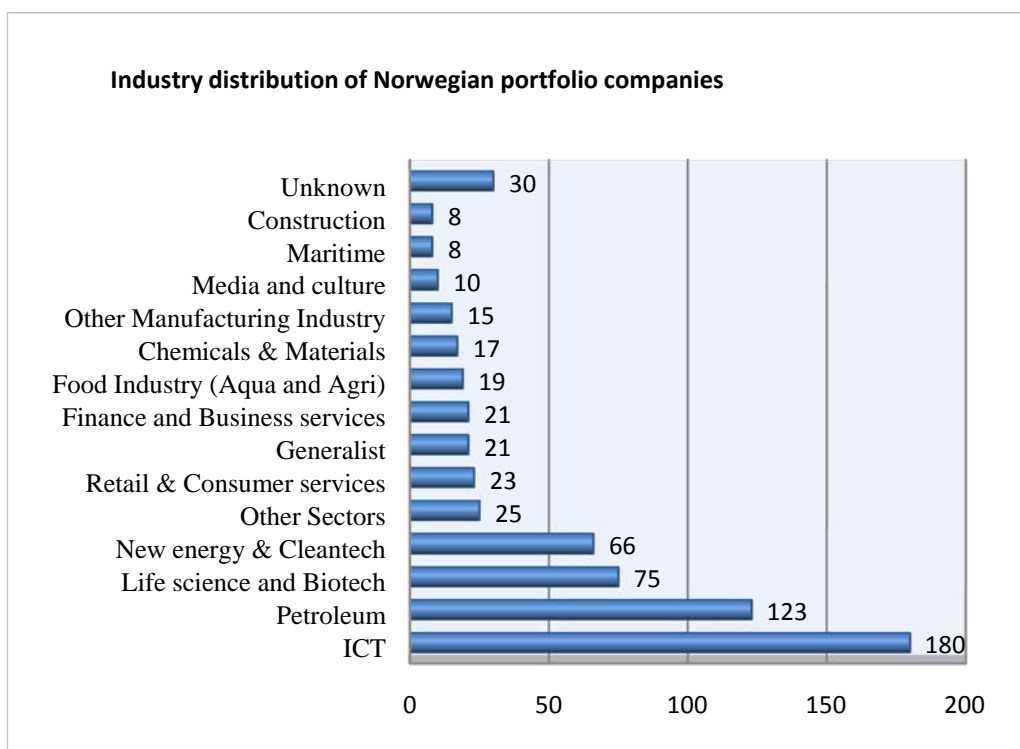


Table 3: Industry distribution of Norwegian portfolio companies

ICT is a globally significant growth industry; it is as such natural that this sector is emphasized the most among Norwegian venture capitalists. The high investment level in the Petroleum sector is also not surprising, given that the petroleum sector alone accounts for 21% of the Norwegian GDP⁵ in 2009, making it the largest single contributor to gross domestic product in Norway. Norwegian venture capitalists combine a focus on industries that are viewed as particularly attractive globally like ICT and Life science & Biotech, with industries which may prove more attractive in Norway like Petroleum and New energy & Cleantech due to the location of knowledge and experience clusters within these industries in Norway.

2.6 Arriving at the theoretical position of the thesis

Section 2 has established where and how this thesis fits into the existing literature on private equity and value added. The section is necessary to understand and interpret findings for this thesis; in this it is implicit that the contribution of this thesis is somewhat limited in scope, as they may not apply for other environments or geographies. While one may draw assumptions for generalization, the environmental and theoretical scope of the project is important to keep in mind when studying the findings. Figure 3 provides an overview of the scope of the thesis.

⁵ SSB Nasjonalregnskap 2009

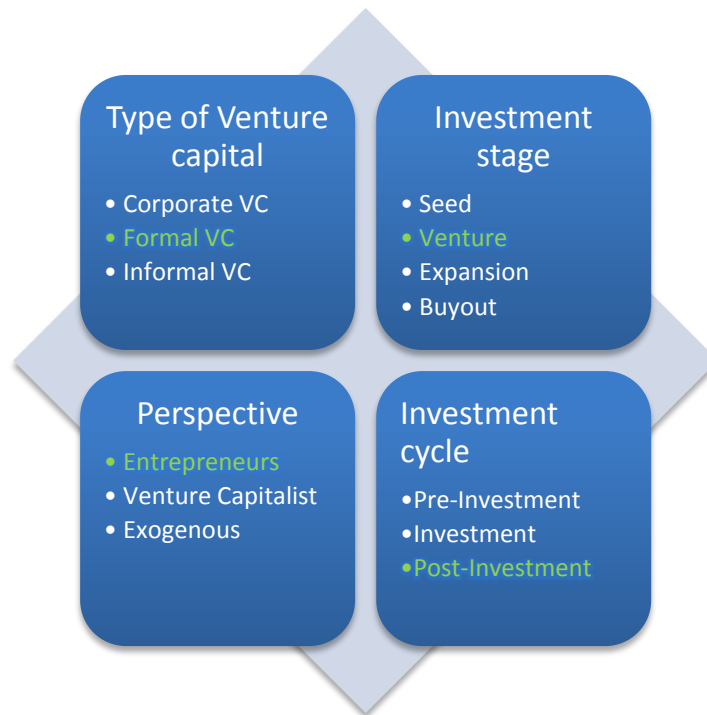


Figure 3: Overview of theoretical position of thesis

3 Conceptualizing framework and developing hypothesis

In this section a series of propositions are developed which in consolidation will comprise the answer to the research question.

Very few studies using similar models specify exactly what each activity pertains, making it difficult to draw direct and exact comparisons between earlier research. Yet while the literature would benefit from a common structure of these activities, it must also consider the necessity of an autonomous formulation in order to be adaptable to different research questions and criteria. The model for this thesis is developed from the ground up, but is heavily influenced by earlier models, to assure the relevance of the measures.

3.1 The importance of knowledge

Starting out in knowledge-based theory, De Clerq and Dimov (2008) found that specialized venture capitalists perform better than generalists. Knowledge theory is a good base to understand the background for this thesis, since experience can be thought of as knowledge accumulated through learning. “Organizations are seen as learning by encoding inferences from history into routines that guide behavior” Levitt and March (1988). As such the

knowledge which firms accumulate through learning are path dependent and will differ between a firm which has experience from just one industry and a firm which has experience from many industries. De Clerq and Dimov (2008) suggested that deeper knowledge enhances the ability to incorporate additional knowledge into the firms operations. Since knowledge is accumulated over time this implies that a narrower focus in the knowledge spectrum of a firm will allow it to apply more knowledge or know-how within this knowledge spectrum to its operations. For venture capitalists this entails that they may be able to contribute more to the ownership duties in their portfolio firms if their knowledge spectrum is more focused towards their portfolio companies industry. Norton and Tenenbaum (1993) suggested that specialization is also a more optimal strategy for venture capital firms, due to the high cost of attaining deep knowledge on multiple industries.

De Clerq and Dimov (2008) was a quantitative study based on data from the venture expert database. Thereby it does not say anything about in what ways specialized knowledge can lead to an increase in non-financial value added. Much in the same way as Gompers, Kovner and Lerner (2009) the study only makes apparent the effects which specialization has on venture performance on a macro level. The series of hypothesis that will be developed in this section is based on various activities performed by venture capitalists in their portfolio firms, aiming to shed light on how this difference in previous experience influences the value of the post-investment management activities undertaken by venture capitalists.

This leads to the following Hypothesis, which will be answered through investigating a series of propositions X.1 based on activities performed by venture capitalists in their portfolio companies:

H1:

Portfolio firms backed by industry-specialized venture capitalists perceive the knowledge of the venture capitalist to result in more value added than portfolio firms backed by a generalist venture capitalist.

3.2 The importance of a relevant network

Dubini and Aldrich (1991) argue the importance of networks for entrepreneurs. A venture capitalists network is considered an extended network in the framework of Dubini and Aldrich (1991) which Dubini and Aldrich (1991) argue can facilitate for growth through enhancing a company's capabilities to interact with its environment. Harryson (2006) argues that networking is crucial for learning, acquiring knowledge, increasing attention to customer needs and the competitive environment.

A venture capital general partner, quoted in Large and Muegge (2007) states that; 'We believe that an active venture capitalist with a strong network of influential people can effectively fund and develop companies with far greater success than a passive investor'.

Much research, most recently Maunula (2006) indicates that the venture capitalists' network can indeed be of significant value to the portfolio firm. Maunula (2006) which focused on the biotech industry in Finland revealed that the areas where assistance from the venture capitalist was most disappointing for many of the biotech ventures, was in knowledge of the market and help with internationalization aspects. These factors are typically closely related to having a relevant network within a specific domain.

This dual effect is supported by Hassan and Bartkus (2009) who state that; 'Specialized industry knowledge is costly to accumulate and the development of this knowledge may provide the venture capitalist with a competitive advantage over those who pursue a strategy of diversification. Perhaps, more importantly, a venture capitalist that focuses on a particular industry is more likely to develop strong relationships within the industry which may facilitate the development of portfolio firms.'

This leads to the following Hypothesis, which will be answered through investigating a series of propositions X.2 based on activities which are also developed through examination of previous studies on the topic:

H2:

Portfolio firms backed by industry-specialized venture capitalists perceive the post-investment value added through the venture capitalists' network as greater than portfolio firms backed by generalist venture capitalists.

3.3 Developing the framework

The framework for analysis is developed based on the two hypotheses with a balanced approach between value added from the venture capitalist entity itself and the network the venture capitalist has brought with him to the portfolio firm. The purpose of this is to get a better understanding of the origins of any differences, which may occur between specialized and generalist backed ventures, to better understand why there are differences. This is a more in-depth approach in the network aspect than what has been used in earlier value added research which typically includes only 1 or 2 broader variables connected to the network aspect, as seen in table 4.

Study	Network dimensions studied
Gabrielsson and Huse (2002)	<ul style="list-style-type: none"> • Making external contacts • Networking support
Sapienza (1992)	<ul style="list-style-type: none"> • Industry contact • Professional business contact
Macmillan (1989)	<ul style="list-style-type: none"> • Searching for management candidates
Gorman and Sahlman (1989)	<ul style="list-style-type: none"> • Introductions to potential customers & suppliers
Fried and Hisrich (1995)	<ul style="list-style-type: none"> • Separate network category
Saetre (2003)	<ul style="list-style-type: none"> • Network of relevant industry contacts • Network of business contacts • Recruiting an outside CEO

Table 4: Overview of network dimensions in previous studies

3.3.1 Propositions

Proposition 1: Fundraising:

The venture capitalist is obviously a provider of funding for their ventures; however their ability and willingness to do follow up investments may vary between venture capitalist firms. Venture capitalists may also impose covenants on their ventures, requiring them to meet certain key performance indicators to continue funding. Venture capitalists are the most significant source of additional funding for many of their portfolio firms. Gorman and

Sahlman (1989) found this to be the most important assistance rendered to portfolio firms by their venture capitalist. The Gorman and Sahlman (1989) study built on Macmillan (1988) who also found financing to be one of the absolutely most important activities performed by venture capitalists post-investment. The Macmillan (1988) study however found the "sounding board" activity to be more important for the entrepreneurial team than the financing activities. This difference in result is most likely due to the fact that the two studies use different categorizations of activities, where the study by Gorman and Sahlman (1989) does not have a specific "sounding board" activity. The venture capitalists ability to raise additional financing is nevertheless consistently considered one of the most important for the venture.

This is also supported by Gomez-Mejia et.al (1990) that was the first study of post-investment financing activities in ventures that separated between funding from the venture capitalist directly and the venture capitalists network. All the CEO's interviewed in the study agreed that the venture capitalist is an important source of money, both directly from the venture capitalists and indirectly from investors that the venture capitalist later brings into the firm. The venture capitalist brings credibility, contacts and knowledge to the fundraising process, which improves the sufficiency and efficiency of the firm's access to capital. Ehrlich (1994) found that the financial expertise of venture capitalists is also the most sought after expertise by entrepreneurs.

The know how dimension

The know-how dimension is the knowledge that the venture capitalist brings to this activity. A more industry - experienced venture capitalist is likely to have more knowledge on the typical capital requirements within the industry, better understanding of costs and obstacles and thereby provide a more optimal funding regime to the venture. This is expected to be seen in the venture management's perception of the venture capitalists value in supplying the company with sufficient funding.

Proposition 1.1:

The specialized venture capitalist backed venture perceives their venture capitalist to be more valuable when in need of additional funding.

The know who dimension

The know-who dimension refers to the relevance of the network the venture capitalist brings to the portfolio firm. In the fundraising activity, reputation effects and a wider contact network should allow the venture capitalist to easier obtain funding. Having a contact network among investors who are used to investing in a specific industry may pose for more easily accessible capital for the venture. The specialized venture capitalist may also be better equipped to influence and approach decision-makers from other funding sources. A more industry-experienced venture capitalist is believed to have more knowledge on what investors within that industry focus on, when making their investment decisions.

Proposition 1.2:

The specialized venture capitalist backed venture perceives the venture capitalists network to be more valuable when searching for additional funding.

Proposition 2: Market expertise:

Gomez-Mejia et.al (1990) found that venture capitalists can contribute through keeping abreast on general market trends by being active in the financial community. While Macmillan (1989) found formulating marketing plans to be an area where venture capitalists are less involved, he also found that it was an area where they would like to be more involved. Maunula (2006) found that 25% of private sector and 36% of public sector venture capitalists helped with formulation, testing or evaluating marketing plans. While this activity was found to be of lesser use for the entrepreneur, strategic planning is considered one of the most useful activities. This activity is in part included in market expertise in this thesis due to different categorization preferences. Market expertise refers to the use of knowledge about different actor's positions in the market, the competitive situation, customer preferences and efficient marketing schemes. It also includes access to key actors in the market, including distributors, lobbyists, officials and others which may assist the venture to reach the market more efficiently or on a larger scale.

Fried and Hisrich (1995) found that venture capitalists in some cases had located a marketing consultant to help management refine their marketing strategy. Flynn and Forman (2001) found that information gathering methods invoked by the VC, including the attainment of customer and competitor related information and marketing research had positive effects on

venture perceived performance. Through experience with earlier ventures the venture capitalist should have gained a special level of understanding for markets he has operated in and a not insignificant network of contacts.

The know how dimension

Through extensive experience within an industry the specialized venture capitalist is expected to possess more knowledge on the dynamics of the venture's market and thereby be better equipped to help the venture develop a market strategy. This knowledge may also be a source of competitive advantage for the venture, since the venture capitalist may be in a position within the industry where it possesses superior information on prospective competitors.

Proposition 2.1:

The specialized venture capitalist backed venture perceives the venture capitalists assistance to be more valuable in the development of a market strategy than the generalist backed venture.

The know who dimension

Through more experience within an industry the specialized venture capitalist is expected to have a wider and more valuable contact network within the industry. The venture is expected to experience value added in the form of increased access to key actors in the market like distributors, market consultants or others who may be crucial for market establishment, expansion or internationalization.

Proposition 2.2:

The specialized venture capitalist backed venture experience more value added towards market development by gaining access to crucial contacts in the relevant market.

Proposition 3: Business development:

The role of the venture capitalist as a sounding board for entrepreneurs is used in much of the earlier research on value added, (Sapienza 1992; Gabrielsson and Huse, 2002; Macmillan, 1989) it is also incorporated in almost every other study made in the field in different shapes and variations of advice functions held by venture capitalists. In this paper the sounding board function is considered as a function of general advice concerning new ideas or developments in the company. The reason for this is that many of the functions which

previous researchers has assigned to the venture capitalist in the form of a sounding board is captured by the other roles and activities used in this thesis.

The role of business developer also considers the venture capitalist network's ability in helping to attain new customers. Timmons and Bygrave (1986) found customer and supplier introductions were important for entrepreneurs when evaluating their venture capitalist. The activity is also found in Gorman and Sahlman (1989), however the activity was only conducted by about half of the selection of respondents and was on average ranked between the 4th and 5th most important venture capitalist activity by the venture capitalists themselves, out of 6 activities mentioned by the respondents in the survey. Ehrlich (1994) measured the activity of solicitation to customers by venture capitalists on behalf of their ventures and found that the venture capitalists had little involvement in this, due to the substantial amount of hands-on participation required. Ehrlich (1994) however also found that entrepreneurs would have wanted their venture capitalist to participate more in this activity.

The know how dimension

The venture capitalist may be considered a trusted advisor by the ventures management. If the venture capitalist has attained a position as a person of significant competence in the eyes of the ventures management, the venture capitalist advice may be considered valuable in discussions and decision making on new ideas or activities. Having more relevant industry experience may both improve the venture management team's perception of the value of the venture capitalists advice and the quality of the advice from the venture capitalists, due to a better understanding of the business.

Proposition 3.1

The specialized venture capitalist backed venture considers its venture capitalists value as a sounding board for new ideas to be greater than the generalist venture capitalist.

The know who dimension

Fried and Hisrich (1995) found that the venture capitalist network of contacts in some cases provide new customers for the venture. Since, as research shows, most venture capitalists do not have the time to conduct active solicitation to customers on behalf of their ventures, it is interesting to twist the question towards the pre-existing network, that the venture capitalist is assumed to have attained through previous investments. Investigating if this is a source of new customers for the venture capitalists portfolio firms and if this source may be greater for

ventures backed by specialized venture capitalists, due to the reasonable presumption that they have a more relevant network of contacts within the portfolio firms industry than firms, which have not been as active within the specific industry before.

Proposition 3.2

Specialized venture capitalist backed ventures considers the value of the network acquired through the venture capitalists as greater in gaining access to new customers than ventures backed by generalist venture capitalists.

Proposition 4: Competitive position management:

In Maunula (2006) 21% of public sector venture capitalists and none of the private venture capitalists of the portfolio companies interviewed in the study helped their ventures with improving patenting, which may be surprising considering the patenting intensity of the biotech industry, which was the setting for that study. However the same study reveals a lack of industry expertise on the part of the venture capitalists in the selection, which may indicate that the companies themselves are better qualified to understand and develop patents, due to the complex nature and highly active patenting culture of the industry. Gomez-Mejia et.al (1990) asserted that venture capitalists can provide their portfolio firms with data on prospective competitors due to receiving a large amount of business plans for which they are not bound by confidentiality agreements, which may assist in improving patents as knowledge of similar solutions increases, this effect should be more present with specialized venture capitalists as they are more likely to encounter more similar ideas than venture capitalists investing across a range of industries. Operating within a specific industry should also enable the venture capitalist to establish ties with a magnitude of actors within the industry, increasing the likelihood that they may facilitate strategic alliances with other actors in the industry, creating competitive advantages for their portfolio firm.

The know how dimension

The venture capitalists' increased knowledge of the market will help him understand the characteristics and position of the ventures product and how it differs from existing offerings, allowing him to better manage intellectual property protection schemes and assist the venture in protecting its proprietary knowledge asset base.

Proposition 4.1:

The specialized venture capitalist backed venture believes the venture capitalists assistance to be more valuable in improving or managing intellectual property rights than the generalist backed venture

The know who dimension

Through the venture capitalists experience in the industry, the venture capitalist may have facilitated a network of potentially crucial contacts which can be effectively put to use to improve the ventures competitive position through strategic alliances with key actors in the ventures industry.

Proposition 4.2:

The specialized venture capitalist backed venture perceives the network obtained through the venture capitalist to be more valuable in obtaining strategic partners.

Proposition 5: Product expertise:

According to Macmillan (1988) the venture capitalist has limited involvement in development of production or servicing techniques and development of actual product or service. And even with this little involvement the venture capitalist would have preferred less involvement in these aspects. Not surprisingly he also found that level of involvement in these activities was significantly and positively correlated with level of general involvement in portfolio firms among venture capitalists. Such hands-on involvement requires a significant allocation of time towards operational assistance to the venture, which is likely to be more than what many venture capitalists are willing to or have capacity to conduct across all their portfolio firms. Ehrlich (1994) found that entrepreneurs do not seek operational expertise much from their venture capitalists. On a 5-point scale the mean value was just 1.44 with 1 being the lowest value, making operational expertise the least sought after of the 4 categories used in the study. This is also supported by Barney (1996) who found that venture management teams can be welcoming of business management advice, but believes they have the operational management under control. However Fried and Hisrich (1995) found that the reason for the lack of enthusiasm for involvement in operations is that venture capitalists and venture managers define operational services differently. According to Fried and Hisrich (1995), venture managers usually refer to day to day business activities and contact with all levels of

management, while venture capitalists are actually referring to assistance with special projects in operations, and does not expect to deal with anyone but top management under normal circumstances. The venture capitalist may however possess valuable knowledge on similar products or services and thereby provide valuable insights in the product development and strategy process.

The know how dimension

Using knowledge of similar products the venture capitalist may provide crucial insights in the development of the product/service strategy, which can create significant value for the venture. This type of assistance may be more attainable for firms backed by specialized venture capital, since these venture capitalists may be more involved in the venture than venture capitalists without relevant industry experience. This notion is drawn from Sapienza (1996)'s findings that venture capitalist industry experience is strongly correlated with governance of the venture firm. Sapienza (1996) argued that venture capitalists with more relevant industry experience would spend less time with their ventures, since they should be able to provide assistance with less effort and time than venture capitalists less familiar with the industry. However this was refuted in the analysis, which showed that venture capitalists with more industry experience actually chose to engage more with the venture.

Proposition 5.1:

The specialized venture capitalist backed venture believes the venture capitalists assistance to be more valuable in developing product/service strategies.

The know who dimension

The venture capitalist may possess a network of contacts with knowledge of significant importance for the development of the product/service itself. For instance researchers or experts providing crucial insights in development or improvement of the product or input providers crucial to successful development of the product or service.

Proposition 5.2:

The specialized venture capitalist backed venture perceives the network obtained through the venture capitalist to be more valuable to product/service development.

Proposition 6: Recruitment:

Most venture capitalists prefer to, in varying extent replace board members and members of the management team when they invest in new ventures. In many cases the CEO of a venture is the founder and is likely not the person most qualified to manage the company. The venture capitalist may provide a crucial assistance both through replacing less qualified people in such positions and in later recruiting processes to management positions. Most venture capital fund managers possess significant management experience and may be better at identifying and assembling suitable management teams than what for instance the founders of the venture may be capable of. Gorman and Sahlman (1989) found Management recruitment to be the third most important form of assistance provided by venture capitalists as perceived by the venture capitalist themselves. This was also found to be the second most sought after expertise by entrepreneurs, after financial expertise in the study by Ehrlich (1994). According to Fried and Hisrich (1995); ‘venture capitalist networks are a major source of candidates for employment primarily for top management, but also for some lower-level managers as well.’

The know how dimension

A specialized venture capitalist may better understand the competencies required to perform the job as such it is suggested that a specialized venture capitalist will be more valuable in selecting and hiring candidates for management teams.

Proposition 6.1:

The specialized backed venture considers the venture capitalists assistance in evaluating and hiring management personnel to be more valuable than the generalist venture capitalist.

The know who dimension

Erllich (1994) says that venture capital firms provide valuable help in accessing and attracting top management personnel with relevant experience. Which suggests better know-who in this role for industry specialized venture capitalists longer experience within the industry should be a source for a wider network of relevant contacts in the business.

Proposition 6.2:

The specialized venture capitalist backed venture considers the venture capitalists assistance in suggesting/identifying candidates for the management team as more valuable than the generalist backed venture.

3.4 The final model

Drawing upon the previously discussed theories and notions, the Venture capitalists experience-base is defined as;

The total knowledge accumulated by the firm through learning from previous activities plus the network of business contacts accumulated through these activities

This is illustrated in the final model which is presented in figure 4.

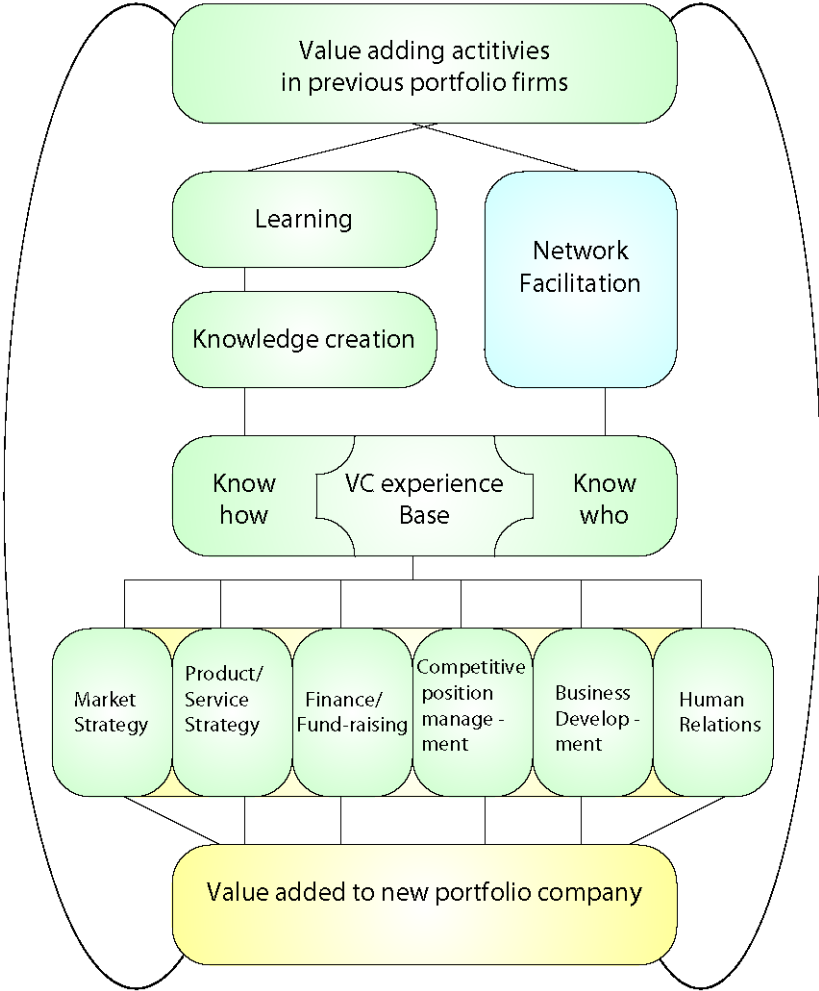


Figure 4: Conceptual model

5 Methodology

This study starts with reviewing existing theory on the topic of venture finance, and has from this extensive review made visible a research gap in the literature. To the best of my knowledge there is no research today that looks into the value of the management activities exerted by venture capitalists in an attempt to uncover variations between the ones that specialize in an industry and the ones that do not.

The literature review of this thesis was created according to principles discussed in Ghauri and Grønhaug (2002), which state that the literature reviews main purpose beyond examining existing theory is to uncover measurement procedures used in prior studies; this is reflected through the categorical approach based on unit of measure in the empirical perspective and measuring value added section.

5.1 Research design

According to Ghauri and Grønhaug (2002), the research design should create an approach that answers the research question the best possible way, taking into account the constraints faced by the researcher. These constraints are usually; limited time-frame, limited budget and limited access to information.

This thesis is designed as a causal research project. According to Ghauri and Grønhaug (2010) the oldest and perhaps most important problem in causal research is which part of the phenomena is the cause and which is the effect. First there needs to be a correlation between the cause and the effect, second the cause should precede the effect and third other causal factors should be eliminated. This thesis first investigates whether there is a correlation between the industry specialization of venture capitalists and the value added to portfolio firms. The order of occurrence and elimination of other causal factors is largely secured through the selection and model used for analysis. Respondents are asked directly about effects from venture capitalist activity, occurring after the entry of the venture capitalist. Further the venture capitalist has chosen to either be specialized or invest across all industries before entering the venture. Secondly the thesis is designed to increase the understanding of the cause of this possible effect more in detail, specifically by hypothesizing that more relevant

management capabilities and network access is the cause for this effect and mapping this impact in a model of venture capitalist investor involvement.

5.2 Data collection method and measurement

‘The main advantage of primary data is that it is collected specifically for the project at hand, which means that it is more consistent with the research questions and research objectives’ (Ghuri and Grønhaug, 2002) Furthermore Ghauri and Grønhaug (2002) says that “we can hardly learn about opinions and behavior without asking questions directly to the people involved”. As such only primary data will be able to address the research question, which requires information on venture capitalist behavior inside portfolio firms.

Survey is chosen as the instrument to collect the primary data for this thesis. According to Ghauri and Grønhaug (2002) surveys are an effective tool to get opinions, attitudes and descriptions as well as for getting cause-and-effect relationships. Answering the research question requires collecting data on entrepreneurs perception of the variations in contributions made the by venture capitalists.

The survey is largely structured, using an ordinal scale to examine preference data. However the survey also has 2 semi-structured questions in the final section to allow respondents to give their own views more freely. This is done so valuable information that may be important to the study is not lost, which may occur in a too structured approach. The length of the survey has also been kept to a minimum in order to create a balance between usefulness of responses and number of responses.

The survey was tested for understanding and relevance on an experienced executive, who has had a lot of experience in working with venture capitalists through his many board positions. The test subject has also been a part of several start-ups through his activities as a business angel investor.

5.3 Delimitations

Geographical

Due to limits in time and resources, this thesis is as previously mentioned, delimited to Norwegian venture capitalists. The sample includes both Norwegian and international companies, but they all satisfy the criteria that they have a Norwegian venture capitalist in a significant ownership position. Very little relevant research has been conducted in this market

to this date, due to the small size of the economy and relative infancy of the venture capital industry in this market. To my knowledge Sætre (2003) along with Reitan and Sørheim (2000) are the only studies set in the Norwegian market that have been published in major academic journals, these two studies however, both focus on informal investors. Berg (2009) a master thesis in financial economics, written at the Norwegian school of Economics and Business Administration investigated the presence of value-added among Norwegian venture-backed companies. Berg (2009) benchmarked the performance between Norwegian venture and expansion stage companies backed by venture capital and a selection of similar companies not backed by venture capital. Berg (2009) gives support to the existence of non-financial value added in the Norwegian venture capital market.

Industry

Another aspect which would be possible to delimit is to a specific industry, this has however not been done as the empirical selection would be too small. Further the author insists that the research question is relevant across all industries, and thus the thesis will not suffer from this wider focus.

Stage

In order to make sure that the sample respondents have relatively homogeneous pretences to answer the survey, it has been necessary to delimit the scope to start-up/venture stage companies. This stage was preferred due to its size and due to it also being considered as a stage where the company's are more open to and in need of external competence and advice. In addition investment amounts at this stage is typically considerably larger than in the seed stage and thus the venture capitalist is expected to exert more effort towards these investments than small seed stage investments. Flynn and Forman (2001) found that venture capitalists which have been involved in the venture from the early stages (seed and venture), tend to have a significant effect on performance, but did not find the same effect for later stage investments. This is supported by Gormeman and Sahlman (1989) who found that venture capitalist spend considerably more time with early stage ventures than later stage investments. Combining this with the finding of Sapienza (1992) that more face to face time correlates positively with value added, we get the indication that the early stages in ventures are more prone to value adding activities by venture capitalists. Sapienza (1996) further supports this notion finding that venture capitalists add more value when uncertainty is high, like for ventures in the early stages and for ventures pursuing innovation strategies.

5.4 Selection

The selection process of valid research subjects started with a list of 215 venture investments by Norwegian venture capitalist both home and abroad for the period of 2004-2008, supplied to me by Menon Business Economics, a statistics and consultancy firm that work closely with the Norwegian Venture Capital Association. The investment period was selected to get an as large as possible number of observations, while also keeping in mind that the cooperation should be fresh in memory and have had some duration to make an impact on the company. This list was significantly shortened down by removing unsuitable items. A number of investments were listed several times due to syndicate investments. Some companies have gone bankrupt and are thereby no longer available to contact. Some have been purchased, and are therefore difficult to find contact information on. As such both some likely significant successful ventures and significantly unsuccessful ventures were eliminated. Some companies have other venture capitalists as their majority owner than the Norwegian investor in the list and therefore would not answer the survey with the right company characteristic in mind. Thus they fail to meet the criteria that the Norwegian 2004-2008 venture investor is the lead investor, and are thereby eliminated. A few companies with syndicated investors are difficult to include since the owner structure is unclear. Company's board members and ownership structures have been identified for all companies included in the selection to verify the listed venture capitalists majority influence on the company. A company where this information is unavailable or unclear is eliminated from the selection. To verify all this information as much as possible, all Norwegian companies have been checked in the company database Proff forvalt. All international companies have been checked in Orbit – Berau van dijk. In addition all venture investors and investee firm's websites have been used to verify information.

After this rigorous due diligence process the survey was finally sent to 125 suitable investee companies. 74 companies were identified in the generalist group, 51 were identified as having specialized venture capitalists.

Despite the thorough due diligence 2 companies responded that they had 0 venture capitalists. One declined to answer the rest of the survey, this most likely occurred due to current employee's having no knowledge of prior workings of the company, the other company's responses were included in the results, as this company must recently have been sold from venture capital ownership. The company that declined to respond further to the survey was removed from the selection along with a company in which all available email addresses

returned as invalid, making the final population 123.

5.5 Validity

As with all measures the value added measure in this thesis is likely to contain errors. Measurement errors are split into random and systematic errors, where random errors will always occur due to different interpretations of a measure. A measure such as what is used in this thesis is also highly subjective and thereby prone to distortion by transient personal factors and situational factors creating differences in the respondent's answers beyond what has roots in the venture capitalist ability to add value.

People who have strong opinions about the subject are more likely to answer the survey, as such; respondents may consist of people who are either very satisfied or dissatisfied with their venture capitalist. While these threats to validity may be significant in studies like this where sensitive relationships are measured by opinions, extreme values may be found on both sides of the scale and may therefore even out across the population.

Construct validity

The model in this thesis uses multiple indicators in determining the value added to ventures, this is according to Ghauri and Grønhaug (2010) useful to capture the true picture, as one variable may not give an accurate picture of the venture capitalists contribution or skills. The model developed in this thesis takes this into account by looking at both the knowledge and network based experience of the venture capitalist. Ghauri and Grønhaug (2010) state; 'In order for the construct to be valid the researcher must develop clear definitions and adequate measures for the two constructs.'

The measures of value added are developed in the model conceptualization, based on earlier research on the topic. The questions that are posed to respondents are formulated as close to the measure as possible, similar to what has been done in previous research. This direct line of questioning is useful in this setting as it prevents questions from straying away from the actual information needed. This line of questioning is possible in this context due to the nature of the respondents, who are CEO's or top level managers in ventures, that work in this field every day and should by all accounts be capable of fully understanding the question. This also ensures reliability of the measure, as long as it is posed to qualified respondents.

Specialization is not measured due to lack of resources. Specialization is instead categorized based on rigorous analysis on the activities and strategies of the venture capitalist firms. While I believe this to be a good enough definition, a more in dept approach, investigating the background of all individuals employed at each venture capitalist firm would be more ideal and give a somewhat more accurate analysis.

This classification of venture capital firm's investment strategy as specialists or generalists is crucial for the results of the study. Therefore a holistic approach is taken to the evaluation of each company's investment practice. This classification takes into account the classification used by NVCA on which industries the individual companies are involved in. In addition, stated investment strategy on each firm's website is taken into account, as well as the industry classification of all known prior investments for each firm. A firm that invests in several industries is not automatically classified as a generalist; an effort is made to determine the venture capitalists experience within a specific industry relative to others. As such, if there is a significant overweight of investments within an industry in addition to a stated investment strategy towards the same industry the venture capitalist is classified as a specialist. Most venture capitalists focus on technology based ventures, as such this investment strategy is not considered as an industry specialization as technology based ventures may emerge across industries. After all these factors are taken into account the few in-doubt companies which are left are classified based on perceived closeness of technological and management expertise required for the different portfolio companies in the investment history of the firm.

5.6 Factors which may influence the value added measure

5.6.1 The perception of value added

Gomez-Mejia (1990) found that 'the venture capitalist and the CEO of the venture do not agree on the venture capitalists contributions in many areas, particularly those that are more loosely defined such as management and strategy'. The source of this misalignment is likely rooted in differences in perceptions of events.

Studies have also indicated that the CEO's perception of value added by the venture capitalist is influenced by more than the venture capitalists ability to add value to the firm. This pertains to both; factors which may twist the CEO's perception of actual value added and exogenous factors which can influence the portfolio firm's ability to receive value added. Fried and Hisrich (1995) and Sapienza (1992) investigated the impact of the relationship between the

CEO and venture capitalist on perceived value added. Fried and Hisrich (1995) argue that the impact of venture capitalist inputs on the portfolio firm varies with the venture capitalists power with the ventures management and introduces 3 sources of venture capitalist power.

The most obvious source of power for a venture capitalist is money. It is common practice among venture capitalists to stage investments. This enables the venture capitalist to both reduce financial risk exposure and increase their influence on company management. Since most companies are dependent on additional financing, the venture capitalist can gain considerable influence by threatening to cancel further investments if the management team does not sufficiently absorb the inputs from the venture capitalists. Fried and Hisrich (1995) also note that this type of power is most powerful when the venture is performing poorly and in the most need of funds.

The second source is the power of personal relationships, which Fried and Hisrich (1995) states are more “pleasant to use”. The personal relationship builds trust and a sort of admiration for the knowledge of the venture capitalist. Thus the company’s management will be more open and accepting of the venture capitalists input, without the need for “threats” which is more likely to be the case when exercising monetary power. The third source of power is formal power, stated in contracts and agreements made at the time of investment. According to Fried and Hisrich (1995) venture capitalists ‘try to avoid the use of formal power because it is highly confrontational’. The balance of these powers and which of them are most commonly exercised may vary significantly between different venture capitalist – venture pairs. This is likely to create different pretences for manager’s perceptions of value-added by venture capitalists. A manager in a dyad with strong relationship power is likely to be more positive to the value of the venture capitalists involvement than a manager which has been exposed to a great deal of monetary and formal power. This is supported by Sapienza (1992) who found a positive significant correlation between perceived value of venture capitalist involvement and the degree of openness in the relationship between the venture capitalist and the CEO of venture firms.

In addition to power relationships, other characteristics of the management team and the portfolio companies may influence the venture management’s perception of value added by the venture capitalist. Barney (1996) found that the more experience the management team of the venture had in its industry, the less the team would value venture capitalist input. The level of technology orientation in the venture is also argued to have an impact on the value

added by venture capitalists. Ehrlich (1994); Sapienza (1992) and Barney all found that venture capitalists are more valuable to technology oriented companies, the reason for this may be that these ventures management have significant technical experience, but less business experience and thereby values the business and finance expertise of the venture capitalist higher.

5.6.2 Syndication

Syndication is when two or more venture capitalist firms jointly undertake a new project. According to Abell and Nisar (2007) Syndication creates a multitude of relationships spanning the syndicate member's coordination and various service providers, including research and development organization, patent lawyers, head-hunters, investment bankers etc (Gorman and Sahlman, 1989; Sahlman, 1990; ref Abell and Nisar, 2007)

Bubna (2002) says that venture capitalists; 'expend significant effort and substantial resources in evaluating the business plan prior to investment'. 'In the absence of any conflicts, all partners want to maximize returns from the project. This depends on the value-adding skills inherent in each venture capital firm.'

It is common for generalist venture capitalists to enter a syndicate with smaller specialist venture capitalists to make use of their specialist knowledge along with the usually larger funding pool of many generalists. De Clerq and Dimov (2008) found syndication to be a successful way of compensating for lack of in-depth industry knowledge, as the effects of specialization was found to be completely diminished with syndicate investments.

6 Presentation of data

6.1 Respondent demographic

The survey was sent to 123 companies, which qualified the criteria; the venture was fully or partially owned by a Norwegian venture capital firm, if owned by multiple venture capitalists the Norwegian venture capitalist had to be the lead investor in the syndicate. The companies were invested in by the venture capitalist in question during the period 2004 to 2008. While the selection is quite small, it corresponds to close to all Norwegian venture capitalist activity in the start-up/venture stage in this period, which should be kept in mind when studying the results. The survey was conducted in the relatively long period 22.06.2010 – 22.08.2010, to maximize the response count. An effort was also made to increase the number of responses, by sending out a total of 3 reminders after the initial invitation and a few companies were also contacted by phone.

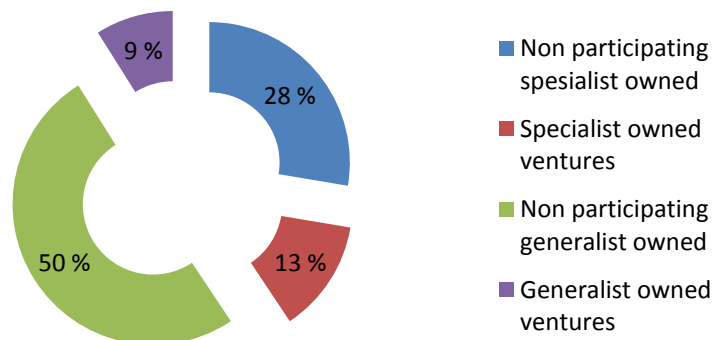


Chart 1: Total completion rate

The total number of firms matching the query was 123, out of these, 73 were owned by generalists and 50 by specialist venture capitalists. The survey was sent out in two groups, a specialist group and a generalist group. The two groups received a total of 39 responses of which, 27 were fully completed. This gives a total response rate of 32 % and a completion rate of 22%.

■ Non participating generalist owned ■ Generalist owned ventures

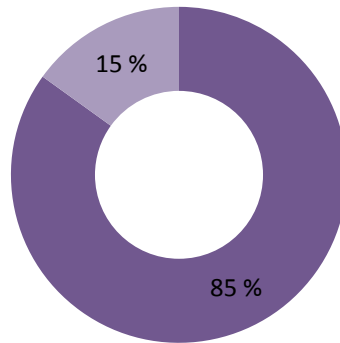


Chart 2: Generalist completion rate

While the number of ventures in the generalist owned group is significantly higher than specialist owned, the response rate was much lower than that of specialist owned ventures. 27% of the generalist owned firms responded to the survey, this translates into 21 responses but with a completion rate of just 15% only 11 responses were fully completed

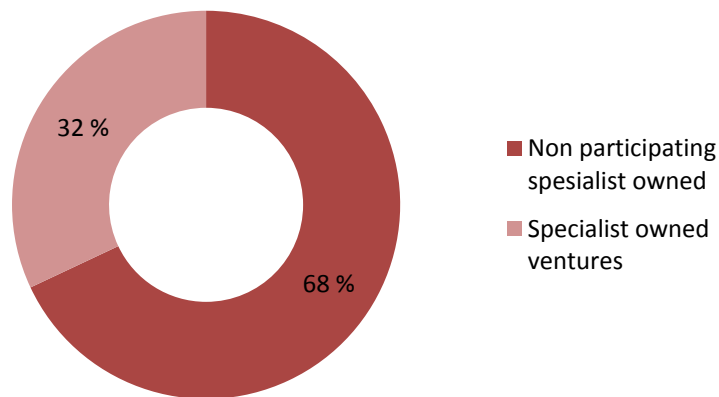


Chart 3: Specialist completion rate

Among specialist firms the response rate was higher with 39%, and the completion rate was over twice as high as for generalists with 32%. This translates into a total of 19 responses and 16 fully completed answers.

6.2 Responses to general section

The technological nature of a venture’s business is of interest, as there may be differences in the usefulness of specialization between technological and non-technological ventures.

Barney et.al (1996) found that venture capitalists play a particularly important role in entrepreneurial ventures that are technologically oriented. Question 1 on the survey was created to take into account such differences; however, as all respondents indicated that their venture was of technological nature, the question did not yield any useful results for analysis. It does however allow one to further narrow down the scope of validity of the empirical data presented as it increases the understanding of the respondents.

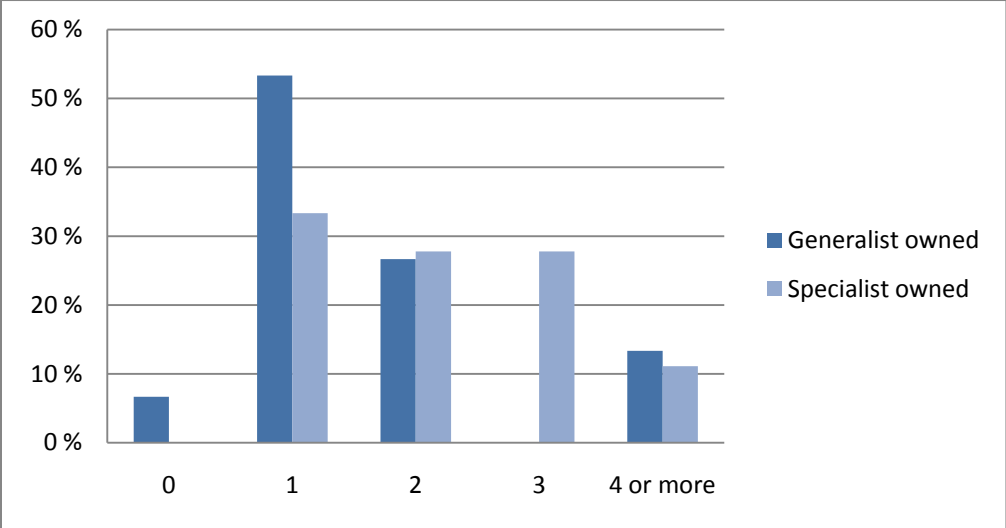


Table 5: Number of venture capital owner per respondent

Figure 6 indicates the number of venture capital owners each respondent firm had at the time of the survey. The majority of the respondents state that the firm only has 1 venture capitalist owner; however the aggregated responses indicate that 55% of the ventures had more than 1 venture capitalist owner. Figure 6 also clearly shows a trend that specialist owned ventures are more often syndicate investments than generalist owned ventures.

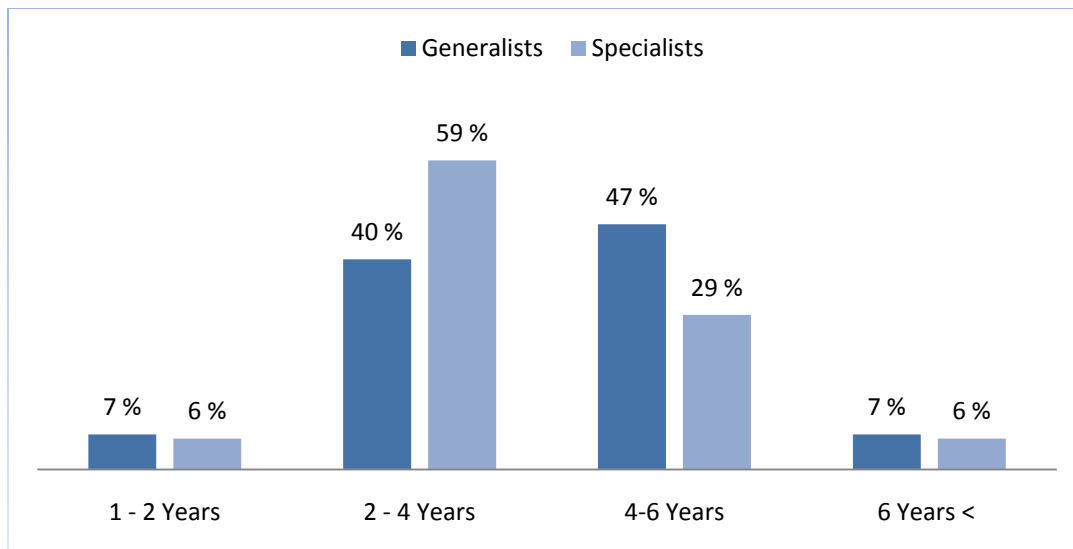


Table 6: Duration of relationship between venture and venture capitalist

Figure 7 shows responses to question 3; how long the respondents have been working with their venture capitalists. Given the investment period limitation of the selection, it is not surprising that most of the respondents have been working with their venture capitalist between 2-6 years. The demographic indicates that the generalist owned respondents have, on average been working with their venture capitalists longer than the specialist ventures have with their venture capitalists.

6.3 Survey main section

The survey response scale range from 1: no value to 5: absolutely crucial value, There is also an NA option indicating that the VC has not been involved and can therefore not be evaluated for this activity. This ensures that the value of an activity is not artificially lowered by non-active venture capitalists.

Note that while there are a total of 27 fully completed responses, partially complete responses are also included in the questions which are answered in these. Also some questions have less than 27 total answers, this is because some companies have chosen the NA option, which indicates that the activity has not been conducted for instance due to not having entered the market yet or that the activity has not been necessary or wanted.

In addition to measuring the mean and standard-deviation for the structured questions, the results are tested for significance using a single tail, student's t-test in Microsoft Excel. A single tail test is commonly used when the direction of the outcome is predicted.

6.3.1 Knowledge effects section

Q4: How do you consider the venture capitalists value as a sounding board to get input on new ideas/activities?

Question 4	N	Mean	SD
Specialist backed	16	3,44	1,06
Generalist backed	11	2,82	1,17
Sig. Level			0,0473

Table 7: Statistics Q4

The mean response to question 4 is significantly higher for specialist backed ventures than generalist ventures. The generalist group has a slightly higher standard deviation than the specialist group; this is considered normal for this population given the lower sample in this group. The student's t-test indicates that this finding is significant to the 5% level.

Q5: How valuable do you consider the venture capitalists' assistance in developing market strategies?

Question 5	N	Mean	SD
Specialist backed	15	3,20	0,91
Generalist backed	12	2,58	1,16
Sig. Level			0,0979

Table 8: Statistics Q5

The mean for question 5 is quite a lot higher for specialist backed ventures than generalist backed ventures. The standard deviation spread is also larger, specialist backed ventures are more unison in their opinion on the value of their venture capitalist involvement in assisting with market strategy, than generalist backed ventures. This indicates that the generalist group has more extreme cases, where some are not helpful while others may be as helpful as most of the specialist. The findings for question 5 is significant to the 10% level but not to the 5% level in the t-test.

Q6: How helpful has the venture capitalist been with additional financing?

Question 6	N	Mean	SD
Specialist backed	15	4,00	0,97
Generalist backed	11	3,36	1,28
Sig. Level			0,1236

Table 9: Statistics Q6

The mean for this question is the highest of all questions, indicating that this is an important activity which the venture capitalists are generally good at. The mean for specialists backed ventures are also here, higher than for generalist backed ventures. There is also quite a large difference in standard deviation, which indicates a wider distribution amongst generalists. Looking at the figures, the generalist group consists of high and low values, while the specialist group consists of high and medium values. The result is not found statistically significant to any useful level by the T-test.

Q7: How valuable do you consider the venture capitalists assistance in the development of product/service strategies?

Question 7	N	Mean	SD
Specialist backed	16	2,88	1,22
Generalist backed	11	2,36	1,00
Sig. Level			0,1121

Table 10: Statistics Q7

The mean for question 7 is higher for specialists, but with a higher standard deviation. Looking at the figures, the specialist group has many high and low values, while the generalist group is more centered towards medium and low values. The result for this finding is not considered significant by the t-test.

Q8: How helpful has the venture capitalists participation been to improve/manage intellectual property rights?

Question 8	N	Mean	SD
Specialist backed	16	2,63	1,11
Generalist backed	9	2,11	1,20
Sig. Level			0,1652

Table 11: Statistics Q8

The means for question 8 are relatively low; however the specialist mean is also here higher and has a lower standard deviation. This result is not considered significant by the t-test.

Q9: How valuable has the insights of your venture capitalist been in evaluating and hiring management personnel for the company?

Question 9	N	Mean	SD
Specialist backed	16	3,44	1,06
Generalist backed	10	2,50	1,17
Sig. Level			0,0315

Table 12: Statistics Q9

The responses to this question have the highest mean spread of all questions in the survey. The specialist backed respondents consider the venture capitalists assistance with assessment and recruitment as considerably more valuable than what generalist backed ventures do. The standard deviation is at a normal lower level for specialist backed ventures. This finding is significant to the 5% level in the t-test.

6.3.2 Network effects section

Q10: How valuable has contacts made through the venture capitalists been to obtain additional finance?

Question 10	N	Mean	SD
Specialist backed	14	3,36	1,29
Generalist backed	10	3,10	1,37
Sig. Level			0,3440

Table 13: Statistics Q10

The mean for specialists in question 10 are somewhat higher than generalists, although considerably less different than for the related question 6. The standard deviation for both groups is quite high and the t-test indicates no significance for this result.

Q11: How valuable has the venture capitalist and its network been in providing access to new customers?

Question 11	N	Mean	SD
Specialist backed	14	2,21	1,01
Generalist backed	9	1,67	0,82
Sig. Level			0,0947

Table 14: Statistics Q11

The mean for question 11 is quite a bit higher for specialists than generalists, although both groups receive low scores in this activity. The standard deviations are relatively low for both groups which indicate that the venture largely has had similar experiences with their venture capitalist; although the lower standard deviation for generalists indicates that the responses in this group are at a more united low level. The difference between specialist backed and generalist backed ventures are found significant only to the 10% level in the t-test.

Q12: How valuable has contacts made through your venture capitalist been to market development?

Question 12	N	Mean	SD
Specialist backed	14	2,36	0,97
Generalist backed	9	2,00	1,15
Sig. Level			0,2384

Table 15: Statistics Q12

The mean response for question 12 is slightly higher for specialists than generalists with relatively normal standard deviations. The result is not considered significant by the t-test.

Q 13: How valuable has contacts made through your venture capitalist been to establish relationships with strategic partners?

Question 13	N	Mean	SD
Specialist backed	15	2,47	1,20
Generalist backed	11	1,91	0,98
Sig. Level			0,0801

Table 16: Statistics Q13

The mean for question 13 is significantly higher for specialist backed ventures than generalist backed ventures. The standard deviation for specialists however is higher than generalists; the wider dispersion in the replies from specialists indicates that many consider the value of this activity high, while it is considered to have no value by others. The results for this question are significant to the 10% level but not the 5% level of the t-test.

Q 14: How valuable has contacts made through your venture capitalist been for product/service development?

Question 14	N	Mean	SD
Specialist backed	16	2,19	1,18
Generalist backed	10	2,00	1,18
Sig. Level			0,3556

Table 17: Statistics Q14

The mean for question 14 is slightly higher for specialists and the standard deviation is equal for both groups. This result is not considered significant by the t-test.

Q 15: How valuable has the venture capitalist been with suggesting/identifying candidates for the management team of the company?

Question 15	N	Mean	SD
Specialist backed	15	3,00	1,03
Generalist backed	11	2,18	1,22
Sig. Level			0,0424

Table 18: Statistics Q15

The mean value for the responses to question 15 is significantly higher for specialist backed firms with a lower standard deviation than for generalist backed ventures. This result is considered significant at the 5% level in the t-test.

6.3.3 Qualitative section

Question 16 and 17 in the survey allowed respondents to give their opinion more freely on the cooperation with their venture capitalist. These questions are not asked in conjunction with a proposition like the questions in the quantitative section, but are meant to add to the holistic picture when answering the propositions in the analysis section.

The response rate to these questions (in percent of total respondents) is presented in table 19.

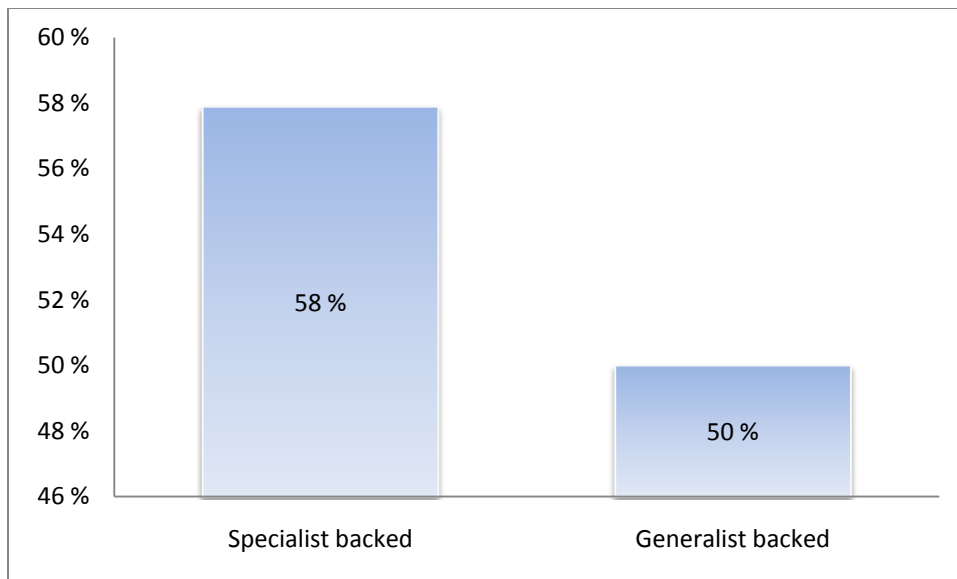


Table 19: Response rate to qualitative section

Question 16 asked the respondents which activities and areas of business they perceived the venture capitalists insights to be of most value. The purpose of this was to uncover differences between which activities were considered valuable in the specialist and generalist group and to compare the results with the quantitative questioning.

Question 17 asked the respondents which (if any) aspects of the cooperation with the venture capitalist had not lived up to expectations. The purpose of this question was to allow the respondents to, in their own words to describe what aspects of the venture capitalist cooperation they were unsatisfied with, in an effort to uncover weaknesses which may exist in the two groups and compare if the annoyances faced by venture management teams differ between specialized and generalist venture capitalists.

The statements put forward to these questions are included in appendix 2.4

6.4 Other data

A few short statements were written down from short phone conversations with 3 companies, however many of these companies are concerned with giving out information on such a sensitive subject, as such comments are limited. This may also explain the relatively low rate of response to the survey. Perry (1989) experienced similar problems when doing a case study on 10 entrepreneur-venture capitalist relationships and had to spend a lot of time negotiating and preparing contracts outside of what is normal in academia in order to get the companies talking.

The question was broad, asking how management perceived the cooperation with the venture capitalist. These statements are found in Appendix 2.5

Some secondary data was also collected from interviews conducted by Argentum for their “entrepreneur guide”. This data is presented in appendix 2.6 and consists of short interviews with the CEO of a few of the firms included in the research population of this thesis.

7 Data discussion and analysis

7.1 The propositions

Proposition 1: Fundraising

Proposition 1 was investigated through question 6 and 10. The answers to these questions slightly indicate a positive correlation between specialization and perceived value added through help with financial resources, however neither of the results is considered statistically significant in the T-test. This is likely due to the relatively low number of responses to the survey, which makes it hard to suggest strong implications from the quantitative measure in many cases.

The mean values for this activity is the highest of all activities for both groups of venture capitalists and for both network and knowledge effects. This is in line with earlier research on value added (Gorman and Sahlman, 1989; Gomez-Mejia, 1990; Ehrlich, 1994). This trend is also visible in the responses to Question 16, where 75% of responding generalist backed and 82% of responding specialist backed ventures mentioned this activity as one the most valuable to their ventures, making it by far the most frequently mentioned activity. While the activity is mentioned by most respondents it is not particularly elaborated upon by any. In question 17 one specialist backed VC states that;

‘Sometimes promises are not kept, board skills have been low and they have not been active in raising capital.’

This is a statement which opposes the somewhat uncertain results from the quantitative section where the difference in median between the venture capitalist groups are 0.64 in favor of specialists for the proposition that knowledge effects lead to a higher value added and 0.26 is the difference in median for the proposition that network effects lead to a higher value

added from specialist's venture capitalists. This indicates that increased knowledge on the capital requirements and financial needs of the venture can lead to specialized venture capitalists being more valuable in financing activities in their portfolio firms. The standard deviation is also lower for knowledge effects, indicating a more reliable result in this category. Gomez-mejia et.al (1990) who also separated between network and knowledge effects does not explicitly assess the strength of these effects against each other, but finds on a more general basis that both effects are important to the venture. This result is not far from the results found for generalists in this study; the difference in mean between network and knowledge effects is quite low for this group. One can however note a larger difference between these effects for the specialist groups, causing one to question the heterogeneity of the 10 relationships studied in Gomez-mejia et.al (1990). Such details are not given in the article.

When studied on its own this result is fairly inconclusive since it is not statistically significant, one statement from a specialist backed venture opposing the quantitative results is not of much meaning for research purposes, however it does add to the picture of a somewhat inconclusive result.

Proposition 1.1 receives more support than proposition 1.2; however neither gives very strong indications and thereby proposition 1 cannot be considered to be supported.

Proposition 2: Market expertise

Proposition 2 was examined through question 5 and 12 on the survey. The mean values to these questions hint at a positive relationship between specialization and perceived value added through assistance with market strategy and development. Macmillan (1989) found market strategy to be an activity in which venture capitalists are less involved; for the companies in this selection, this seems also to be the case, but to a lesser extent. It is ranked relatively high for both for network and knowledge effects; however the mean-difference between market expertise and the lower ranked activities is very small.

Question 5 examines the perceived value added through assistance with market strategy; the difference in mean between the two groups for this question is 0.62, with a significantly lower standard deviation in the specialist group. This result pertaining to knowledge effects is significant to the 10% level. This is not evidence which can confirm the proposition; it is at

best only a vague indication. Question 12 examines network effects in the form of market development. The effect of specialization for this activity is not found statistically significant, the mean difference for this question is 0.36 in the favor of specialists, and again the responses in this group are more heterogeneous than for generalists. One generalist states that;

‘They have also been a valuable help with market access, internationalization, sales and IPR protection’

However, another generalist backed venture cites assistance with market access as the most disappointing part of the cooperation with the venture capitalist, indicating that they would have wanted more help in this activity than what they experienced. A third generalist response revolving this activity states that they are disappointed with the assistance they have received with *‘market and sales strategy development’*. A fourth also mentions *‘sales assistance’* as the most disappointing factor of the cooperation. None of the specialist responses to the qualitative section mentions this activity.

In an interview with Argentum, the CEO of Resman, one of the companies in the generalist group who left the survey blank stated that;

‘We have also exploited Verdane’s network to the maximum, as they know many of our clients. Verdane also contributes with market analysis, so that we do not have to employ our own analysts. ‘⁶

Rolf Thorkildsen, CEO of Cubility which is a specialist-owned company that was included in the survey but declined to answer, stated in the interview with Argentum that;

“In addition to capital, we have also gained the competence which has been necessary to develop the company and profile ourselves in the market”.

Proposition 2.1 receives vague support from the quantitative measure, the qualitative material pulls vaguely in both directions, overall these implications are not strong enough to confirm the proposition. Proposition 2.2 is not supported in the quantitative measure, it also does not find much support in the qualitative statements.

⁶ Verdane Capital

Proposition 3: Business development

The third proposition was examined through questions 4 and 11. The analyses of data from these questions indicate that assistance with business development is positively correlated with industry specialization. The question on the venture capitalists value as a sounding board receives the second highest mean score after financing for both specialists backed and generalist backed ventures.⁷

This is very similar to previous studies on the value of different venture capital activities where this activity is most often ranked 1st or 2nd in importance in research from the venture capitalist perspective (Sapienza, 1996; Macmillan 1998). The sounding board activity was considered the 4th most important in Ehrlich (1994) which studied the activities from the entrepreneur's perspective, similarly to this thesis. The questionnaire used by Ehrlich was however more specific in mapping some activities including a total of 15, where the 3 which placed above sounding board were all related to finance, making this result well in line with other research. While both responding groups score relatively high on this activity, there is a mean difference of 0.62 in favor of specialist backed ventures. This finding is also considered significant to the 5% level in the t-test. This indicates that the more in-depth industry knowledge leads to more value being added when acting as a sounding board for the venture's management. This is also supported by the qualitative data where 2 specialists owned ventures state that '*board inputs*' are one of the most valuable activities conducted by their venture capitalist. While a respondent from the generalist group states that;

'The venture capitalist often sidetracks the business in board meetings, where they should be supportive and give guidance and direction, it is more fun suggesting new ideas rather than focusing on execution of plans'

This statement indicate that some venture capitalists may instead of taking on the role as advisor and consultant to the ventures ideas, act to further confuse the ventures management by focusing on their own. One specialist venture among the respondents also claim that

'Board skills have been low'.

The network effects based business development question asked the respondents wither their venture capitalist had provided valuable assistance in gaining direct access to new customers. The answer is no for roughly half of the respondents, the ones that have not answered no

⁷ For the specialist group, Recruitment scores equally high as business development in knowledge based activities

(value=1) rank this activity's value relatively high. Many of the ventures where this activity is performed consider it to be quite valuable to the firm. This supports Fried and Hisrich (1995)'s findings that the venture capitalists network in some cases provide new customers for their ventures.

The median difference is 0.54 for this question. The fact that most of the previously mentioned companies where this is considered a valuable venture capitalist activity is in the specialist group becomes apparent when looking at the standard deviation which is a lot higher for specialist than generalists for this indicator. The result is considered significant only to the 10% level.

However, one specialist backed respondent states that the most disappointing aspect of their cooperation with their venture capitalist was;

'Opening doors to major customers'

One generalist venture capitalist gives a fairly broad response in the qualitative section stating that the most disappointing part of the cooperation with their venture capitalist had been;

'The VC's contribution on business development'

In sum, proposition 3.1 finds support from the qualitative measure, it also appears to be supported by the statements in the qualitative section, however venture capitalist board skills may apply to a wide array of activities, as such the results from the qualitative section cannot be emphasized too much. Proposition 3.2 receives weak support from the qualitative measure, it is however reinforced slightly by interpreting the descriptive statistics. The qualitative input on this activity can be viewed as an illustration of what the descriptive statistics tells us, that while some do not provide their ventures with new customers at all, others do and this frequency is higher among specialist venture capitalists. Overall proposition 3 is considered to be supported.

Proposition 4: Competitive position management

Proposition 4 was investigated through questions 8 and 13. In the knowledge effects based question, the respondents indicate that help with intellectual property rights is the least valuable knowledge based activity. The respondents are allowed an 'NA' option in case they have no IPR, which would exclude them from this measure. Only 3 companies in the selection chose this option, the majority of respondents indicate that they either are not assisted with IPR management or that they do not consider the assistance to be of much value. However some ventures considers it to be a very valuable assistance, and the majority of these companies are in the specialist backed group. The mean difference between the two groups is 0.52 for this question, with a relatively high standard deviation for both groups-

One generalist venture stated that:

'They have also been a valuable help with market access, internationalization, sales and IPR protection '

While the mean difference is in the favor of specialist, it is not statistically significant, and the only mention of IPR in the qualitative section suggests the opposite of the quantitative figures, making it difficult to draw implications from the responses to this question.

Question 13 asked the respondents how valuable contacts made through the venture capitalist had been in establishing strategic alliances. The responses to this question are of similar nature to the access to new customers question in the business development proposition. It indicates that a lot of the respondents has not established any strategic alliances (value=1) but the ones that have, perceive this venture capitalist activity as very valuable. Like for every other question the respondent is given an "NA" type option, so that an answer=1 can be interpreted as a "no action" on the venture capitalist part and not simply that this is not relevant to the venture. The mean difference is 0.56 in then specialist backed groups favor. Like in the new customers question, the specialist backed group has a higher standard deviation due to the mix of =1 answers and relatively high value answers.

In the qualitative section, one specialist states the most valuable activities the venture capitalist performs in their venture to be;

'Additional fund raising and to some extent partnership with industry'

Correspondingly a different specialist backed venture states that:

'They have not been helpful in establishing partnerships '

This supports the indications from the qualitative data that this is a type of 'either/or' activity.

In Argentum's entrepreneur guide, CEO of Ecowatt⁸, Tore Skjetne states that;

'Active ownership has been vital for further development of the business, qualifications and, last but not least, access to networks with links to other companies. We could not have done this on our own'

The network effect in the competitive position proposition gives a decent indication in the descriptive statistics and qualitative material to support the proposition; the knowledge effect is more unclear. Nevertheless, the network effect is considered significant only to the 10% level which is considered at best, very weak support. Combining proposition 4.1 which does not receive support and proposition 4.2 which receives weak support for a holistic evaluation results in proposition 4 not being supported.

Proposition 5: Product expertise

Questions 7 and 14 investigated proposition 5. The knowledge effect on product/service development was considered in question 7, the value of this assistance was relatively low among knowledge effects, and only the closely related activity, IPR management scored a lower mean among the respondents. Nevertheless once again there is a favorable median difference for the specialist group, the difference for this measure is 0.52, the specialist group also has a higher standard deviation for this question, unlike previous indicators where this has been the case, it does not tell us as much for this question. The reason for this is that the responses are more widely spread from low to maximum value and does not to the same extent exhibit a trend as with the other two instances. The result is not significant.

Question 14 considered the network effects, asking if contacts acquired through the venture capitalist had been valuable to the development of products or services in the venture. This question received the least differentiated responses of all questions with a mean difference of only 0.19 in the specialist groups' favor and equal standard deviations. This result is not considered significant. Product aspects are not mentioned in the qualitative section.

⁸ Ecowatt is one of the non-responding companies of the population

The responses to these measures indicate a similar trend as much of the earlier research, (Ehrlich 1994; Barney 1996) where products are considered as operational aspects and involvement in this activity is not wanted by management teams.

While the median difference for the knowledge effects in proposition 5.1 is not insignificant, the significance levels of this result combined with the low difference and significance level of proposition 5.2 results in proposition 5 not being supported

Proposition 6: Recruitment

The final proposition was examined in questions 9 and 15 and is by far the one that received most support. Question 9 asked the respondents about the venture capitalists value in evaluating candidates for the management team. The results to this question received the second highest mean score for knowledge effects; correspondingly the network effects-based question 15, which asked the respondents about the value of the venture capitalist in indentifying and providing candidates for the management team, received the second highest mean score for network effects. The mean difference between the specialist backed and generalist backed groups for these two indicators are 0.94 for knowledge effects and 0.82 for network effects, both findings are considered significant to the 5% level. The standard deviation relationship is considered normal for both measures.

In the qualitative section the picture is slightly more unclear. Only specialist backed ventures mentions the recruitment activity in the qualitative section. One simply states that it is the second most valuable activity the venture capitalist performs in the venture. While the other ventures expresses disappointment with the venture capitalist performance in this activity:

“We would have liked them to be more active in recruiting the management team”

“The most disappointing aspect was identification of people to fill key management positions. I thought they would have a network of people I could talk with, but I had to go with the traditional recruiter route. “

These results indicate that, even though most ventures consider specialized venture capitalists to add a lot of value through the recruitment function, having a specialized venture capitalist does not guarantee that they will be able to add significant value through this activity.

Proposition 6.1 and 6.2 are both considered to be supported, mainly because the quantitative measures are considered statistically significant. The qualitative data, is less supportive,

however it is too limited in scope to be given weight, beyond supporting or weakening the quantitative results.

7.2 Checking for syndication effects

As discussed in section 4.2 Syndication may also be viewed as a source of additional knowledge and increasing the network base available to the venture from the venture capitalist team of owners. The results may be influenced in an unreasonable manner if these effects are strong, in combination with a significant crooked distribution of syndicate ownership structures between the two different respondent groups.

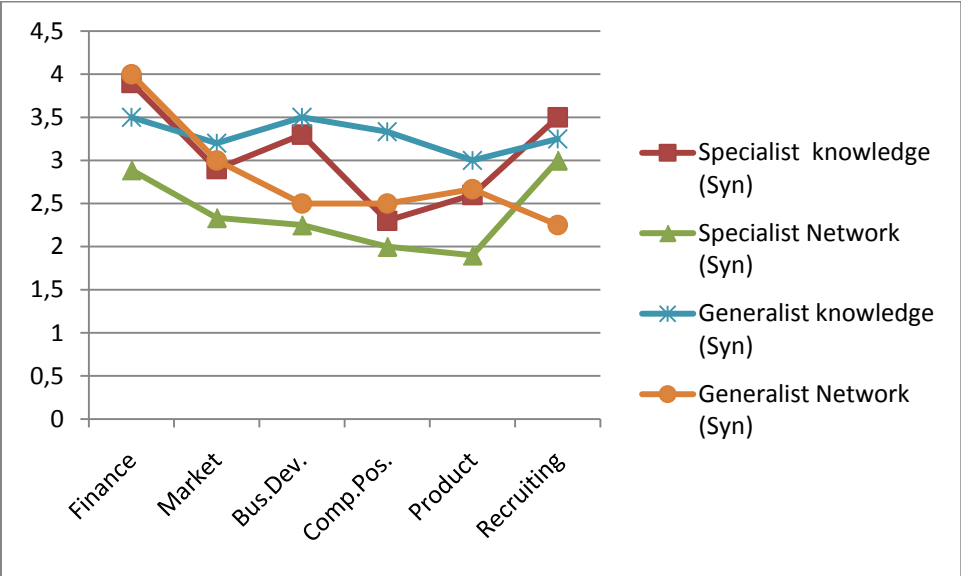


Figure 5: Mean values for ventures with multiple VC owners

Figure 5 illustrates the median responses to all activities in firms who responded that they had more than one venture capitalist owner. The table is very interesting as generalist backed ventures suddenly score a lot higher and on most values and actually higher than specialist backed ventures.

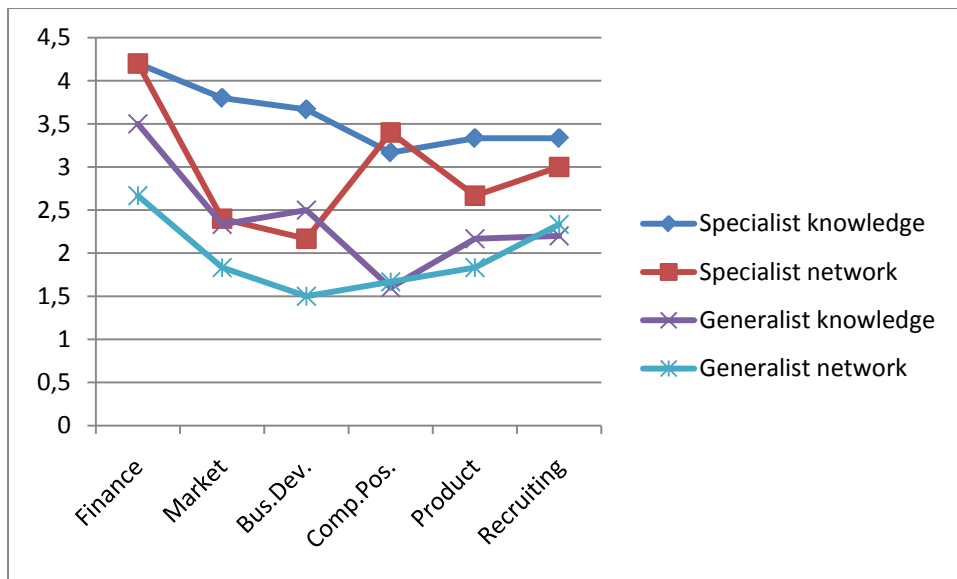


Figure 6: Mean values for ventures with single VC owners

Figure 6 illustrates the opposite, consisting of the value added ratings of all companies that responded that they had only 1 venture capitalist owner. Specialist backed ventures here, consider the assistance of the venture capitalist to create significantly more value than what the generalist backed ventures do.

These findings are in line with the main findings of De Clerq and Dimov (2008) that the benefits of specialization diminish with syndication. However given the small respondent population in this thesis, these findings should not be uncritically generalized to other contexts. They are however useful when interpreting the results, while the distribution of syndicate owner structures are fairly even between the two groups, specialist owned ventures are slightly more often owned by syndicates in this population. This may affect the means for the specialist group positively to a certain extent, which must also be taken into consideration.

8 Answering the research question and conclusion

All propositions discussed in section 7 were created to answer the two hypotheses developed to answer the research question. In this section an evaluation of the two hypotheses will be presented, based on the analyses of the propositions. Finally the results of the hypothesis are used to answer the research question.

8.1 Hypothesis 1

Portfolio firms backed by industry-specialized venture capitalists perceive the knowledge of the venture capitalist to result in more value added than portfolio firms backed by generalist venture capitalist.

Hypothesis 1 was investigated through 6 propositions X.1 where x=1-6. Out of the 6 knowledge based activities for which specialist backed ventures were expected to experience more value added, only 2 received clear support. These two were; help in the recruitment process and business development.

Generalist ranking knowledge		Specialist ranking knowledge	
Activity	Median	Activity	Median
Finance	3,364	Finance	4,000
Business Development	2,818	Recruitment	3,438
Market expertise	2,583	Business Development	3,438
Recruitment	2,500	Market Expertise	3,200
Product/service expertise	2,364	Product/service expertise	2,875
Competitive position	2,111	Competitive position	2,625

Table 20: Ranking of activities: Knowledge effects

Table 20 ranks the median value of venture capitalist activities related to knowledge effect-based parameters. Both groups are unison in ranking the financial expertise of the venture capitalist as the most valuable knowledge to their venture. This is in line with earlier research on value added (Gorman and Sahlman, 1989; Gomez-Mejia, 1990; Ehrlich, 1994). Although the median for help with finance is quite a bit higher for specialists, there were not found significant differences in the value of this activity for specialists and generalists. The human resources function of the venture capitalist is also ranked high, which is something seen in these previous studies as well. The generalist group does not rank the venture capitalists value in the recruitment process as high as specialists do. This supports the notion that specialist venture capitalists are more valuable in the recruitment process due to a deeper knowledge of what is needed to succeed in the industry. The value added from business development is ranked a relatively strong second for generalists and a split second for specialists, which also supports most previous studies where the sounding board activity is consistently ranked among the top 3.

Overall the median is higher for every activity for specialist backed ventures when measuring knowledge effects. Most activities do not receive strong statistically significant results to verify the hypothesis; however 2 of them do and combined with an “across the board” higher median for specialists indicates partial support for hypothesis 1. One should be careful with putting too much weight on the weaker implications contained within each proposition, as weaker results may be significantly impacted by any possible distortion from previously discussed syndication and relationship-power effects.

8.2 Hypothesis 2

Portfolio firms backed by industry-specialized venture capitalists perceive the post-investment value added through the venture capitalists’ network as greater than portfolio firms backed by generalist venture capitalists.

Hypothesis 2 was investigated in the 6 propositions X.2. Out of the 6 propositions only one received clear support. Access to a specialized venture capitalists network appears to be of most importance when recruiting members for the management team of the venture.

Specialist ranking Network		Generalist ranking Network	
Activity	Median	Activity	Median
Finance	3,357	Finance	3,100
Recruitment	3,000	Recruitment	2,182
Competitive position	2,467	Market Expertise	2,000
Market expertise	2,357	Prod/service expertise	2,000
Business development	2,214	Competitive position	1,909
Prod/service expertise	2,188	Business development	1,667

Table 21: Ranking of activities: Network effects

Table 21 ranks the value of venture capitalists activities related to network effect-based parameters. Like knowledge effects, the network effects result indicate that finance is the most valuable activity to venture firms. Once again the mean difference is in the specialist backed venture capitalists favor across the board, although to a less extent than for knowledge effects. The venture capitalists assistance in providing candidates for the management team is however significantly more valuable to specialist backed ventures. This is an interesting result, as having a network of candidates for the management team, is essentially having a network of knowledge which can be chosen to be brought into the company. Murray (1996) suggests that ‘A new venture requires a critical stock of relevant skills and experience. Provided that these skills are readily available, easily communicated and efficiently adopted

and integrated into the new venture. The original ownership of these key resources becomes of limited importance to the success of the new venture.’ This suggests that ventures lacking in relevant management knowledge will experience greater value from a specialist venture capitalists’ network, as that network is more likely to provide the key resources missing from the venture.

The median difference for the remaining activities is quite small, making it hard to draw implications on their relative importance to each other, given the low number of respondents.

It is somewhat surprising that network effects seem to add much less value than knowledge effects, across all activities. It is particularly interesting that the difference between specialists and generalists appear to be more related to knowledge than their network, given the presumption of earlier research like Hassan and Bartkus (2009) that specialized venture capitalists have a much more relevant network for their portfolio companies to utilize. Sætre (2003) states that the degree of specialization is important, that only very relevantly specialized venture capitalist have a relevant network. As such, it may be that specialization within an industry does not by itself mean that the venture capitalists network can be more helpful to the venture and that the prior experiences of the venture capitalist need to be even more closely aligned with the ventures core business to be truly useful.

Only 1 proposition receives statistically significant support for network effects; however hypothesis 2 cannot be rejected entirely. Descriptive statistics are unison in the support of the hypothesis, however due to the insignificance of most of variables their respective propositions are not supported. In sum Hypothesis 2 is partially supported.

8.3 Research question

Do Portfolio firms backed by Norwegian industry-specialized venture capitalists perceive the post-investment value added by their venture capitalist as greater than portfolio firms backed by Norwegian generalist venture capitalists?

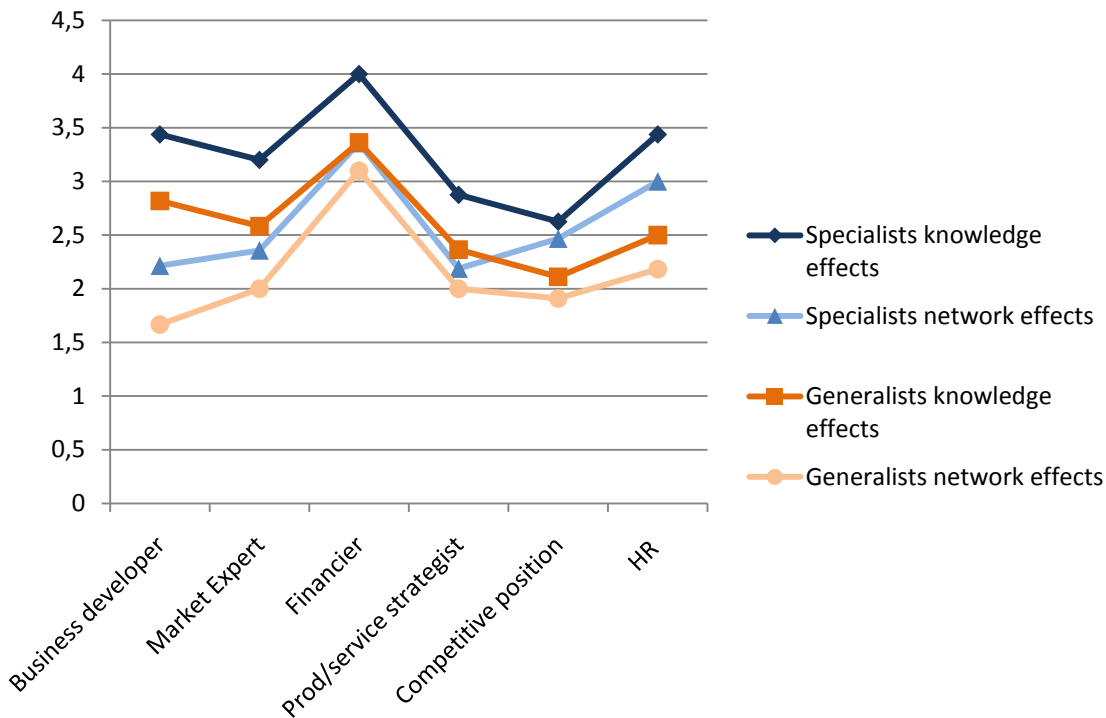


Figure 7: Mean values of all variables

Summing up the two hypotheses, figure 7 provides an overview of the mean value ratings each activity received for knowledge and network effects in the two groups. The mean-spread between network and knowledge effects is for the most part larger for the specialist group. Both specialist knowledge effects and network effect parameters are consistently higher than the corresponding parameters for the generalist group.

The findings for knowledge effects appear to closely mirror De Clerq and Dimov (2008), where the perceived value of specialist venture capitalist activity in the ventures is consistently higher than that of generalist venture capitalist activity. As seen in figure 7.

Specialist ranking Overall		Generalist ranking Overall	
Activity	Median	Activity	Median
Finance	3,679	Finance	3,232
Recruitment	3,219	Recruitment	2,341
Business development	2,826	Market Expertise	2,292
Market expertise	2,779	Business development	2,242
Competitive position	2,546	Product/service expertise	2,182
Product/service expertise	2,531	Competitive position	2,010

Table 22: Ranking of activities: Total

Table 22 provides an overall ranking of the perceived value of the different activities for the two groups. Perhaps not surprisingly financial activities stand out as the by far most valuable to all portfolio firms. Overall, the financing and recruiting activities of venture capitalists are considered most valuable. While the differences for financial activities between the specialist and generalist venture capitalist are not significant, the median for specialists is higher overall. The biggest difference is in the value of recruitment activities, indicating that this is the main area where specialist venture capitalists truly shine in helping their ventures succeed.

8.4 Conclusion

Murray (1996) stated that the nature and extent of the venture capitalists contribution was based on the needs of the venture, including gaps in managerial competencies, the appropriate skills available from the investors and the relevance of specific advice and support at particular points in time.

The findings for this thesis indicate that venture capitalists mostly help significantly within their own area of expertise. Instead of being better at the more specific and time demanding activities, the specialized venture capitalist instead appears to excel more at the core (traditional) activities conducted by venture capitalists. Specialization appear to, to a limited extent lead to the ability to perform more strategic activities; however the largest gains appear to be improvement of performance in conducting the core venture capitalist activities, like recruitment and serving as a sounding board on new developments in board meetings. This suggests that the deeper knowledge which De Clerq and Dimov (2008) suggested would enable the venture capitalist to implement more knowledge in their portfolio firms, does not change the venture capitalists approach significantly, but allows them to make better decisions in already common venture capitalist activities.

Hypothesis 1 received stronger support than Hypothesis 2 Indicating that knowledge effects are a stronger value – adding driver than network effects in the relationship between venture capitalists and their ventures.

Based on previous research, it was stated in the introduction, that experienced generalist venture capitalists are considered to possess more resources in terms of financing, general network and reputation. The findings gave no indications to support this, as specialists were ranked higher for all activities, including financing, which should be influenced the most by these factors.

Overall both a generalist and specialist venture capitalist may provide equal amounts of value added; however specialists seem to on average add more value. This is illustrated both by the consistently higher means in all activities for specialists and the lower standard deviation for activities where specialists ranks high.

8.5 Contributions and Implications

8.5.1 Implications for research

Many researchers have considered the network of venture capitalists to be a crucial component, adding to the benefits of venture capital ownership. This thesis contributes with the development of a value added model which takes this aspect into account in more detail. The model developed is also useful to compare other types of characteristics, for instance studies comparing public and private venture capital or formal with informal venture capital. I encourage future researchers to continue to build and adapt the model in terms of activities and methods used.

I consider the model a big step forward in terms separating network and knowledge effects to improve the codification of information gathered when investigating the origin of value creation from venture capital ownership. The model may be adapted and used for more case based approaches to drill down and uncover even more detailed information on the specifics of venture capitalist activity in venture firms, to increase the validity of the measure.

Future research should continue to look into questions on network v. knowledge effects for different types of venture capitalists, as this may help entrepreneurs align their expectations

more with the realities of different venture capitalists and increase understanding of the implications of venture capital ownership.

This thesis has increased the knowledge on specialization effects, through findings that specialist venture capitalists are perceived to be better in recruiting and board functions. Gompers, Kovner and Lerner (2009) raised the question whether the increased performance for specialist venture capitalists, found in their study was due a superior ability in choosing top venture investments, or better post-investment management of portfolio firms. Findings in this thesis partially answers this question, in that specialist appear to be better at post-investment venture management. This however does not exclude the possibility that they are also better at selecting their investments. This should provide a good reference for enquiry into the pre-investment events in specialist and generalist venture capital firms.

8.5.2 Implications for entrepreneurs

Some entrepreneurs appear to have the perception that an active owner can help out with practically anything that the entrepreneur is not properly qualified for herself. Others view the venture capitalists simply as a source of capital. The findings in this thesis indicate that both these types may benefit from specialized venture capital, as the deeper knowledge enhances their ability to conduct the core activities that both these groups are looking for. The first type of entrepreneur may however have an unrealistic picture of the extent of areas venture capitalists are able to contribute significantly.

Entrepreneurs looking to active ownership as a shortcut to a massively valuable network may be disappointed, as the venture capitalists networks value, in more extended activities appear to be limited to access to potential hires for the venture, in many cases.

8.5.3 Implications for Venture capitalists

Generalist venture capitalist may underestimate the value of specialization in their core activities. The results from the syndication effects test, further implies that syndication is an attractive strategy for generalist venture capitalists, in more respects than sharing risk and should be considered a valuable approach for achieving more value added at a low cost.

9 Limitations and critique

Bartkus and Hassan (2009) who got an unexpected result in their analysis stressed the importance of obtaining the correct picture of venture capitalist specialization. Although this study is conducted at a micro level, unlike Bartkus and Hassan (2009) and has as such put significant effort into identifying the venture capitalist specialization, the exact specialization profile of venture capitalists may be unreasonably difficult to obtain. For instance, the methods used for this thesis does not show the experience and expertise that the people that work in the venture capital firms, have obtained prior to joining the firm. A more detailed measure on specialization can also open for interesting statistical correlation analysis and solve the question wither the degree of specialization is crucial for a strong value adding network that is proposed as an explanation for the weak support for hypothesis 2 in this thesis.

The limited amount of empirical material that has been obtainable for this thesis also puts a strain on the possibilities for acquiring strong implications. The model should be further tested on larger selections.

This study also looks exclusively at the entrepreneurs perspective, which as previously discussed may be distorted for a number of reasons. One may be able to get a more accurate picture by collecting empirical data from both entrepreneurs and venture capitalists. It is also my impression that it would be beneficial to develop a second measure to establish both the perceived value added and the desired involvement of the venture capitalist from both perspectives in the dyad.

The variables chosen for this study are based on previous research, it may however be time to conduct more studies on the micro level to discover which activities are truly important for venture firms and focus future comparative research more in detail on these critical value adding areas. Obviously all activities are not equally important and a venture capitalist helping out a portfolio firm with for instance a market analysis as a one-time event is not as important as providing an optimal funding regime across the lifecycle of the venture. Factors such as this may be forgone, when using an ordinal scaled survey instead of more in depth approaches which allow for probing.

10 References:

10.1 Books:

Argyris, C and Schön, D. (1978) *Organizational Learning: A theory of action perspective*, Reading, Mass: Addison-Wesley.

Cendrowski, H. Martin, J. Petro, L. and Wadecki A. (2008) *Private equity: History, Governance, and Operations*. Wiley Finance.

Ghauri, P and Grønhaug, K. (2002) *Research Methods in Business Studies*, 2nd edition, Prentice Hall.

Ghauri, P and Grønhaug, K. (2010) *Research Methods in Business Studies*, 4th edition, Prentice Hall.

Gupta, P. (2004) *The Role of Board Members in Venture Capital Backed Companies: Rules, Responsibilities and Motivations of Board Members-From Management & VC Perspective*, Aspatore Books.

Harryson, S. (2006) *Know-Who Based Entrepreneurship: From knowledge creation to Business Implementation*, Edward Elgar Publishing.

Huse, M. (2007) *Styret: Tante, barbar eller klan?*, 3.utg, Fagbokforlaget.

Ländstrøm, H. (ed.) (2007) *Handbook of Research on Venture Capital*, Edward Elgar Publishing

Mcnally, K. (1997) *Corporate venture capital: Bridging the gap in the small business sector*, London: Routledge

Metrick, A. (2006) *Venture capital and the finance of innovation*, Wiley

10.2 Articles:

Abell, P and Nisar, T. (2007) *Performance effects of venture capital firm networks*, Management Decision. Vol.45 No.5.

Berg, O. (2009) *Do venture capital backed companies show value added performance? A study of growth in Norwegian venture capital backed companies*, Master thesis in financial economics, Norwegian School of Business and Economics.

- Barney, J. Busenitz, L. Fiet, J. and Moesel, D. (1996) *New venture teams' Assessment of learning assistance from venture capital firms*, Journal of Business Venturing 11, 257-272.
- Baygan, G. (2003) *Venture Capital Policy Review: Norway*, OECD Science, Technology and Industry Working Papers, 2003/17, OECD Publishing.
- Bubna, A. (2002) *Syndication among venture capitalists: when and with whom*. Research in Finance, vol 19. P 285-321.
- De Clerq, D and Dimov, D.(2008) *Internal knowledge development and external knowledge access in venture capital investment performance*. Journal of Management studies 45:3 May 2008.
- Dubini, P and Aldrich, H. (1991) *Personal and Extended Networks are Central to the Entrepreneurial Process*. Journal of Business Venturing, Vol. 6, Issue 5, p. 305-313
- Erlich, S and De Noble, A. (1994) *After the cash arrives: a comparative study of venture capital and private investor involvement in entrepreneurial firms*. Journal of Business Venturing 9, 67-82.
- Fried, V. and Hisrich, R. (1995) *The venture capitalist: A relationship investor*. California Management Review, Vol 37.NO 2 Winter 1995.
- Flynn, D and Forman,A. (2001) *Life cycles of New Venture Organizations: Different factors affecting performance*, Journal of Developmental Entrepreneurship Vol 6 Issue 1.
- Gabrielsson, J. and Huse, M. (2002) *The venture capitalist and the board of directors in SMEs: Roles and processes*. Venture capital 4, no. 2: 125-46.
- Gompers, P. Kovner, A and Lerner, J. (2009) *Specialization and success: Evidence from venture capital*. Journal of Economic & Management strategy, Volume 18, Number 3, Fall 2009, 817-844.
- Gompers, P, and Lerner, J. (2001) *The Venture Capital Revolution*, Journal of Economic Perspectives, 15(2): 145–168.
- Gompers, P. Kovner, A. Lerner, L and Scharfstein, D. (2005) *Venture Capital Investment Cycles: The Impact of Public Markets*, NBER Working Papers 11385, National Bureau of Economic Research, Inc.

Gornan, M and Sahlman, W. (1989) *What do venture capitalists do?* Journal of Business Venturing 4. 231-248.

Gomez-Mejia, L. (1990) *Influence of venture capitalists on high tech management.* The journal of high technology management research. Vol.1.No.1.P.103-118.

Grant, R. (1988) *On 'Dominant Logic', Relatedness and the Link between Diversity and Performance,* Strategic Management Journal, Vol. 9, No. 6 (Nov. - Dec., 1988), pp. 639-642 .

Hassan, K. and Bartkus, J. (2009) *Specialization versus diversification in venture capital investing,* Journal of Financial regulation and compliance. Volume 17. Issue 2 Page 134-145.

Large, D. And Muegge, S. (2007) *Venture capitalists' non-financial value-added: an evaluation of the evidence and implications for research,* Venture capital 10. No 1. P.21-53.

Levitt, B and March, J.(1988) *Organizational Learning,* Annual review of sociology. Vol 14. P 319-338.

Leleux, B and Surlemont, B.(2003) *Public versus private venture capital: seeding or crowding out? A pan-European analysis,* Journal of Business Venturing Vol 18.1 P.81-104.

Macmillan, I. and Kulow, D. (1988) *Venture capitalists' involvement in their investments: extent and performance,* Journal of Business Venturing 4, 27-47.

Maunula, M. (2006) *The perceived value-added of venture capital investors: Evidence from Finnish biotechnology industry,* Keskusteluaiheita - discussion papers. The research institute of the Finnish economy.

Norton, E and Tenenbaum, B. (1993) *Specialization versus diversification as a venture capital investment strategy.* Journal of Business Venturing. Volume 8. Issue 5. P. 431-442.

Perry, T. (1989) *The Capital Connection: How Relationships between Founders and Venture Capitalists Affect Innovation in New Ventures,* The Academy of Management Executive Vol. 2, No. 3 (Aug., 1989), pp. 205-212 .

Popov, A and Roosenboom, P.(2009) *Does private equity investment spur innovation? Evidence from Europe,* European Central Bank working paper series. No 1063.

Reitan, B and Sørheim, R. (2000) *The informal venture capital market in Norway-investor characteristics, behavior and investment preferences,* Venture capital vol 2.129-141.

Rosenstein, J. Bruno, A. Bygrave, W. and Taylor, N. (1993) *The CEO, Venture Capitalists, and the Board*, Journal of Business Venturing 8, 99-113.

Sapienza, H.. (1992) *When do venture capitalists add value?*, Journal of business venturing 7, P.9-27.

Sapienza, H. Manigart, S and Vermeir, W. (1996) *Venture capitalist governance and value added in four countries*, Journal of Business Venturing 11, 439-469.

Sapienza, H. Timmons, J. (1989) *The roles of venture capitalists in New ventures: What determines their importance?*, Academic Management Best Papers Proc. 74-78.

Siegel, R. and Macmillan, I. (1988) *Corporate venture capitalists: autonomy, obstacles and performance*, Journal of business venturing, 3. 233-47.

Sykes, H. (1990) *Corporate venture capital: strategies for success*, Journal of Business Venturing, 5. 37-47.

Sohl, J. (2003) *The private equity market in the USA: lessons from volatility*, Venture Capital 5, P.29-46.

Sætre, A. (2003) *Entrepreneurial perspectives on informal venture capital*. Venture capital 5, P. 71-94.

Tyebjee, T. And Bruno, A.(1984) *A model of venture capitalist investment activity*, Management science, Vol 30.No.9.P1051-1066.

10.3 Websites:

Argentum:

<http://www.argentum.no/PE-test/?BlogBeginDate=2010-04-01>

<http://www.argentum.no/Main-categories/Investors/Nordic-Investors/>

<http://viewer.zmags.com/publication/7e6aabe9#7e6aabe9/70>

NVCA:

<http://nvca.no/medlemmer/index.aspx?id=1736&mid=1045>

Proff Forvalt:

<http://www.forvalt.no/>

Bearau Van Dijk

<http://www.bvdinfo.com/Home.aspx>