



Strategic Differentiation in
European Early-Stage Venture Capital:
Influencing Factors of Portfolio Support Activities

An Empirical Study

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Abstract

English

In the last couple of years, European venture capital (VC) has been pacing astonishingly records. The deal value of European venture capital activity increased from €48.3b in 2020 to €105.6b in 2021, therefore more than doubling within 12 months (Farber & Patel, 2022b). Consequently, the competition between incumbents as well as new entrants in the European early-stage VC industry is picking up. This research paper highlights the relevance of portfolio support activities of early-stage VC firms in order to strategically differentiate from the competition and add value to their investments. The results of this empirical study imply the following key findings: 35 out of 43 VC firms that responded offer a minimum of 8 of 13 (61.5%) listed support activities. The results show that there is a significant effect of the lead investor role on the number of support activities offered. Lead investors focus more strongly on supporting their portfolio companies than non-lead investors. In addition, respondents that offered more support activities perceived them both as an important strategic differentiator and as a performance advantage. Surprisingly, neither the overall assets under management nor the number of partners had a significant effect on the support activities. However, a significant effect was found with respect to the number of portfolio companies. Hence, the more active companies a VC stated to have in the fund's portfolio, the more support activities the investor would offer. Overall, the findings highlight the relevance and coverage of operational involvement by early-stage VCs in Europe.

Keywords: Venture Capital, Early Stage, Support Activities, Services, Differentiation

Title: Strategic Differentiation in European Early-Stage Venture Capital: Influencing Factors of Portfolio Support Activities

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Portuguese

Nos últimos dois anos, o capital de risco europeu (CR) tem vindo a bater recordes espantosos. O valor do negócio da actividade de capital de risco europeu aumentou de 48,3b euros em 2020 para 105,6b euros em 2021 (Farber & Patel, 2022b). Consequentemente, a concorrência entre os operadores históricos, bem como entre os novos participantes na indústria europeia de capital de risco em fase inicial, está a aumentar. Os resultados deste estudo empírico implicam as seguintes conclusões-chave: 35 das 43 empresas de capital de risco que responderam oferecem um mínimo de 8 das 13 (61,5%) actividades de apoio listadas. Os resultados mostram que existe um efeito significativo do papel do investidor principal no número de actividades de apoio oferece. Os investidores líderes concentram-se mais fortemente no apoio às empresas da sua carteira do que os investidores não líderes. Além disso, os inquiridos que ofereceram mais actividades de apoio consideraram-nas tanto como um importante diferenciador estratégico como uma vantagem em termos de desempenho. Surpreendentemente, nem os activos globais sob gestão nem o número de parceiros tiveram um efeito significativo sobre as actividades de apoio. Contudo, foi encontrado um efeito significativo no que diz respeito ao número de empresas da carteira. Assim, quanto mais empresas activas um CR afirmou ter na carteira dos fundos, mais actividades de apoio o investidor ofereceria. De um modo geral, as constatações revelam a relevância e a cobertura do envolvimento operacional por VC em fase inicial na Europa.

Palavras-chave: Capital de Risco, Fase inicial, Actividades de Apoio, Serviços, Diferenciação

Título: Diferenciação estratégica em Capital de Risco Europeu em Início de Etapa: Factores Influenciadores das Actividades de Apoio à Carteira

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List of Abbreviations

Assets Under Management	AUM
Distributed to Paid-In	DPI
European Union	EU
Fair Market Value	FMV
General Partner	GP
Investment Banking	IB
Internal Rate of Return	IRR
Key Performance Indicators	KPIs
Limited Partner	LP
Multiple on Invested Capital	MOIC
Net Asset Value	NAV
Net Promoter Score	NPS
Objective Key Results	OKRs
Portfolio Support Activities	PSA
Private Equity	PE
Residual Value to Paid-In	RVPI
Total Value to Paid-In	TVPI
United States	US
Venture Capital	VC
Venture Capitalists	VCs

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1 Introduction

1.1 Status Quo and Relevance

In the last couple of years, European venture capital (VC) has been pacing astonishingly records. The deal value of European venture capital activity increased from €48.3b in 2020 to €105.6b in 2021, therefore more than doubling within 12 months (Farber & Patel, 2022b). Despite the market downturn, high inflation rates, and decreased valuations of tech companies, the deal value for H1 2022 has already reached €54.4b (Farber & Patel, 2022b, 2022a).

Due to the stability of the European market as well as the prospering innovation hubs in metropolises, the attractiveness of European ventures has tremendously increased. It is becoming a widely established asset class, even for global funds and institutional investors, which results in higher capital availability and fundraising prosperity (Carmean et al., 2022). The risen attention and correspondingly increasing capital inflows impact the venture capital scene as the number of fundraising rounds of incumbent funds increases as well as a higher number of newly emerging venture funds enter the market (Carmean et al., 2022; Farber & Patel, 2022b).

This market dynamic leads to two main effects. Firstly, several European incumbent funds focus increasingly on the earliest deals (Pre-Seed and Seed). And secondly, more recently founded European VC and angel/micro funds are trying to enter the market at the early stage (Pre-Seed, Seed, and Series A). Consequently, the competition between incumbents as well as new entrants in the European early-stage VC industry is picking up (Atomico, 2021).

The early stages are predominantly funded by European VC funds, while large global funds and private equity (PE) institutions enter the market at a later stage, from Series B to following growth and late-stage rounds. VC funds foster an ecosystem of financial support for high-risk investments. Decision-making, funding, and post-investment portfolio support activities are essential for the future existence of startups in Europe. VCs are critical stakeholders in commercializing innovation that result in economic growth (D. H. Hsu, 2006). Due to the steady capital flow into Europe, emerging and incumbent funds are able to raise more and more capital from investors, respectively limited partners (LP). The increasing capital allows VC funds to deploy money to startups. Yet, trivial financial capital is not necessarily what startups solely need. Instead, more and more VCs are establishing operational teams, dedicated support

departments as well as tailor-made syndicates for their portfolio companies (Dimov & Milanov, 2010; Lerner, 1994). Therefore, VC funds tend to become more like fully functioning firms than purely decentralized investment vehicles.

This is in line with the observations that show a strong trend towards network and support activities within the fund. These activities are not necessarily only reasonable and rewarding for early-stage VC firms. However, the degree of operational support needed is assumably highest for the earliest ventures.

This research paper contributes to academic literature and decision-makers in VC by considering the recent demand for funds to strategically differentiate from the rising competition in the European early-stage VC market with operational support activities. The purpose of this study is to tangibly evaluate patterns in order to improve transparency and disclosure within the industry, provide recommendations to management, and pave the way for new areas of research. A disclosure of VC funds that are increasingly engaging with their portfolio companies will contribute to an overall higher awareness within the early-stage VC industry in Europe. It provides guidance for new entrants and highlights the relevance for incumbent funds to strengthen their network and support activities in order to strategically differentiate and ultimately foster the European startup economy in the long term.

1.2 Problem Statement and Research Questions

In the past, academic research has shed a light extensively on venture capital and its strategies. Amongst the most respected researchers that contributed to the improved understanding and scientific insights of the VC market are Sahlman and Gompers, from the 1990s as well as Kaplan, Kannianen, and Hochberg from the early 2000s. Due to the maturity of the US market, most scientific articles focus solely on the US or the global market as a whole (Fried et al., 1995; Hochberg et al., 2015). The European market has only caught up enormously in recent years.

Existing academic literature focuses predominantly on influencing factors across different investment stages but does not consider the high relevance of portfolio support activities for early-stage start-ups. Due to the outlined dynamics in the current market, differentiation strategies with a focus on supporting activities for portfolio companies are assumed to form a clear value proposition for VC funds (Macmillan et al., 1989). Therefore, the evident research gap lies in the support activities of European early-stage VC funds. The underlying assumption

of this research is a general demand for differentiation within the European VC due to the increasing competition that has been observed. This paper contributes to academic early-stage VC literature as it reveals first insights on support activities for start-ups and provides guidance for GPs, investment managers, and decision-makers in the industry. Concluding, this research paper attempts to answer the following questions:

Table 1: Research Questions

ID	Research Question
RQ1	<i>What support activities are offered by European early-stage VC funds?</i>
RQ2	<i>What is driving support activities in European early-stage VC funds?</i>

1.3 Outline

In order to answer the research questions to a coherent extent, this paper is structured into four parts. The first chapter introduces the topic, including the status quo and its relevance for theory and practice. The second chapter, the literature review, presents the most significant terminologies, governances, and performance indicators of venture capital. As well as past and present differentiation strategies and drivers in the market, such as industry trends and competitive dynamics. Hence, the second chapter lays the theoretical rationale for the empirical study in the following third chapter. In chapter three, the empirical study is presented, including its results, as well as the discussion. The empirical study comprises a quantitative regression analysis of responses to an online survey. The last chapter summarizes and concludes the previous findings from both the theoretical literature review as well as the empirical study. It will provide an outlook on potential future developments and further avenues for research based on the limitations that have been reflected upon as part of this study.

Due to the constraints in scope and volume of this dissertation, this research is designed to focus on one specific strategic differentiator: portfolio support activities. Naturally, the underlying premises, such as the dynamics of the industry, segmentation, incentives, and performance, will be included in a straightforward way. Concurrently, this excludes adjacent areas of strategic differentiation such as i.e. reputation, brand communication, or diversity.

2 Literature Review

2.1 Venture Capital

2.1.1 Venture Capital Industry and Characteristics

The term venture capital (VC) refers to a type of high-risk investment asset class for professional investors. Venture capital is part of the broader private capital/private equity (PE) asset class. The assets are privately held companies, so-called startups, in their earlier or growth stages. This resonates with the high risk of such investments. Usually, venture capital is the first institutional capital that is provided to a company (Sørensen, 2007). Most likely, after it has been financed by the founders and perhaps their friends and family. Simplified, companies may be financed via equity or debt. Debt refers to regular loans that must be paid back at a certain point in time. While equity financing refers to the fact that the capital doesn't have to be paid back but is converted into equity (either directly at the point of the investment or at an agreed point in time) (P. Gompers & Lerner, 2001).

Reasons for startups to raise external capital from investors in exchange for equity most often include initial fuel for growth, hypothesis validation, or even rapid expansion. This may include product development, testing, employee hiring, and marketing. However, a company's intentions to get an external party/shareholder on board might also include access to important expertise in the sector or relevant networks in the respective market. It might also refer to implicit signaling or explicit support expectations. Depending on the stage in which the company can be found in, the venture might have different endeavors that are associated with different costs. The more sophisticated and mature a startup becomes, the higher its demand for capital. Of course, depending on the expenditures linked to the specific business model (Hofer, 1993; Kaplan et al., 2004; Kaplan & Strömberg, 2001).

The figure below shows the different stages of a startup and the respective investor type that is used to finance these stages. This dissertation, in specific, focuses on the early-stage investor types. Typically, the different stages refer to the size and maturity of the company and its business. They might also be coupled with the size of the capital that is raised in respective founding rounds by a venture. However, lately, the size of the founding round and the stage of the venture have increasingly skewed and are by now more related to the success and traction of the company, as well as the interest of external VC investors to join the company (Farber & Patel, 2022b). Over the years, VC firms have mostly focused on one or two of the stages as

initial investment targets. Yet, there are many firms that also cover the full range and might invest out of different funds into all stages of a venture’s lifecycle (P. A. Gompers, 1995; P. A. Gompers & Lerner, 1999).

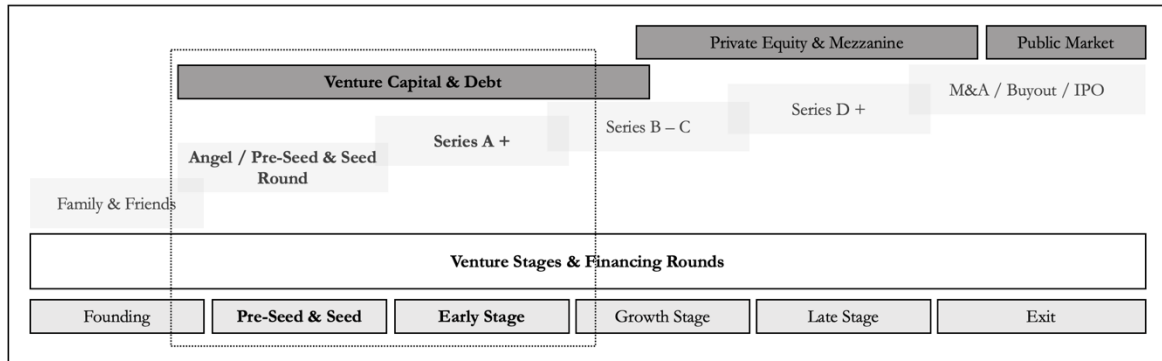


Figure 1: Venture Stages & Financing Rounds (relevance for this study highlighted)

Past and present scientific research has analyzed the VC market and its dynamics from various perspectives. Existing literature deals with the general activity of venture capital investment, as well as the impact of different investment strategies on fund performance. Much research deals with the topic of portfolio optimization from a corporate finance perspective or analyzes decision-making patterns based on theories of behavioral economics (Cressy et al., 2014; Kannianen & Keuschnigg, 2003).

Since venture capital functions both as an asset class and as an equity financing instrument, it is rather complex in its legal structure. In order to invest in the assets, a VC investment vehicle is set up. In order to invest in the fund, another vehicle must be set up. Therefore, VC vehicles are usually structured into three entities in total. The first entity is the management company or firm, which is owned and led by the senior investment managers (or General Partners) and doesn’t change over the course of several (vintage) fund generations. It is, among other things, the legal employer of the firm’s staff. The second entity is the vehicle that contains the investors (Limited Partners) and their invested or committed capital. The third entity contains the management partners (General Partners) of a fund and represents the equity shareholder when investing in a startup.

The industry itself is externally regulated by financial control authorities. Activities of venture capital firms undergo regular reporting, both to LPs and authorities, as well as fiscal supervisors. Investors (LPs) of venture capital funds can be, amongst others, pension funds, university endowment funds, funds of funds, family offices, as well as private and public corporations, or governmental institutions (Buzzacchi et al., 2013). Even high net-worth individuals and

business angels from the ecosystem are common Limited Partners of venture capital funds. Finally, venture capital has emerged as an attractive asset class, mainly due to the effectiveness of its direct investment procedures, which result in high long-term return expectations.

The following chapter describes the venture capital environment and its characteristics first on a macro level and from there approaches the organizational level, including functional governance structures, as well as processes and strategies. It aims at answering the questions around VC market-specific dynamics, incentive schemes, and performance indicators that build the fundament for the day-to-day operations and long-term strategies of VC firms.

2.1.2 Environment, Governance, and Fund Lifecycle

The VC environment is typically dominated by several indicative characteristics: First, the capital investments are equity-linked, most of them either direct equity securities or convertible loans, which are contracted with private companies. Due to the difficulty in predicting successful outcomes, there is a prominent higher risk involved. This requires appropriate downside protection (Kaplan et al., 2004; Kaplan & Strömberg, 2001). This protection might be reflected in the agreed terms at the point of investment. They may include control mechanisms such as board seats and voting rights. Downside protection might also include risk-adjusted investment setups, such as syndication with other investors to distribute the risk accordingly. It can also include conditions that are linked to commercial milestones which have to be fulfilled (Kaplan & Lerner, 2010).

When the outcome of a venture emerges to be successful, venture capitalists install measures to capture and leverage upside potential, which is why the return of this asset class regularly outperforms market index funds. Upside incentives may be expressed with discounts on investments at a point in time where the risk is significantly higher. It can also include pre-emption rights, which allow early investors to make use of their pro rata alongside follow-on investors in subsequent rounds in order to avoid dilution and remain at their targeted ownership level (P. A. Gompers, 1995; Tyebjee & Bruno, 1984).

Unlike later-stage and PE investments, early-stage VC investment decisions are based on fewer available financial, product, and market data (Boocock & Woods, 2015). Due to the novelty of a startup's business model and product, the investment managers typically substantiate their decision mainly on these criteria: founding team, product differentiation, signs of (early) traction, market attractiveness, timing, "unfair advantage", and of course eventually out of

conviction (Sandberg & Hofer, 1987; Tyebjee & Bruno, 1984). There have been attempts to automatize decision-making processes using data models such as artificial intelligence and machine learning algorithms. Yet, especially due to the data scarcity that VCs experience in the earliest stages, most decisions in early-stage investments are today still largely based on precise due diligence and heuristics (Hofer, 1993; Ozmel et al., 2013).

Generally, information scarcity is a common thread in the venture capital industry (Wal et al., 2016). Therefore, the information asymmetry between the investment managers and the founders, most prominently before and during the due diligence process, must be acknowledged when calculating the risk (P. A. Gompers, 1995). This issue has been named “the sorting problem” (Sahlman, 1990) and refers to the unique insights founders inevitably possess about the nature of their business, market, team dynamics, etc. While investment managers strive to anticipate the unknown, it is unlikely they will be able to pre-empt a conclusive picture of an investment case.

In addition, an evidently high information asymmetry between the investment managers (General Partners) and the investors (Limited Partners) can be observed (Gorman & Sahlman, 1989; Sahlman, 1990). Knowledge transfer between investors (LPs) and investment managers typically does not happen at a granular level. There are specific touchpoints, such as recurring investor board meetings, that are pre-defined and required. However, regular quarterly updates do not cover the day-to-day work of an investment manager but follow the purpose of reporting the portfolio’s performance instead. Hence, why LPs ultimately do not aim to act as investment managers themselves but choose venture capital as a financial product to generate a return. They rely on the service of the fund’s managers to accomplish this (Gorman & Sahlman, 1989). Concluding on the aforementioned points, handling and harnessing information asymmetries is a vital part of the VC firms’ environment since potential investments or deals most often originate from an information advantage. Although, this advantage may derive from a fund’s strategy or simply from arbitrage. Lastly, it is essential to recognize that the governance structure used by VC firms differs from conventional corporations, as its compensation mechanisms and performance incentives are, by nature, linked to value creation (Sahlman, 1990).

In summary, the macro environment in which VCs operate is mapped by high risk, information asymmetry as well as value creation. In order to exploit the characteristics of this environment, VCs developed appropriate governance and control structures around legal terms (Norton &

Tenenbaum, 1993). These structures are, at their core, like recurring schemas in the financial and capital market, which is why this research paper will only briefly touch upon this. Hence, why a foundational knowledge of finance principles is premised (Kaplan & Lerner, 2010; Tyebjee & Bruno, 1984).

A VC firm's governance structure consists of three major processes. The initial process is fundraising, in which the fund managers raise capital from (semi-)professional investors. Legal-wise, one party of the contract is represented by the investor, who is obligated to commit a certain amount of capital (ticket) over a pre-defined period. Typically, venture funds have a ten-year life span to deploy the capital and distribute the returns in full. While it might happen that this period is extended for two to three years, this time frame is fairly standard. This cycle is divided into the active investment period and the overall lifecycle of the fund. While the overall lifecycle of a fund can range from seven to ten years, the investment period includes, in most cases, the first three to five years after the first close of a venture fund (Cumming & Johan, 2010). For the sake of completeness, it should be mentioned here that other cycle models exist, so-called evergreen funds, which operate independently of the classic venture fund cycles. However, these are specific in their design, which is why they are not described in detail in the context of this dissertation.

The commercial structure of a venture fund contains, aside from the aforementioned cycle, additional variables such as the number of companies that shall be added to the fund's portfolio, the total (targeted) size of the fund, the minimum ticket size of a single investor (LP), as well as the number and types of limited partners. The number of individual investors is a strategic choice by the fund managers as well and the reason why a single fund might contain numerous tickets by different investors, or in some cases just a very few or even only one single LP. The other party of the contract is represented by the General Partners of the fund, who are obligated to invest the capital raised in their investors' best interest. In addition, a typical contract contains individual legal terms, such as duration, carry, management fee, hurdle rate, and targeted multiple, which are technically specific and defined by the VC fund's managers.

After a targeted (or hard cap) amount of capital has been raised, usually the fundraising process is closed. Most of the time, this process overlaps with the investment process in the sense that several in-between closings (first close, second close, and final close) of the fund allow for the capital to be already deployed by the investment managers. Therefore, the second period, the investment period, starts already while the fundraising process might still be ongoing.

Foremost, the committed capital by the limited partners (LPs) is not held in cash by the investment managers but is called in when needed. This procedure is called a capital call. Capital calls are equally weighted throughout the LPs of a fund based on their respective investment size and are requested in tranches of usually 10% increments.

During the investment period, a different legal contract scheme is applied. The involved parties are represented by the fund’s investment managers and the investment target (venture), respectively. A typical transaction timeline between deal origination and closing contains several steps (see below: Figure 2). Due to the limitations of this paper, the most common terms of a deal, including liquidation preference, pro rata rights, and other obligations, aren’t further displayed and therefore assumed as prior knowledge.

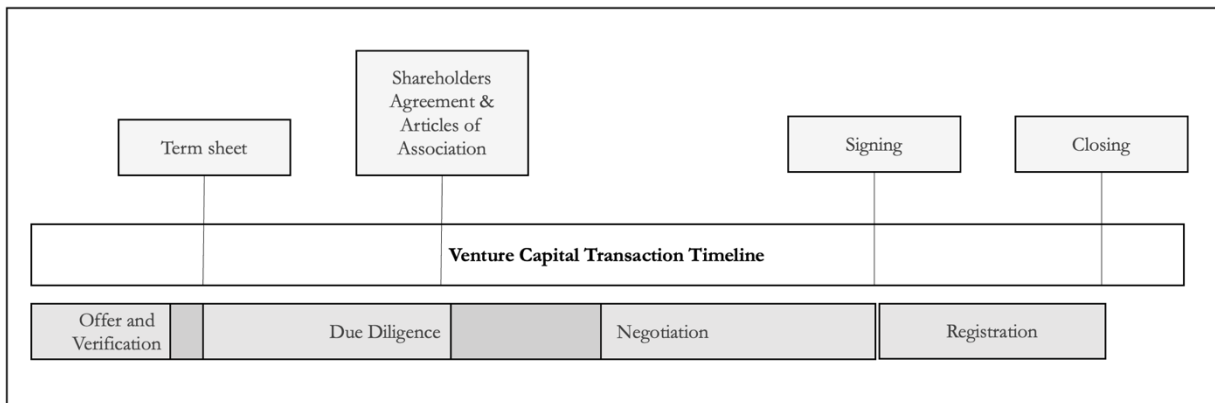


Figure 2: Venture Capital Deal Transaction Timeline

After the deal is closed, the venture is included in the fund's portfolio. The fund’s portfolio contains all active investments with the respectively owned equity or outstanding convertibles from individual ventures. After the fund has invested in a selected number of companies, the initial investment period ends. However, the fund will still deploy capital, but in this case, it will allocate money to existing portfolio companies that entertain follow-on financing rounds and won’t add any new companies to the portfolio (Bernile et al., 2007; Yang et al., 2014). Engaging in follow-on rounds is a typical scenario, especially if the VC wants to make use of their pro rata rights in order to avoid dilution but also to allocate the capital strategically to the best-performing companies. This is particularly relevant since information asymmetries have attenuated due to the close relationship a fund has with a respective portfolio company.

Ultimately, the follow-on allocation has a high impact on the overall performance of the fund. Firstly, over time, less good-performing companies will receive less follow-on funding. Secondly, very well-performing investments will most likely require more funding and,

therefore, over time, take up a considerable share of the relative distribution of allocated capital. Which results in an adjusted risk exposure of the fund. A well-balanced risk profile based on a nuanced allocation strategy of a fund that can generate high returns through lucrative exits is the ultimate objective for most investment managers (Kwak, 2020; Nahata, 2008; Smith et al., 2011).

Lucrative exits usually happen in the fourth and last period of the funds’ lifecycle. Occasionally, there are so-called “early exits” that occur two or three years after the initial investment has taken place. However, ideally and more likely, exit scenarios arise when a company is at least five or eight, sometimes ten years old. In other words, when a company has reached a stage or scope where its assets become relevant for potential buyers to the extent that the buyer is willing to pay for them in order for all existing shareholders to be provided with a significant return.

Most limited partners expect their invested capital to be returned with the realized gain in full after the previous ten to twelve years. This limits the investment manager's options when initially investing in relatively young companies at a later stage in a fund’s lifecycle. Simply because there will not be enough time to emerge toward a portfolio-returning investment. This, of course, refers mainly to Early-Stage VC funds. Therefore, as soon as the investment period enters the third or even fourth year, investment managers might still add new companies to their portfolio, should the total size of the fund allow for it. But they might also look for a bit more sophisticated ones instead of going for another pre-revenue, pre-product company.

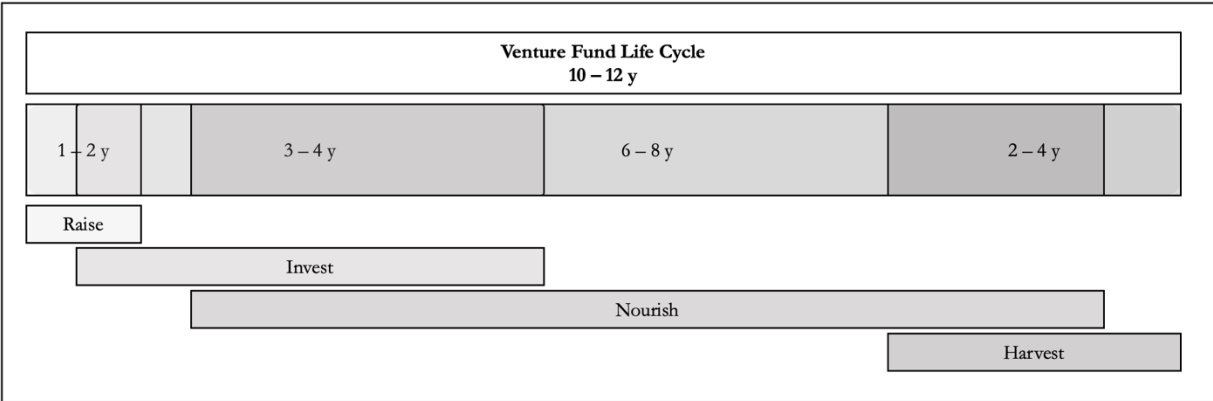


Figure 3: Venture Fund Life Cycle

Typically, the different periods come with different expectations on the activity and behavior of a VC. Thus, during the initial investment period, the focus for the VC is on deploying capital, securing relevant allocations in investment targets, and growing the portfolio. As well as supporting the target from the start. While successively, during the nourishing phase, VCs still

support their portfolio companies and engage in their respective follow-on funding rounds. Lastly, VCs will assist in exit opportunities of portfolio companies and structuring potential acquisitions.

Given these specialties, many investment managers entertain multiple (vintage) funds simultaneously, while each fund may be in a different phase. Knowing about the different stages of venture fund lifecycles allows for conclusions on the expected performance indicators and support activities that VCs provide.

2.1.3 Performance Indicators

On a fund level, different measures display the performance of the overall portfolio and provide an indication of the financial health and commercial success of its ventures (Vanderwerf, 1992). Aside from that, performance indicators are the predominant factors that limited partners consider when deciding to invest in a VC fund (P. A. Gompers & Lerner, 1999). Performance indicators are typically linked to the second and third process stage, where the actual fund performance can be demonstrated and monitored. Major performance indicators are the progression of the total value to paid-in (TVPI), the net internal rate of return (IRR), and the multiple on invested capital (MOIC). Some other indicators, whose structure is more dependent on the strategy the fund wants to take, usually include the average initial ownership, follow-on funding quota, and lead investor quota (Harris et al., 2014; Kwak, 2020; Phalippou, 2010).

The TVPI represents the sum of the total value a VC's portfolio inherits in relation to the capital that has been paid to the assets (called from the LPs). This includes the value that resides within the portfolio (residual value) as well as the value that has been distributed (realized gains) back to the investors. It's important to consider that the paid-in capital differs from the committed capital. The calculation can also be explained by the following formula:

$$TVPI = \frac{\text{Cumulative Distributions} + \text{Net Asset Value (NAV)}}{\text{Paid In Capital}}$$

In most cases, the TVPI increases successively but not linear over time. But generally, one can expect that the more mature a fund is, the higher the TVPI. Usually, a TVPI is driven by a few assets that were able to significantly increase their valuation over time and far beyond the capital they've raised. While some assets remain low in value creation or even result in write-offs. This VC-typical distribution is called power law. VCs ultimately expect their portfolio to

be returned by only a very few so-called “home runs”, while the majority of portfolio companies will generate significantly less value (Kaplan et al., 2009; Retterath & Kavadias, 2020).

To give an example: LPs commit a total of \$20,000,000.00 in capital to a VC fund. The VC fund’s GPs have deployed \$5,000,000.00 so far and invested it in five different portfolio companies, one million each. In this calculation, one may hypothetically assume that the five investments currently have a fair market value of \$1,000,000.00, \$1,000,000.00, \$1,500,000.00, \$4,500,000.00, and \$8,000,000.00 respectively. Let’s assume the GPs have not distributed any profits yet. Based on that, the residual value of the portfolio equals \$15,000,000.00. This corresponds to a TVPI of 3x, based on the capital that has been paid in by the LPs to date. However, it also shows that two of the five investments make up the largest share of TVPI.

Naturally, the fair market value of the investment is driven by the overall valuation of a respective asset. Valuations of companies in the early and growth stages can be based on various indicators. The most prominent ones are revenue and revenue growth. However, due to the nature of venture capital, most often, a company’s current valuation is tied to future performance expectations. Especially with very early-stage companies where there is little to zero history of revenue actuals. Therefore, the valuation of a company is calculated with multiples of the actual revenue (Farber & Patel, 2022a).

The stages of a VC fund lifecycle, the story that performance indicators tell, as well as the return expectations allow for further conclusions on the support activities that VCs entertain. Especially the intensity and impact of such support are linked to the idiosyncratic industry dynamics and the power law mentioned previously. To understand further why and how VCs engage with their portfolio companies, it is important to understand how VC firms differentiate and operate. This will be further explored in the following chapter.

2.2 Differentiation and Portfolio Support Activities

2.2.1 Investment Focus

While many of the previously described essential characteristics and indicators are common across most VC funds in the market, there is still an area for differentiation. Besides, it has become increasingly important for funds to choose their position in the market of venture capital strategically. Typically, the VC industry can be segregated by the investment focus of the VC firm. This focus is usually differentiated on three levels: geography, stage, and sector (Hochberg

et al., 2015). The geographical focus is fairly straightforward. The focus on a venture stage (e.g., Seed or Series A, Early or Late Stage) was described and graphically displayed previously in Figure 1 in chapter 2.1. Lastly, the sector focus is a third differentiation factor to consider. Sometimes, separate investment teams within the same VC firm cover targeted sectors.

While a few VCs are very specialized in areas or verticals, such as ClimateTech, DeepTech, and more. Early research suggested that a trend toward specialization will be observed in the future (Bygrave, 1987). However, increasingly more VCs invest geography-, stage- and/or sector-agnostic. Especially large top-tier VCs actively invest across a broader range (Sahlman, 1990). In this dissertation, the empirical study will target European Early-Stage VCs, irrespective of their sector investment focus. It's important to mention that the European headquarter doesn't automatically but oftentimes correspond to a geographical focus on European investments(Fried et al., 1995; Fried & Hisrich, 1991).

2.2.2 Roles

Aside from the investment focus, there is another characteristic of VC fund that is important to consider: the role that a venture capitalist chooses. When looking at a singular investment round, one might find three distinct roles that are mutually exclusive from each other. A role may be chosen on a case-by-case basis, but in most cases, it follows a general strategy. The three roles are commonly described as lead, co-lead, and follow role. The different roles are linked to the equity stake and respective ticket sizes a VC targets (Norton & Tenenbaum, 1993). For example, if a company decides to raise a Seed round of \$3,000,000.00 for 20% equity, the lead investor will typically target ownership at this stage of around ~10 – 15%. In this case, this would equal an investment sum between \$1,500,000.00 – \$2,250,000.00. The remaining volume will be then allocated between investors who decide to co-lead or follow. The “follow” investor will cover a significantly lower investment sum, while a co-lead might want a higher stake, and therefore, the lead stake might adjust accordingly.

However, the different roles are not only linked to the investment sums that a VC will provide and the ownership that results from that. The roles also come with distinct expectations on the pre- and post-investment behavior of a VC with respect to the target/company. This includes more frequent and deep engagement during the fundraising conversation, resourceful and elaborated due diligence, and term sheet negotiations. After the closing of a round, the lead investor typically establishes and nourishes a close relationship with the company while

providing the most guidance and support (Kaplan et al., 2004). Sometimes, regardless of any existing relationships a founding team might have with previous investors. Also, if a VC is engaged as the lead investor role during the Pre-Seed and Seed stage of a company and is then taken over by another fund at the Series A round. Again, as previously mentioned, this relates to the basic characteristics of a fund, such as the stage focus and the fund’s size. A VC that takes in the follower role usually comes in at a slightly later point, when the company has agreed to the lead investor’s terms. The follow VC sometimes doesn’t dig as deep as the lead investors in their due diligence but relies on the lead VC to have done their homework (Sandberg & Hofer, 1987). To summarize, these factors are important to consider when analyzing differentiation strategies and the activities that VC funds entertain.

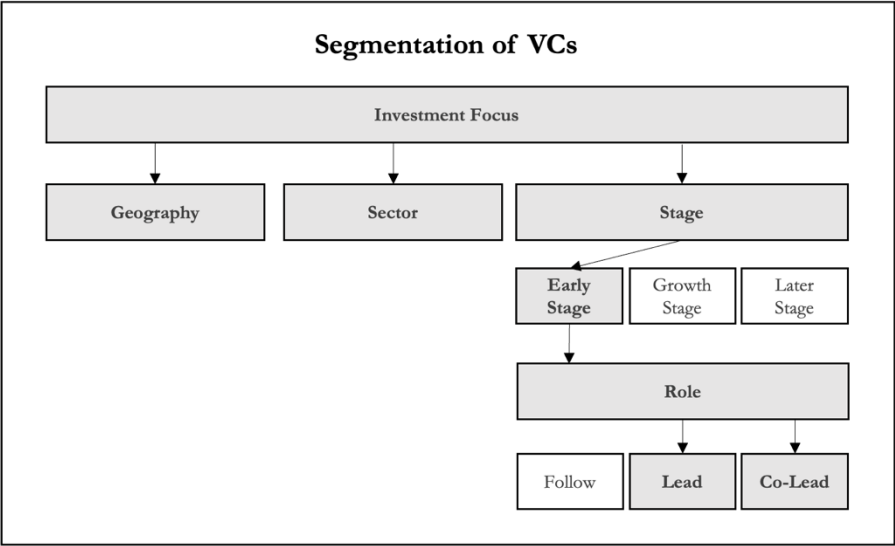


Figure 4: Segmentation of VCs (relevance for this study highlighted)

Due to the quantitative availability of venture capital and the variety of funds, differentiation based solely on stage, sector, and geographical investment focus, as well as the role, has become increasingly challenging (Fried et al., 1995; Fried & Hisrich, 1991). The rising competition is driving the urge for VCs to develop a more sophisticated reputation. A study from 2004 by the Wharton School in collaboration with MIT Sloan found that term sheets that were offered by highly reputable venture funds are three times more likely to be accepted by the target. In addition, high reputation funds were able to close deals with a 10-14% discount on the equity at the stake of a respective company (Lee et al., 2011; Nahata, 2008; Smith et al., 2011). The findings conclude that the value-added services of VCs go beyond the provision of capital. However, ultimately, the “extra-financial” activities have a very direct impact on the financial

performance indicators of a venture fund and shall, therefore, not be underestimated (D. Hsu, 2004).

2.2.3 Involvement and Support Activities

By nature, early-stage venture capital requires a higher involvement and a closer investment manager and founder relationship due to the immaturity of the venture (Kaplan et al., 2004; Macmillan et al., 1989). Venture capital post-investment support activities and involvement appear in the research literature for the first time in 1984, when Tyebjee and Bruno acknowledge, next to the usual investment activities such as deal origination, due diligence, negotiation, the “assistance to the venture” (Tyebjee & Bruno, 1984).

The relationship between the VC firm and the venture, as well as the active involvement of the VC, has been further researched in the past, amongst others by Macmillan et al. in 1989, Sahlman in 1990, and Gompers in 1995. Historically, due to its maturity, the US market has been observed in more detail. Consequently, modern research lacks granular insights into the European venture capital market. Nevertheless, the available literature provides a fundament that can be applied across various domestic markets if not explicitly ruled out.

Macmillan et al. studied 62 US funds and their respective involvement in their ventures and concluded that the financial aspects of the venture remain the area of support where the VC is most actively involved. However, the research identified a total of four areas of support: “development and operations, management selection, personnel management, and financial participation” (Macmillan et al., 1989). This study also pointed to the time commitment and opportunity costs associated with the involvement and support of investment managers. Respondents to this study declared that they would try to decrease any involvement where the input of time would be not worth the output/impact generated for the portfolio company (Macmillan et al., 1989).

Aside from that, the impact of portfolio support activities on fund performance has been researched in the past as well. A study by Kannianen and Keuschnigg in 2003 concluded that with an increase in support per portfolio company, the optimal number of companies in a portfolio must be strategically monitored for the fund. Primarily to manage the costs of the investment managers’ time without compromising on the expected return (Kannianen & Keuschnigg, 2003). The study found that this equilibrium has a direct impact on the ability of VCs to provide the best support possible. In a different study by Jackson, Bates, and Bradford

from 2011, the authors suggest that “VC activism” leads to higher investment return and, therefore, a performance advantage (Jackson et al., 2012).

In a study from 2004 by Kaplan and Strömberg, the authors conclude that the greater the equity incentive of a VC, the larger the value-added support associated (Kaplan et al., 2004). This is in line with observations that suggest an increase in support activities for lead investor roles. Further research also suggests that the success of a venture’s performance is dependent on the choice of the investor. Hence, the more expertise and the better network a VC can provide, the higher the likelihood of effective support ((Bellavitis et al., 2014; Sandberg & Hofer, 1987). Furthermore, Macmillan et al (1989) identified three general levels of VCs involvement: Laissez-faire, moderate and close .

Based on the literature, it can be assumed that the degree and extent of support activities are becoming increasingly important in the venture capital market (Kanniainen & Keuschnigg, 2004). Although the fact that venture capitalists support their portfolio companies is not novel, a more distinctive perspective on the drivers as well as the specificities of the offered support activities might provide a pattern on how funds are currently practicing their operational services. This study tries to articulate the recency and relevance of these activities with a focus on the European early-stage VC market in light of recent market dynamics such as increased competition.

3 Empirical Study

3.1 Study Design and Methodology

In order to answer the research questions to a sufficient extent, an empirical study was conducted. Based on the existing literature described in the previous chapter, an online survey questionnaire was designed. The questionnaire design and methodology are largely based on validated surveys by Sahlman et al. (1989) and Fried et al. (1995). Both named the support activities so-called “services”.

This survey was designed to collect data. The survey was live from November 2021 until January 2022. In total, data from 43 respondents was collected, and the completion rate was 38.6%. The target audience of the survey was investment professionals from the European early-stage venture capital sector. The survey was distributed via the professional social

network LinkedIn. The venture capital industry frequently uses the platform, which ensures quick finalization of the survey. The average completion time ranged around 07:18 minutes.

The survey contains 28 questions varying from single/multiple choice to open-ended questions. The survey was divided into three parts. The first part includes questions about the support activities of the VC fund. The second part covered questions on the fund and investment strategy, and the third part comprises questions on basic facts and characteristics of the VC firm. Information about the 1 online survey can be found in Appendix A1 on page xiv.

3.2 Results

The responses yield the descriptive statistical data outlined below. The variables are sorted into two distinct group types. One group contains variables that are defined as “Fund-related characteristics”, containing the responses to questions about the characteristics and actuals of a VC fund, such as the assets under management and the number of portfolio companies. The other group contains variables that are defined as “Perception-based indicators” because they are related to perceived indications from respondents. For example, how the respondent would rate the relationship strength of the fund toward its portfolio companies. Thus, the data structure allows to analyze portfolio support activities based on fund-related characteristics and perception-based indicators.

Table 2: Descriptive Statistics

Descriptive Statistics

Type	Variable	Mean	Std. Dev.	Min	Max
	No. support activities	9.54	2.75	2	13
	Portfolio companies	77.89	77.20	2	346
	Ticket size	1.92	.97	0	4
Fund-related characteristics	Assets under management	2	1.95	0	5
	Lead investor	1.86	1.25	0	3
	No. partners	1.12	.98	0	3
	Follow-on funding	1.91	1.04	0	3
	Maiden fund generation	2012	7.04	1996	2021
	Deal advantage	3.77	.95	2	5
Perception-based indicators	Performance advantage	4.28	.79	2	5
	Strategic differentiator	3.39	1.18	1	5
	Relationship strength	3.84	.95	2	5

The variable *No. support activities* indicates the number of activities that were chosen from the list in the empirical survey (13 in total) and reflects a count-indicator, dependent variable. The variable *Portfolio companies* indicates the total number of active companies in the portfolio of a fund. On average, the respondents' portfolio size of active companies was 78.

The variable *Ticket size* gives information about the average initial capital that a fund invests into a company. For the context of this study, the possible answers ranged from <€500k; €500k-1m; €1m-3m; €3m-5m to €5m. For this analysis, the respective answers were coded as numerical variables from 0 to 5. On average, the ticket size of the respondents was 1.92, which decodes into €1m-3m.

Assets under management relate to the cumulated amount of committed and distributed capital from all vintage funds that the VC has under management. This is a common indicator used for financial institutions. The possible answers range from <€100m; €100-300m; €300-600m; €600-900m; €900-1200m to >€1200m. In this case, the variables were coded to numerical variables from 0 to 5 as well. The average here is 2, which decodes into €300-600m.

The variable *Lead investor* indicates the ratio of lead investments that the fund is executing. The ratios range from <30%; 30-50%; 50-80% to >80% and are coded from 0 to 3. In this analysis, the VCs led 50-80% of the rounds, on average. This indicates a lead role strategy for most funds. The *No. partners* indicate the number of the firm's partners that either range from <3; 3-6; 7-10 to >10 and are again coded from 0 to 3. The variable *Follow-on funding* specifies the follow-on funding quota of the respective VC's portfolio companies. This may range from <30%; 30-50%; 50-80% to >80%. Again, for this analysis, the data were coded as numerical from 0 to 3. On average, the follow-on funding quota of the respondents' VC portfolio ranged between 50-80%. On average, the VC's first vintage fund generation (*Maiden*) is from 2012. The oldest maiden fund generation is from 1996, while the youngest is from 2021.

To summarize, the responses show that the average VC fund has a portfolio size of 78 active companies, has €100,000,000.00 – €300,000,000.00 assets under management, and is located with a headquarter in Berlin and has been around for about ten years. The exact geographical distribution of the responses can be found in A2 Figure I on page xvii in the appendix.

Figure 5 displays the entire list of thirteen support activities as well as the respective results of the specific activities. For this, the services listed by Sahlman in 1990 were adapted and extended to provide a total list of thirteen support activities. On average, 9.54 of 13 support

activities are covered by a fund. Cross-portfolio partnerships (100%) and follow-on funding support (97.7%) are the two most offered support activities. Reasons for this result might include the fact that these activities can be considered “low-hanging fruits” for investors. Firstly, connecting founders of existing portfolio companies is a low-effort action for the VC. Given that successful follow-on funding rounds of portfolio companies are very much in the interest of the investor, it is not surprising that VCs support their companies during these times.

Support Activities	Not Offered	Offered
Cross-portfolio partnerships	100%	
Follow-on funding support	2.3%	97.7%
Sales Introductions	14%	86%
Help form and manage board	16.3%	83.7%
Discounts and perks at service providers	20.9%	79.1%
Talent acquisition & HR support	25.6%	74.4%
Assist in operational planning	25.6%	74.4%
Evaluate acquisitions	27.9%	72.1%
Workshops	27.9%	72.1%
Investor group / syndicate management	30.2%	69.8%
Legal advice	30.2%	69.8%
Resolve compensation issues	46.5%	53.5%
Staffing fund employees at portfolio company	79.1%	20.9%

Figure 5: Support Activities Responses

While staffing fund employees at a portfolio company (20.9%) and resolving compensation issues (53.5%) were the two least offered activities. Especially staffing fund employees is a rather rare practice for VCs. The rationale for these results seems logical. Firstly, hiring, relocating, and retaining employees is operationally intensive. Secondly, VC firms usually do not scale their employee base to the extent that startups do. Therefore, staffing fund employees temporarily at portfolio companies would require the VC to go way beyond their core competencies and would imply that the VC follows a long-term strategy to do so.

Because the list of support activities provided is certainly non-exhaustive, a subsequent question in the survey asked about additional support activities that weren't covered by the list. The responses to this question retrieved the following additional activities: expert network access, communication and brand building, community events, mentoring, and international expansion. The results provide granular, qualitative insights into the support activities of European early-stage VC funds.

However, in order to find further answers to the initial research question of what support activities are driven by the retrieved data will be investigated in more depth. Based on the findings from the literature review, the variable *No. support activities* emerges as the relevant dependent variable that should be explored further. The bar chart below shows the total response count of support activities offered. The minimum number of support activities offered is two, while most respondents claim to offer a minimum of eight of the listed activities.

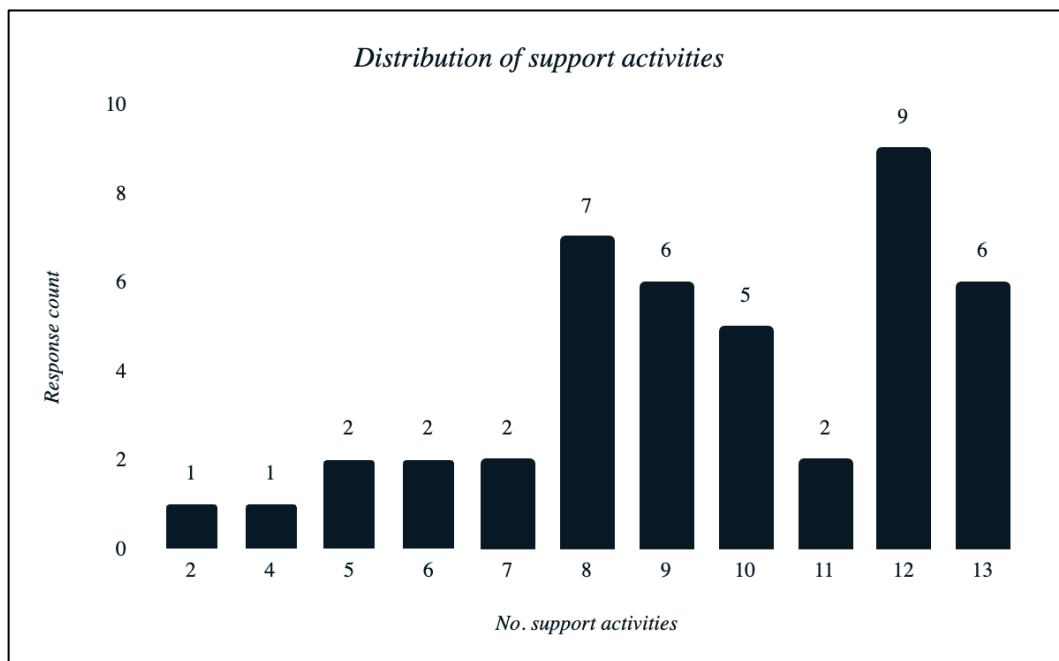


Figure 6: Distribution of support activities

To narrow the focus of the analysis, the relevant variable was plotted against two other selected variables (*Lead investor* and *Performance advantage*). The two plots in Figure 6 show the relationship between the lead investor role as well as the perceived performance advantage of

support activities offered by the fund. The plots imply that further tests on the positive correlation should be carried out.

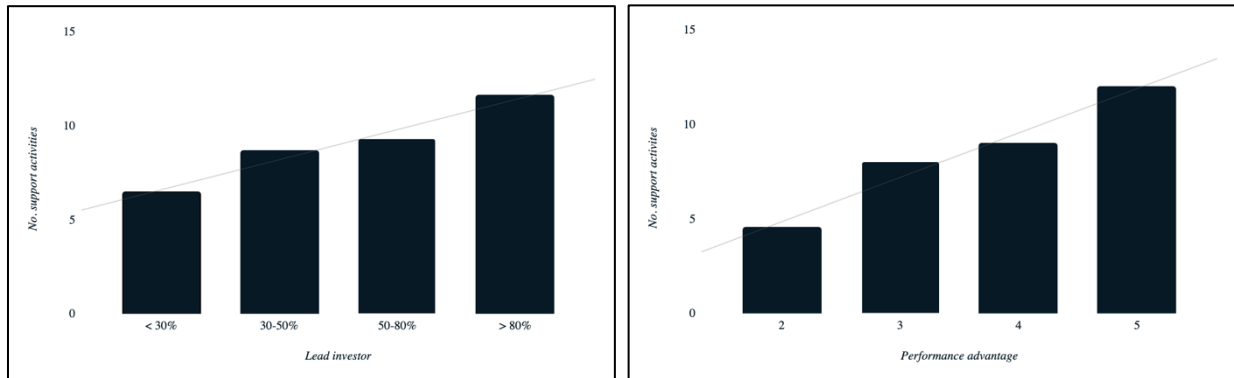


Figure 7: Support Activities Plots

In order to determine the effects of influencing factors on support activities, a linear regression (Table 3) was modeled. The results in Table 3 below show that the number of support activities (dependent variable) can be explained with the regression model by up to 87.2% ($R^2 = 0.872$).

The independent variables that have a significant, positive effect on the number of support activities are the number of active portfolio companies (i), the lead investor role (ii), and the follow-on funding quota (iii) (investor-related characteristics). If support activities were perceived to have a positive impact on the performance (iv) and as a strategic differentiator (v), the number of support activities was positively influenced. Aside from that, respondents who state to have a close relationship (vi) with their portfolio companies reportedly offer more support activities.

Table 3: Linear Regression

Variables	No. support activities (ln)		
	Coefficient	SE	
Portfolio companies (i)	0.005 *	0.003	
Ticket size	-0.045	0.322	
Fund-related characteristics	Assets under management	0.059	0.224
	Maiden fund generation	0.070	0.045
	Lead investor (ii)	0.609 **	0.242
	No. partners	0.486	0.313
	Follow-on funding (iii)	0.689 ***	0.247
Deal advantage	-0.367	0.316	
Perception-based indicators	Performance advantage (iv)	0.652 **	0.292
	Strategic differentiator (v)	0.550 **	0.241
	Relationship strength (vi)	0.766 **	0.279
Observations	43		
R-squared	0.872		

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Generally, the observations prove that the number of active portfolio companies has a significant effect on the dependent variable. This might be related to the fact that the larger a fund, the more replicable support activities for various companies may be. This would imply that certain economies of scale or efficiency gains improve the overall costs (and time) associated with the support. However, the effect is just marginally significant and might look different in larger or different samples.

In addition, the fact that the VC follows a lead investor strategy positively influences the number of support activities that the fund offers. This is in line with the expectations and incentives of the lead investor role that were previously explained in chapter 2.2. The lead investor is also deeply involved in the activities of the venture because its position is often linked to board seats or other close control mechanisms. Ultimately, the high stake in a certain company conditions the interest of a VC in the positive development of the asset.

The effect with the highest significance is the follow-on funding quota. This observation shows that the higher the follow-on funding quota, the more support activities are offered. This implies that VCs have an incentive to support the portfolio company because it has a direct impact on the follow-on funding chances. As previously outlined in the literature review, follow-on funding scenarios are very much desired by most early-stage funds. Not only because the venture constantly requires external capital to fuel its growth. But also, most early-stage VC firms will not have enough follow-on capital reserved in their respective funds to finance a single company on their own. Hence, they rely on other shareholders to divide the risk and subsequently want growth- and late-stage investors with significantly bigger funds to “take over”.

Moreover, the regression shows that there is a positive correlation between the perceived effects of support activities and the number of offered support activities. The higher the respondents rated the positive effect of support activities on the performance advantage, the more support activities were offered by the respondent’s VC firm. The more the respondents perceived support activities as an important strategic differentiator, the higher the number of support activities offered by the respondent’s firm. Lastly, the higher the respondent rated the relationship strength between the firm and the founders of portfolio companies, the more support activities the firm offered, according to the answer of respondents. All three of these observations are logical in their justification. Not only are incentives of VCs linked to the value creation and performance of a fund and its respective assets. But the strategies of VC firms are

usually exercised out of conviction and with the intent to create value and maximize returns. This is in line with observations from the literature review, where previous research outlined the balance of investment managers' resources allocated to portfolio support versus the output generated. Therefore, VCs would be very unlikely to offer a broad and deep range of support activities without being convinced of its positive impact.

3.3 Discussion

The results of this study generally imply that support activities have high relevance for all of the survey respondents' VC firms. All respondents and their respective VC firms offer at least two of the listed support activities. The majority offers a minimum of eight of the listed support activities. In order to distinguish the support activities further, results around drivers and influencing factors of support activities were analyzed. Through this analysis, it can be observed that portfolio support activities are strongly influenced by the lead investor role and the follow-on funding quota, as both these variables had a strong significant effect on the dependent variable. In addition, the perceived performance advantage and strategic differentiation have a significant effect on the extent of support activities. Therefore, the managerial implications for the VC GPs and investment managers revolve mainly around the scale and scope of support activities as well as their specificities. Apparently, offering support activities doesn't provide an immediate differentiator to existing stakeholders in the market, given that most VC firms are offering some sort of support and involvement. Yet, the strengths of the coefficients and the significance levels imply that there exists a gap between respondents with a lower follow-on funding quota and fewer support activities offered and the ones with a higher follow-on funding quota and a broader offering of support activities. Because of the observations derived from this study, developing a more precise design of the operational part of a VC firm ultimately appears to be of high relevance. It seems that the results around the specific support activities provide relevant insights and guidance for early-stage fund managers, especially if they follow a lead investor strategy and have a closer relationship with the respective portfolio companies.

Nevertheless, this study has several limitations that may provide avenues for future research. First, the empirical study relies entirely on data points from the online survey. This could be further enriched with information from qualitative interviews with experts, e.g., VC investment professionals. In addition, the sample size of this survey was rather small, as it had to be ensured that responses were only collected once on a distinct fund basis, and duplicates had to be eliminated. For future research, the sample size could be increased, which might yield different

significance levels. Adding more observations from various funds to the analysis would further support eliminating any bias that resulted from this study. For example, it can be observed that in this study, there exists a geographical imbalance, with 48% of respondents' headquarters being in Berlin and an overall 59% located in Germany. In order to mitigate this bias, another study should rather focus on different European countries in order to provide a more holistic and conclusive pattern. Nevertheless, the distribution might still be linked to the overall spread and availability of VC firms throughout Europe, where Germany has the second largest share after the United Kingdom. Generally, a broader range of observations might be collected in order to exclude unobserved heterogeneity. Aside from that, further research might analyze the different relevance of specific support activities and their respective weighting.

Furthermore, future studies might investigate the effect of the current market downturn when looking at potential differences between pre- and post-market recessions data. Given that the study was started in November 2021 and finalized in September 2022, the shift in market dynamics might influence responses.

Aside from that, the study mainly focuses on the perspective of the early-stage VC firm and neither considers the points of view of (i) growth- and later-stage VC firms nor (ii) the VC-backed companies. Data from various market reports (amongst others, Atomico "State of the European Tech Report 2021") show that founders value certain support activities differently than VCs do. It is, therefore, not far-fetched that popular media and industry-specific channels have picked up the "value-added" services and support activities of VC funds while raising quite a lot of critique about it. It's fair to say that although many VC funds claim to "be helpful" when their portfolio companies ask for support, the actual value that they add remains mediocre. Given the pattern that is outlined here, it seems that some of the critiques are rightfully pointed out. In any case, the actual effect of VCs' support activities for the venture could be examined in a subsequent study.

Lastly, the results have further interesting implications, specifically around the commercial application of these support activities, the so-called Platform-as-a-Service models. This study has briefly touched on the question of whether VCs get paid for their activities by the respective portfolio companies. Based on the 30.2% of the 43 respondents that answered this question with "depends", it might imply a commercial opportunity that could be further scaled by external organizations beyond what the VC firm is able to offer. This could be especially relevant for new entrants and smaller funds that are limited in their ability to provide broad support

activities. Based on the time input vs. performance output ratio that previous literature has drawn up, further studies could conduct scalability and automatization capabilities of support activities. Especially for incumbent funds, it may be interesting how to leverage the existing activities, how to automatize processes in order to be more efficient, and how to expand by scaling them.

4 Conclusion & Outlook

Research has shown that venture capital, by nature, requires the involvement of the VC firm in the venture. As previously outlined, the purpose of this study was to tangibly evaluate patterns in order to improve transparency within the industry, provide recommendations to management, and pave the way for new areas of research. The patterns on the drivers of support activities appear both from the literature review as well as from the empirical study as follows: Involvement may be explicitly high when the equity stake and the associated risk are high. Hence, the focus for the investor on early-stage targets is linked to involvement, especially because follow-on funding pressure remains high. Aside from that, literature suggested that the lead investor role of the VC might incentivize support activities for the companies. However, research has not analyzed the degree of support activities offered within the European early-stage VC market so far. This study has been set up assuming that European VCs face pressure to improve their performance and consequently increase value within each asset in order to sustain in the increasingly fierce competitive environment. This also includes the extent to which the VCs strive to support the companies in the best possible way in order to contribute to overall performance improvement.

The first research question, RQ1, was answered by the respondents of this survey, although the list of support activities may not be fully exhaustive. A detailed split can be found in Figure 5. To answer the research question RQ2 about what is driving support activities, a linear regression analysis was conducted. Based on the results of 43 respondents, the implications are twofold: firstly, support activities are largely driven by the lead role that the investor takes on. Hence, the higher the stake of an investor in a company, the larger the scope of support activities. This is supported by previous scientific literature referred to in chapter 2. Secondly, the broader the activities offered, the more likely were the respondents to perceive the support activities as having a positive impact on performance as well as the strategic differentiation of the VC firm. This is in line with observations derived from the literature review as well. Where

the time invested by an investment professional to support a portfolio company was attached to an equilibrium that balanced the time input vs. the performance advantage output. Ultimately, part of the strategic core of early-stage VCs is expressed by portfolio support, as it is linked to expectations about differentiation and improved performance. But even more so, it shows that support activities are linked to a high follow-on funding quota as its obtained effect on the dependent variable was the most significant.

This study mainly shed light on the different types of support activities and their drivers within the European early-stage VC ecosystem. But it also implies why and how early-stage venture capital firms may establish and execute their support activities depending on the role they choose and the performance advantage and strategic differentiation they anticipate from these activities. While it also affects the follow-on funding scenarios they are working towards. Therefore, it provided recommendations to management and improved the overall disclosure within the industry.

As this study obviously comes with limitations, it provides multiple avenues for further research that were outlined in the previous chapter. Overall, it supports the basis for managerial and scientific engagement with the topic of VCs' portfolio support activities within Europe.

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Appendices

A1 Online Survey Questionnaire

1. Let's start with your portfolio support activities.
 - a. How many active ventures do you have in your portfolio in total? (Open question)
 - b. What support activities do you offer to your portfolio companies (pre- and post-investment)? (Multiple choice)
 - i. Sales introductions
 - ii. Discounts & perks at service providers
 - iii. Follow-on funding support
 - iv. Cross-portfolio partnerships
 - v. Talent acquisition & HR support
 - vi. Investor group / syndicate management
 - vii. Help form and manage board
 - viii. Assist in operational planning
 - ix. Resolve compensation issues
 - x. Evaluate acquisitions
 - xi. Staffing fund employees temporarily at the portfolio company
 - xii. Legal advise
 - xiii. Workshops
 - c. Do you offer any other support activities that were not listed? (Single choice)
 - i. Yes
 - ii. No
 - d. Please name them below. (Open question)
 - e. Do you charge your portfolio companies for these support activities? (Single choice)
 - i. Never
 - ii. Depends
 - iii. Always
 - f. Do you have a dedicated in-house team / department that focuses solely on support activities? (Single choice)
 - i. Yes
 - ii. No
 - iii. In the making
 - g. Do you mandate an external firm for support activities? (Single choice)
 - i. Yes
 - ii. No
 - h. Please indicate how relevant you consider support activities for your portfolio companies' growth and success.
 - i. 1 = Not relevant; 5 = Highly relevant (Likert scale)

- i. Please indicate if you agree with the following statement: „Offering support activities are an advantage to close the best deals.” (Single choice)
 - i. 1 = I disagree; 5 = I strongly agree (Likert scale)
 - j. Please indicate if you agree with the following statement: “Support activities will influence the overall performance of the fund positively.” (Single choice)
 - i. 1 = I disagree; 5 = I strongly agree (Likert scale)
 - k. Please indicate if you agree with the following statement: “Support activities are an important strategic differentiator.” (Single choice)
 - i. 1 = I disagree; 5 = I strongly agree (Likert scale)
 - l. What is your work relationship approach between your fund & the founders of a portfolio company? (Single choice)
 - i. 1 = Laissez-faire; 5 = Very close (Likert scale)
 - m. What is your fund’s vision/core values? (Open question)
 - n. How well aware are external stakeholders (founders, LPs) of your vision / core values? (Single choice)
 - i. 1 = Not aware; 5 = Strongly aware (Likert scale)
2. You’re halfway through! Let’s talk about your fund & investment strategy.
- a. Fundraising: Please rank your fundraising criteria accordingly. Your preferred Limited Partner ... (Sort by relevance)
 - i. Has sustained experience.
 - ii. Is an entrepreneur.
 - iii. Has access to a lot of capital.
 - iv. Is willing to support the fund and its portfolio.
 - v. Is a well-established institutional investor.
 - vi. Is part of a financial services network.
 - vii. Is a friend.
 - viii. Is a corporation.
 - ix. Has an SME background.
 - b. Sourcing & Dealflow: What deal sources are most relevant for your fund? (Sort by relevance)
 - i. Via Fellow VC Funds
 - ii. Active outbound
 - iii. Via Founders (Portfolio Companies)
 - iv. Cold inbound
 - v. Via LPs
 - vi. Via Academia & Graduate Program
 - vii. Via Friends & Family
 - c. Investment Criteria: What industry investment focus does your fund have? (Open question)
3. Almost done, you got this! Let’s talk about the basic facts of your VC firm.
- a. From which vintage year is your first fund generation? (Open question)
 - b. What is the total size of your assets under management (AUM)? (Single choice)
 - i. < €100m

- ii. €100m-€300m
 - iii. €300m-€600m
 - iv. €600m-€900m
 - v. €900m-€1200m
 - vi. > €1200m
- c. In which stages do you invest initially? (Multiple choice)
- i. Pre-Seed
 - ii. Seed
 - iii. Series A
 - iv. Series B
 - v. Other Financing Rounds
- d. What is your average ticket size? (Single choice)
- i. < €500k
 - ii. €500k-€1m
 - iii. €1m-€3m
 - iv. €3m-€5m
 - v. > €5m
- e. What ownership do you target? (Single choice)
- i. < 5%
 - ii. 10-15%
 - iii. 15-20%
 - iv. > 20%
- f. Do you lead rounds? (Single choice)
- i. Yes
 - ii. No
- g. On average, how many investments are you leading? (Single choice)
- i. < 30%
 - ii. 30-50%
 - iii. 50-80%
 - iv. > 80%
- h. Do you participate in follow-on funding rounds with your portfolio companies? (Single choice)
- i. Yes
 - ii. No
- i. What is your follow-on funding quota? (Single choice)
- i. < 30%
 - ii. 30-50%
 - iii. 50-80%
 - iv. > 80%
- j. How many partners are actively working at your VC firm? (Single choice)
- i. < 3
 - ii. 3 - 6

iii. 7 – 10

iv. > 10

k. In which city is your headquarters located? (Open question)

4. If you are interested in a copy of the Master Thesis, including the results of this survey, please join the waitlist below.

A2 Figure I: Geographical distribution of VC fund respondents*

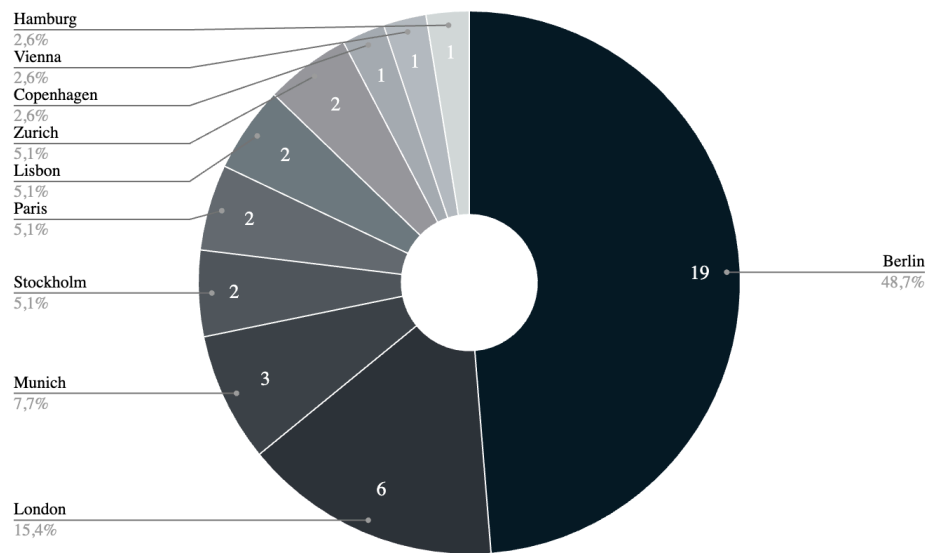


Figure I: Geographical distribution of VC fund respondents

*Note: Not all 43 valid respondents disclosed the headquarter of the respective fund.