

Strategic Management in Early Stage Venture Capital Funds - a Longitudinal Analysis of Success Factors in German Funds

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Introduction

We analyze the early stage financing process in new technology based firms (NTBF) in this paper. The literature claims that a research gap exists concerning the financing process in technology, networks, personal skills, risk management, internationalization and management support. We assume that a strategic management approach for the early stage financing can contribute to a reduction of the dilemma between high risk and the possibility of a high return on investment.

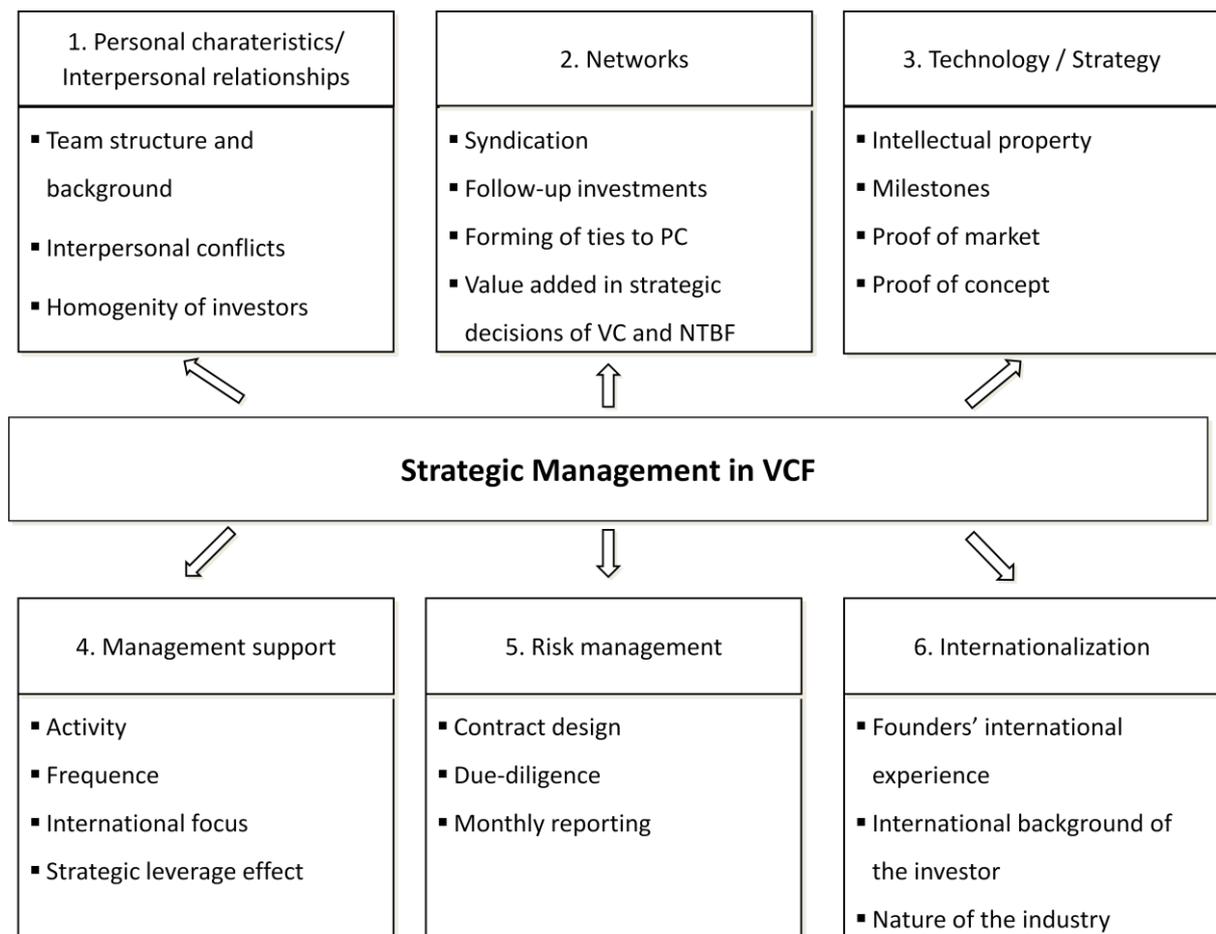
NTBF often require intensive non-financial support in the early stage of the founding and development process in order to cope the existing restrictions and risks (Dimov, Murray 2008, Lindsey 2005, Inderst, Müller 2008). The early stage is characterized by the initial developments of a NTBF and covers the initial and exploratory commercialization of new technologies (BVK 2011, Gompers, Lerner 1999). In this stage additional value for the NTBFs can be created by the support of Venture Capital Funds (VCF). This fact is mainly based on access to an useful network, management support and a balanced risk management.

The research design of empirical academic studies of early stage financing is mostly cross-sectional and looks at a set of investments based just on the notion of the investment manager in charge. On the one hand, these studies predominantly relate to data collected on the basis of personal interviews or written surveys of individuals at a fixed moment during or after the founding process (Bygrave 2006). A holistic view of the founding process and the interferences between the dependent variables during this process was not considered so far. On the other hand, existing studies used interviews without taking the interactions between different actors and their changing role in the foundation process into account (Bygrave 2006). Neergaard and Ulhoi (2006) declare that too many analyses are based on convenient accessible and

readily available secondary data sets, especially in the field of Venture Capital research. We focus on overcoming the gap in the current VC research with a new research design and a holistic strategic management approach.

Theoretical Framework

A strategic management approach needs a holistic view to succeed, which contains the following six research topics:



1. **Personal characteristics** and **interpersonal relationships** are likely to be decisive factors for the success of early stage start-ups (Shane, Cable 2002). We focus on the relevance of relations between entrepreneurs, investors and team structure. Entrepreneurs develop their know-how and qualification in human capital while leading the company (Colombo, Grilli 2009). The experience of entrepreneurs supports to plan the NTBF development. Many problems in NTBFs occur because of conflicts influencing a possible successful development of enterprises in a crucial way. We suppose that an active intervention of the investment manager in charge positively contributes to manage and resolve conflicts and therefore leads to higher

chances of the investment success. In this matter, a stable interpersonal relation between entrepreneur and investors can reduce conflicts (Hite 2005). We assume that factors around qualification and experience of founders and managers as well as conflicts between key persons are especially influential.

2. The mesh of relationships of the **VC-network** influences the development of NTBFs. Networks in early stage financing are seen as important but haven't been studied extensively in literature yet (Hallen 2008, Lechner et.al 2006, Milanov, Fernhaber 2009). Many VCFs declare to have an extended network increasing the capability to form ties and provide experience to NTBFs. Nonetheless, the literature knows very few connections of the VC-network explicitly (Hochberg et al. 2007). A VC-network can be described as a bundle of relationships of a VCF to external partners in industry, research institutes and enterprises, etc. The network access allows the fund and investment managers to gain trustful information for themselves or the NTBF. Getting this feedback is very important, because in early stage financing many key figures about the progress of an NTBF cannot be calculated. Therefore, valuable information is crucial to support the investment decisions of the network.

3. The **technology** used by NTBFs is relevant in the decision of financing a portfolio company (PC) and it also influences the development of NTBF (Autio, Acs 2010). When a VCF chooses to invest in a NTBF the intellectual property, especially existing patents, may count as signals of quality and are simultaneously seen as a predictor for a success (Autio, Acs 2010). Nonetheless, the newness of intellectual property does not guarantee that costumers will like it. VCFs have to take care of a constant proof of the market in order to improve the level of success. Furthermore, a fast market entry and development support is necessary to reach advantages in comparison to competitors (Inderst, Mueller 2008). The interrelations and contracts between VCFs and PC organize the continuous development and fix the next steps which are necessary. In this matter, the compliance of milestones has a positive impact on the success of the fund as well as on the NTBF.

4. The analysis of **management support** is regarded as decisive for a successful development in the early stage (Jackson et al. 2012). PC supported by an intensive advice of the investment manager show a higher and lasting level of success (Schefczyk, Gerpott 2001, EVCA 2007). However, PCs with little management

support are more likely to have an inferior performance. Furthermore, NTBFs are more flexible in their early stage regarding the matter of organization, culture and strategic orientation and therefore the leverage of archived consulting could be higher. The know-how of investment managers can point the way to the success of investments in early stage funds. In co-investments several investment manager work together, this leads to identify a wide range of different problems and an improved management support. Therefore, syndicated investments have the additional advantage to get profound decisions which support the NTBF to improve their strategy.

5. The more efficient the **risk management** of the early stage fund is endowed with pragmatic early warning systems, the higher will be the IRR of the financing. It's known that VCs invest high amount of money in risk-reducing information (Fiet, 1995). Thereby, they mainly focus on various due diligences (e.g. technical, legal and financial) and the evaluation of the founder team. Also, they focus on a contract design which minimizes the agent risk (Kaplan, 2003). This makes sure that the VC can obtain control rights and interfere if the company has some issues. VCs focus most on reducing risk ex-ante and not ex-post (Osnabruegger, 2009). After the investment they will mainly rely on the monthly reports to monitor the risk.

6. An early **internationalization** is researched as a success factor in the positive development of NTBF (Andersson, Wictor 2003). Therefore, the VC should force NTBFs to think global, promote towards an international pathway and help to reach the requirements to succeed. Looking at the success factors for internationalization of startups the founder's international experience and the nature of the industry were founded to be the key elements (Johnson, 2004). Also, the VCs can serve as a catalyst for the internationalization of new ventures through their knowledge and reputation (Fernhaber, McDougall-Covin 2009).

Methodology

We collected data for 116 technology companies from 8 public-funded VC companies. The companies were stated as highly innovative and the starting point of the financing was within 18 month after the foundation of the company. The researched VC companies are investing in different regions and have a high market share in the German early-stage financing. The data consists of various documents

on the decision files (business plan, due diligence, investment committee paper) and the continuous reporting (qualitative and quantitative reporting, milestones, board meeting). This enables an analysis of the whole course of development instead of a single point in time-analysis. To test the feasibility of our approach we carried out a pretest with ten NTBFs at four different funds. After that, we comprehensively modified our tools for quantitative and qualitative analysis and conducted our data collection.

On the one hand we collected quantitative data like the planned and realized financial figures or the amount of years of working experience of the founders. This can lead us to a well-grounded statistical conclusion of a structural equation model. On the other hand we collected qualitative data like the mentioning of a planned internationalization. To evaluate the qualitative data and to maintain dependability we use a codebook that includes dichotomous categories to cluster and codify the founded text material. To create conformability we use a triangulation approach for the qualitative data analysis meaning that the data will be analyzed by at least two different researches and the average of the result will be taken (Wirgen 2006). Using this approach we are able to use statistical methods on our qualitative data (Hallen, Eisenhardt 2012). To further verify our results we will conduct standardized surveys with the investment managers and NTBFs.

Results

The quantitative and qualitative data analysis is still in progress but we were already able to conduct the following findings in our chosen research areas:

1. Looking at the **personal characteristics** of the founders we found out that the majority has an academic education. Many founders in the area of specialized technology also have a higher degree like a PhD or a professor title. In addition, most of the founders are older than 30 and have more than 6 years of work experience. That shows that German venture-funds value academic education, life and working experience.
2. The **VC-network** helps the NTBF in the strategic planning. A widely used instrument is the consultation of advisory opinions. The VC might for example mandate a professional due diligence to assess the technological risk of a further product development. The literature confirm that strategic decisions and investment

decisions are lead by partners of the VCs (Sorenson, Stuart 2001, Hochberg et al. 2007) but our study also highlight precisely how a VCF use the network.

3. The VC relies on a detailed due diligence to investigate the **technology** and intellectual properties influence the decision to invest. In addition, tight and detailed milestones are used to motivate the NTBF's to focus on the development of their technology. These results have been approved of by other scientists before (Kaplan, Strömberg 2003).

4. The activity of **management support** is especially high if follow up investments or problems of the liquidity are current. Furthermore the management support was found in strategic meetings between entrepreneurs and the VCF, which leads to an improved business model or decisions in leadership of the NTBF.

5. The **risk management** of the investigated venture funds differs strongly from each other. Whether some funds use a detailed monthly reporting which invests a variety of different areas like product development, market development and the comparison between planned and realized financial figures other funds rely only on regular phone calls. The main counter-measure when risks are detected is to provide the NTBF with fresh capital even if milestones are not reached yet.

6. Only around 20 per cent of the investigated NTBFs planned to go **international**. We found out that companies with lower technology barriers for international sales e.g. e-commerce firm plan to enter international markets sooner. Also, the willingness to enter international markets is higher when a company owns patents.

Outlook

The extensive research design and the unique data set will allow us to make new contributions in the six selected areas of investigation. Due to the longitudinal design of the study and the usage of the original deal document we hope to obtain more reliable findings than existing literature in the field.

Furthermore, the holistic strategic management view enables VCF a comprehensive opportunity/risk balance for their investments. Therefore VC investments enhance their chances for higher returns. VCF could use similar criteria to evaluate their NTBF and take into account internationalization or an ex post risk management.